```
                                 1 *  THIS IS A COPYRIGHTED PROGRAM. COPYRIGHT 1972 BY VARIAN DATA MACHINE
                                 2 *
                                 3 *    V.D.M.  PART `NO.       92L0605-059A
                                 4 *
                                 5 *                                          RELEASED    02-22-72
                                 6 *
                                 7 *              V$LPD24
                                 8 *
                                 9 *
                                10         TITLE   V$LPD24
                                11 * THIS IS A COPYRIGHTED PROGRAM.
                                12 ****    MDS  DATA PRODUCTS LINE PRINTER DRIVER  ***1*** 24:0
                                13 * LPL$   IS ONE OF THE OPERATIONAL ROUTINES.
                                14 *       IT IS TRANSFERRED TO BY I/OCS WHENEVER:
                                15 *
                                16 *       1) A REQUEST IS PENDING, AND
                                17 *       2)LCK$  RETURNS WITH THE A REGISTER > 0, AND
                                18 *       3) A FUNCTION CALL WAS MADE TO SPACE PAPER.
                                19 *
                                20 *  ENTER WITH X=WORD 0 OF DST
                                21 *
000022                          22 N       SET     18
000020                          23 N       SET     16
                                24 *  THIS ROUTINE RETURN VIA LCK$
                                25 *
000000                          26 LPL$    BSS     0
000000 015005 A                 27         LDA     CNT,X           GET CHANNEL SELECTION
000001 154145 A                 28         ANA     D7              MASK CHANNEL SELECTED
000002 124146 A                 29         ADD     CMK2            OR PAPER FEED COMMAND BIT 7 ALSO
000003 002000 A                 30         CALL    LPP             PERFORM SLEW COMMAND
000004 000137 R
000005 005301 A                 31         DTSR    1
000006 055004 A                 32         STA     FST,X           SET REQ OFF
                                33 *        JMP     LCK1            EXIT BUSY
                                34 *  LCK1 IS THE NEXT CORE LOCATION
                                35 *
                                36         CODE
                                37 *  LCK$   SUBROUTINE IS CALLED BY I/OCS FROM TWO PLACES.
                                38 *       SCAN AND THE I/O STATUS CHECK.
                                39 *
                                40 *  LCK$   PERFORMS TWO MAJOR FUNCTIONS:
                                41 *       1)   IT PREVENTS I/OCS FROM CALLING LPL$  OR LWR$
                                42 *              IF THE LINE PRINTER IS BUSY.
                                43 *
                                44 *       2)   IT GENERATES THE PSEUDO I/O STATUS WORD, WHEN
                                45 *              NECESSARY, AND STORES IT INTO THE DST
                                46 *  LCK$   IS CALLED BY IOCS WITH ADDR.OF THE DST.
                                47 *
                                48 *  LCK$   RETURNS INDICATING ONE OF THE FOLLOWING:
                                49 *
                                50 *    A < 0   A LARGE AMOUNT OF TIME WAS SPENT.SCAN ALL DEVICES AGAIN.
                                51 *    A = 0   THE LINE PRINTER IS NOT READY.
                                52 *    A > 0   THE LINE PRINTER IS AVAILABLE FOR USE.
                                53 *
                                54 *
000007 005001 A                 55 LCK1    TDA                     SET BUSY FLAG.
000010 001000 A                 56         JMP*    LCK$            EXIT
000011 100011 R
000011                          57 LCK$    BSS     0
000012 015024 A                 58         LDA     LPB/,X          SET UP COMMANDS WITH DEVICE ADDR
000013 115027 A                 59         ORA     DEV,X
000014 054123 A                 60         STA     LPB2
000015 015025 A                 61         LDA     DVR,X
000016 115027 A                 62         ORA     DEV,X
000017 054124 A                 63         STA     LPB3
000020 015023 A                 64         LDA     UNUM,X
000021 115027 A                 65         ORA     DEV,X
000022 054000 A                 66         STA     +1
000023 101035 A                 67         SEN     0,DL,LCK3       SENSE LINE PRINTER READY.
000024 000035 R
000025 015004 A                 68         LDA     RES,X
000026 001004 A                 69         JAN     LCK1
000027 000057 R
000030 002000 A                 70         JAPN    1B4B            PRINT LINE PRINTER NOT READY MESSAGE.
000031 000000 R
000032 000152 R                 71         DATA    DELY
000033 001000 A                 72         EP      1,DL
000034 000007 R
                                73 *    ENTER WHEN LINE PRINTER READY.
000035 105001 A                 74 LCK3    TDA
000036 054113 A                 75         STA     DELY            SET DELY TO 0
000037 014114 A                 76         LDB     =READY          SET STATUS TO READY,NORMAL.
000040 055001 A                 77         STB     STAT,X
000041 001000 A                 78         JMP*    LCK$            EXIT WITH A REGISTER GREATER THAN 0.
000042 100011 R
                                79         CODE
                                80 *  LWR$   IS ONE OF THE OPERATIONAL ROUTINES,AND IS
                                81 *       TRANSFERRED TO BY I/OCS WHENEVER:
                                82 *
                                83 *       1) A REQUEST IS PENDING, AND
                                84 *       2)LCK$  RETURNS TO I/OCS WITH THE A REGISTER > 0 , AND
                                85 *       3) THE OPERATION CODE IS:
                                86 *
```

```
                    87 *          CODE     MNEMONIC              OPERATION                                  00 00087
                    88 *          ----     --------              ---------                                  00 00088
                    89 *          0002     WALF          WRITE ALPHANUMERIC RECORD                          00 00089
                    90 *                                                                                    00 00090
                    91 *                                                                                    00 00091
                    92 *  UPON ENTRY THE X REGISTER = DST                                                   00 00092
                    93 *                                                                                    00 00093
                    94 *  THIS ROUTINE RETURNS THROUGH LCK$                                                 00 00094
                    95 *                                                                                    00 00095
                    96 *                                                                                    00 00096
000043 014111 A     97 LWR$   LDA      ALG                                                                  00 00097
000044 002000 A     98        JMPM     IDOK           CHECK ALGORITHM                                       00 00098
000045 000000 E
000046 001004 A     99        JAN      LCK1           IF NEGATIVE,EXCEEDS ALLOWED TIME                      00 00099
000047 000007 R
000050 005001 A    100        TZA                                                                          00 00100
000051 144103 A    101        SUB      ALG            TAKE OUT ALGORITHM                                    00 00101
000052 002000 A    102        JMPM     IDOK                                                                 00 00102
000053 000045 E
000054 014077 A    103        LDA      STRDY          SET STATUS TO READY,NORMAL.                           00 00103
000055 055001 A    104        STA      STAT,X                                                               00 00104
000056 005301 A    105        DECR     1                                                                    00 00105
000057 055004 A    106        STA      REQ,X          SET REQ OFF                                           00 00106
000060 025006 A    107        LDB      LOC,X          B←BUFFER POINTER                                      00 00107
000061 005321 A    108        DECR     021            A←BUFFER ADDRESS -1                                   00 00108
000062 125005 A    109        ADD      CNT,X          ADD NUMBER OF WORDS                                   00 00109
000063 005012 A    110        TAB                     B←END ADDRESS                                         00 00110
000064 016000 A    111 LWRA  LDA      0,B            GET NEXT WORD FROM END OF BUFFER                      00 00111
000065 006140 A    112        SUBI     0120240        BLANK WORD                                            00 00112
000066 120240 A
000067 001010 A    113        JAZ      LWRB                                                                 00 00113
000070 000073 R
000071 001000 A    114        JMP      LWRC                                                                 00 00114
000072 000076 R
000073 005322 A    115 LWRB  DBR                                                                           00 00115
000074 001000 A    116        JMP      LWRA                                                                 00 00116
000075 000064 R
000076 005021 A    117 LWRC  TBA                                                                           00 00117
000077 145006 A    118        SUB      LOC,X                                                               00 00118
000100 005111 A    119        IAR                                                                          00 00119
000101 055005 A    120        STA      CNT,X                                                               00 00120
000102 014055 A    121        LDA      DMAX           DMAX = 60 WORDS,120 CHARACTERS.                       00 00121
000103 145005 A    122        SUB      CNT,X                                                               00 00122
000104 003002 A    123        XAP      LCK1           LESS THAN MAX                                         00 00123
000105 000007 R
000106 125005 A    124        ADD      CNT,X                                                               00 00124
000107 055000 A    125        STA      ACNT,X         SAVE ACTUAL COUNT                                     00 00125
000110 125006 A    126        ADD      LOC,X                                                               00 00126
000111 054045 A    127        STA      EADR           SET END ADDRESS+1                                     00 00127
000112 035006 A    128        LDX      LOC,X          SET X=START ADDR                                      00 00128
000113 015000 A    129 LWR1  LDA      0,X            GET 2 CHARACTERS.                                     00 00129
000114 004550 A    130        LLSR     8               CHAR N IN A REGISTER, CHAR N+1 IN B                  00 00130
000115 154040 A    131        ANA      CHAR                                                                 00 00131
000116 002000 A    132        CALL     LPB            SENSE LINE PRINTER BUFFER READY                       00 00132
000117 000137 R
000120 004150 A    133        LSRB     8+N-16         RIGHT JUSTIFY B REGISTER                              00 00133
000121 005021 A    134        TBA                                                                          00 00134
000122 154033 A    135        ANA      CHAR                                                                 00 00135
000123 002000 A    136        CALL     LPB            SENSE LINE PRINTER BUFFER READY                       00 00136
000124 000137 R
000125 005145 A    137        INCR     045            X=X+1,A=X+1. NEXT ADDR.                               00 00137
000126 144030 A    138        SUB      EADR                                                                 00 00138
000127 001004 A    139        JAN      LWR1           TRANSFER NEXT 2 CHARACTERS.                           00 00139
000130 000113 R
000131 014016 A    140        LDA      D321           SINGLE STEP COMMAND                                   00 00140
000132 002000 A    141        CALL     LPB            SENSE LINE PRINTER BUFFER READY                       00 00141
000133 000137 R
000134 005301 A    142        DECR     1                                                                    00 00142
000135 001000 A    143        JMP*     LCK$           EXIT WITH A=-1.                                       00 00143
000136 100011 R
000137 000000 A    144 LPB   DATA     0                                                                    00 00144
000140 101135 A    145 LPB2  SEN      0135,LPB1                                                            00 00145
000141 000144 R
000142 001000 A    146        JMP      *-2            BUSY- KEEP TRYING                                     00 00146
000143 000140 R
000144 103135 A    147 LPB1  OAR      035            TRANSFER                                              00 00147
000145 001000 A    148        JMP*     LPB            EXIT                                                  00 00148
000146 100137 R
000147 000007 A    149 D7    DATA     07                                                                   00 00149
000150 000012 A    150 D321  DATA     012            PAPER FEED COMMAND                                    E.2********
000151 000300 A    151 SMK2  DATA     0300           BIT FOR REQ WD, ALSO TO INDICATE A                    E.2********
                   152 *                              BIT FOR REQ WD,ALSO TO INDICATE A                    00 00152
                   153 *                              PREVIOUS FUNCTION CALL. CHANNEL 1=TOP                00 00153
                   154 *                              OF FORM                                              00 00154
000152 000000 A    155 DELY  DATA     0,-8000                                                              00 00155
000153 160300 A
000154 001000 A    156 STRDY DATA     01000          LINE PRINTER READY STATUS                             00 00156
000155 007000 A    157 ALG   DATA     07000                                                                00 00157
000156 000177 A    158 CHAR  DATA     0177                                                                 00 00158
000157 000000 A    159 EADR  DATA     0                                                                    00 00159
000160 000074 A    160 DMAX  DATA     60             MAX. NO. OF CHAR.=120                                 00 00160
       000001 A    161 X     EQU      1.                                                                   00 00161
       000002 A    162 B     EQU      2                                                                    00 00162
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000000 A   163 ACNT    EQU     0                                    00 00163
000001 A   164 STAT    EQU     1                                    00 00164
000004 A   165 REQ     EQU     4                                    00 00165
000005 A   166 CNT     EQU     5                                    00 00166
000006 A   167 LOC     EQU     6                                    00 00167
000023 A   168 URDY    EQU     19                                   00 00168
000024 A   169 BRDY    EQU     20                                   00 00169
000025 A   170 OAR     EQU     21                                   00 00170
000027 A   171 DEV     EQU     23                                   00 00171
           172         NAME    LCK$,LWR$,LPL$                       00 00172
           173         EXT     IOA$,IOOK                            00 00173
           174         END                                          00 00174
ENTRY NAMES
000011 R LCK$    000000 R LPL$    000043 R LWR$
EXTERNAL NAMES
000031 E IOA$    000053 E IOOK
SYMBOLS
000000 A ACNT    000155 R ALG     000002 A B       000024 A BRDY
000156 R CHAR    000005 A CNT     000150 R D321    000147 R D7
000152 R DELY    000027 A DEV     000160 R DMAX    000157 R EADR
000031 E IOA$    000053 E IOOK    000011 R LCK$    000007 R LCK1
000035 R LCK3    000006 A LOC     000137 R LPB     000144 R LPB1
000140 R LPB2    000000 R LPL$    000043 R LWR$    000113 R LWR1
000064 R LWRA    000073 R LWRB    000076 R LWRC    000020 A N
000025 A OAR     000004 A REQ     000151 R SMK2    000001 A STAT
000154 R STRDY   000023 A URDY    000001 A X
  0 ERRORS ASSEMBLY COMPLETE

163   ACNT      125
157   ALG        97   101
162   B         111
169   BRDY       58
158   CHAR      131   135
166   CNT        27   109   120   122   124
150   D321      140
149   D7         28
155   DELY       71    75
171   DEV        59    62    65
160   DMAX      121
159   EADR      127   138
  0   IOA$       70   173
  0   IOOK       98   102   173
 57   LCK$       56    73   143   172
 55   LCK1       69    72    99   123
 74   LCK3       67
167   LOC       107   118   126   128
144   LPB        30   132   136   141   148
147   LPB1       63   145
145   LPB2       60
 26   LPL$      172
 97   LWR$      172
129   LWR1      139
111   LWRA      116
115   LWRB      113
117   LWRC      114
 22   N         130
170   OAR        61
165   REQ        32    68   106
151   SMK2       29
164   STAT       77   104
156   STRDY      76   103
168   URDY       64
  0   V$LPD2     10
161   X          27    32    58    59    61    62    64    65    68
           77   104   106   107   109   118   120   122   124
          125   126   128   129
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                    1 *  THIS IS A COPYRIGHTED PROGRAM. COPYRIGHT 1972 BY VARIAN DATA MACHINE 00 00001
                    2 *                                                                        00 00002
                    3 *    V.D.M.  PART  NO.       92L0705-010A                                00 00003
                    4 *                                                                        00 00004
                    5 *                                                RELEASED   02-22-72     00 00005
                    6 *                                                                        00 00006
                    7 *              V$DASSGN                                                  00 00007
                    8 *                                                                        00 00008
                    9 *                                                                        00 00009
                   10         TITLE   V$DASSGN                                                00 00010
                   11 ************************************************************************ 00 00011
                   12 ****    TIDB SETUP                                                  ***   00 00012
                   13 *                                                                        00 00013
                   14 ************************************************************************ 00 00014
000000 A           16 TBTRD   EQU     0          TASK THREAD                                   00 00016
000001 A           17 TBST    EQU     1          TASK STATUS                                   00 00017
000002 A           18 TBPL    EQU     2          STATUS CONT. (BITS15-6),PRIORITY LEVEL(5-0    00 00018
000003 A           19 TBEVNT  EQU     3          INTERRUPT EVENT                               00 00019
000004 A           20 TBRSA   EQU     4          A          REENTRANT AND SUSPEND STACK        00 00020
000005 A           21 TBRSB   EQU     5          B          REENTRANT AND SUSPEND STACK        00 00021
000006 A           22 TBRSX   EQU     6          X          REENTRANT AND SUSPEND STACK        00 00022
000007 A           23 TBRSP   EQU     7          OF/P       REENTRANT AND SUSPEND STACK        00 00023
000010 A           24 TBRSTS  EQU     8          TEMP. STG. REENTRANT AND SUSPEND STACK        00 00024
000011 A           25 TBENTY  EQU     9          TASK ENTRY LOCATION                           00 00025
000012 A           26 TBTMS   EQU     10         TIME COUNTER - CLOCK RESOLUTION IN 5MS INC    00 00026
000013 A           27 TBTMIN  EQU     11         TIME COUNTER - CLOCK MINUTE INCREMENTS        00 00027
000014 A           28 TBISA   EQU     12         A            INTERRUPT STACK                  00 00028
000015 A           29 TBISB   EQU     13         B            INTERRUPT STACK                  00 00029
000016 A           30 TBISX   EQU     14         X            INTERRUPT STACK                  00 00030
000017 A           31 TBISP   EQU     15         OF/P         INTERRUPT STACK                  00 00031
000020 A           32 TBISRS  EQU     16         REENT. STACK  INTERRUPT STACK                 00 00032
000021 A           33 TBIO    EQU     17         BLK ALLOC(15-10),I/O THR(9-5),I/O ACT(4-0)    00 00033
000022 A           34 TBKN1   EQU     18         TASK NAME                                     00 00034
000023 A           35 TBKN2   EQU     19         TASK NAME                                     00 00035
000024 A           36 TBKN3   EQU     20         TASK NAME                                     00 00036
000025 A           37 TBTLC   EQU     21         1ST LOC. OF TASK ALLOCATABLE                  00 00037
000026 A           38 TBCPTH  EQU     22         BACKGROUND TASK QUEUE                         00 00038
000027 A           39 TBATSK  EQU     23         TIDB LOC. OF ACTIVATING TASK                  00 00039
000030 A           40 TBRSE   EQU     24         TASK ERROR CODE                               00 00040
                   41         EJEC                                                           00 00041
                   42 ************************************************************************ 00 00042
                   43 *                                                                        00 00043
                   44 ****    TASK STATUS DESCRIPTION  (BIT SET WORD 1)                   ***   00 00044
                   45 *                                                                        00 00045
                   46 ************************************************************************ 00 00046
000017 A           48 TBS15   EQU     15         INTERRUPT SUSPEND                             00 00048
000016 A           50 TBS14   EQU     14         TASK SUSPEND                                  00 00050
000015 A           51 TBS13   EQU     13         TASK ABORT                                    00 00051
000014 A           52 TBS12   EQU     12         TASK EXIT                                     00 00052
000013 A           54 TBS11   EQU     11         TIDB CORE RESIDENT                            00 00054
000012 A           55 TBS10   EQU     10         CORE RESIDENT TASK                            00 00055
000011 A           56 TBS9    EQU     9          FOREGROUND TASK                               00 00056
000010 A           58 TBS8    EQU     8          TASK PROTECTED                                00 00058
000007 A           59 TBS7    EQU     7          TASK SCHEDULED BY TIME DELAY                  00 00059
000006 A           60 TBS6    EQU     6          TIME DELAY ACTIVE                             00 00060
000005 A           62 TBS5    EQU     5          TASK WAITING TO BE LOADED                     00 00062
000004 A           63 TBS4    EQU     4          TASK ERROR                                    00 00063
000003 A           64 TBS3    EQU     3          TASK INTERRUPT EXPECTED                       00 00064
000002 A           66 TBS2    EQU     2          OVERLAY TASK                                  00 00066
000001 A           67 TBS1    EQU     1          UPON TERMINATION ACTIVATE TASK $SCHED TASK    00 00067
000000 A           68 TBS0    EQU     0          TASK SEARCH-ALLOCATED-LOADED                  00 00069
                   69         EJEC                                                           00 00069
                   70 ************************************************************************ 00 00070
                   71 *                                                                        00 00071
                   72 ***     TASK STATUS DESCRIPTION  (BIT SET WORD 2)                   ***   00 00072
                   73 *                                                                        00 00073
                   74 ************************************************************************ 00 00074
                   76 *         BIT 15   -  TASK OPENED                                        00 00076
                   78 *         BIT 14   -  UNUSED                                             00 00078
                   79 *         BIT 13   -  OVERLAY LOAD                                       00 00079
                   80 *         BIT 12   -  TASK WAITING FOR BACKGROUND TASK I/O TO COMPLETE   00 00080
                   81 *                     TASK LOCKED-OUT UNTIL BG I/O COMPLETE OR BIT 11   00 00081
                   82 *                     IS SET  (ALLOCATABLE SPACE AVAILABLE)             00 00082
                   84 *         BIT 11   -  DEFINES THAT ALLOCATABLE SPACE IS AVAILABLE, TRY   00 00084
                   85 *                     ALLOCATING TASK AGAIN.  OVERRIDES BIT 12 SET OR   00 00085
                   86 *                     BIT 5 IN STATUS WORD.                             00 00086
                   87 *         BIT 10   -  BACKGROUND TASK BEING WRITTEN ON CHECKPOINT FILE.  00 00087
                   88 *         BIT  9   -  TASK WAITING FOR A TIDB TO COME AVAILABLE FOR      00 00088
                   89 *                     SCHEDULING.                                       00 00089
                   91 *         BIT  8 TO 6  - UNUSED                                          00 00091
                   92         EJEC                                                           00 00092
                   93 ************************************************************************ 00 00093
                   94 *                                                                        00 00094
                   95 ***     JOB PROCESSOR LOW CORE EQUATES                              **    00 00095
                   96 *                                                                        00 00096
                   97 ************************************************************************ 00 00097
000050 A           99 LCJP    EQU     050                                                    00 00099
000050 A          100 V$JNAM  EQU     LCJP           JCP NAME                                00 00100
000054 A          101 V$LCNT  EQU     LCJP+4         LINE COUNT                              00 00101
000055 A          102 V$JCFG  EQU     LCJP+5         JCP FLAGS                               00 00102
                  103 *                              BIT 2-0    = LOAD AND GO FLAGS          00 00103
                  104 *                              BIT  3     = DUMP FLAG  1=DUMP, 0=NO DUMP 00 00104
                  105 *                              BIT  4     = DUMP FLAG IF LOAD AND GO   00 00105
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                    106 *                                BIT 9-5   = UNUSED                                        00 00106
                    107 *                                BIT 15-10 = BG EXTRA CORE BLOCKS TO ALLOC               00 00107
000036 A            109 V$BIC1 EQU     LCJP+6            BIC INTERRUPT ADDRESS TABLE  (10 WORDS)                 00 00109
000070 A            110 V$DATE EQU     LCJP+16           JCP DATE RECORD                                         00 00110
000074 A            111 V$PLCT EQU     LCJP+20           PERMINATE LINE COUNT                                    00 00111
000075 A            112 V$BGLB EQU     LCJP+21           JCP LIB KEY AND LU NO. (BACKGROUND LIB)                 00 00112
000076 A            113 V$CRDM EQU     LCJP+22           CARD KEYPUNCH TYPE, 0=026, 1=029                        00 00113
                    114 *                                BIT 0 = SYSTEM NOMINAL KEYPUNCH MODE.                   00 00114
                    115 *                                BIT 9 = CURRENT JOB KEYPUNCH MODE.                      00 00115
000077 A            116 V$JCTM EQU     LCJP+23           TEMP. STORAGE FOR /MEM BLOCK                            00 00116
                    117          EJEC                                                                           00 00117
                    118 ********************************************************************************       00 00118
                    119 *                                                                                       00 00119
                    120 ****     LOW CORE DESCRIPTION                                                  ***       00 00120
                    121 *                                                                                       00 00121
                    122 ********************************************************************************       00 00122
000300 A            124 LC       EQU     0300                                                                   00 00124
000300 A            125 V$CTL    EQU     LC                CURRENT TASK TIDB LOCATION                           00 00125
000301 A            126 V$CPL    EQU     LC+1              CURRENT PRIORITY LEVEL                               00 00126
000302 A            127 V$CRS    EQU     LC+2              CURRENT REENTRANT STACK POINTER                      00 00127
000303 A            128 V$TB     EQU     LC+3              POINTER TO HIGHEST PRIORITY TIDB                     00 00128
000304 A            129 V$UTB    EQU     LC+4              POINTER TO UNUSED TASK TIDB                          00 00129
000305 A            130 V$PTVB   EQU     LC+5              POINTER TO NEXT ENTRY IN REENTRANT STACK             00 00130
000306 A            131 V$FLRS   EQU     LC+6              FIRST LOC. OF REENTRANT STACK                        00 00131
000307 A            132 V$LRSK   EQU     LC+7              LAST LOC. OF REENTRANT STACK+1                       00 00132
000310 A            133 V$CKPT   EQU     LC+8              CHECKPOINT FLAG 1=ON, 0=OFF                          00 00133
000311 A            134 V$OPCL   EQU     LC+9              LOC. OF TIDB FOR OPCOM TASK                          00 00134
000312 A            135 V$LSAL   EQU     LC+10             LOC. OF TIDB FOR SYSTEM SAL TASK                     00 00135
000313 A            136 V$LER    EQU     LC+11             LOC. OF TIDB FOR SYSTEM ERROR TASK                   00 00136
000314 A            137 V$TJCP   EQU     LC+12             LOC. OF TIDB FOR JOB CONTROL PROCESSOR TAS           00 00137
000315 A            138 V$BTB    EQU     LC+13             LOC. OF CURRENT ACTIVE BACKGROUND TSK TIDB           00 00138
000316 A            139 V$LUP    EQU     LC+14             LOC. OF 1ST UNPROTECTED WORD                         00 00139
000317 A            140 V$LLUP   EQU     LC+15             LOC. OF LAST UNPROTECTED WORD                        00 00140
000320 A            141 V$IM     EQU     LC+16             INTERRUPT MASK  (8 WORDS)                            00 00141
000330 A            142 V$MPM    EQU     LC+24             MEMORY PROTECT MASK  (4 WORDS)                       00 00142
000334 A            143 V$CAM    EQU     LC+28             CORE ALLOCATION MASK  (4 WORDS)                      00 00143
                    144 *        EQU     LC+32             UNUSED                                               00 00144
000341 A            145 V$CRDR   EQU     LC+33             CORE RESIDENT DIRECTORY LOCATION                     00 00145
000342 A            146 V$TBGT   EQU     LC+34             TOP OF THREAD OF BG TSK WAITING TO BE ALLO           00 00146
000343 A            147 V$TMS    EQU     LC+35             TIME OF DAY IN 5 MILLISECOND INCREMENTS              00 00147
000344 A            148 V$TMN    EQU     LC+36             TIME OF DAY IN MINUTE INCREMENTS                     00 00148
000345 A            149 V$LUNT   EQU     LC+37             ADDR. OF LOGICAL UNIT NAME TABLE                     00 00149
000346 A            150 V$OPCF   EQU     LC+38             OPCOM LOCKOUT FLAG                                   00 00150
000347 A            151 V$FGLB   EQU     LC+39             KEY AND LU NO. FOR FOREGROUND LIB                    00 00151
000350 A            152 V$FREE   EQU     LC+40             FREE RUNNING COUNTER INCR. IN MICROSECONDS           00 00152
000351 A            153 V$CTMS   EQU     LC+41             CLOCK RESOLUTION IN 5 MILLISECOND INCR.              00 00153
000352 A            154 V$SCV    EQU     LC+42             CLOCK SELECTED COUNT VALUE (1 TO 4095)               00 00154
000353 A            155 V$CKB    EQU     LC+43             BASIC CLOCK INTERRUPT RATE IN MICROSECONDS           00 00155
000354 A            156 V$CRM    EQU     LC+44             CLOCK RESOLUTION INCR. FOR 1 MINUTE.                 00 00156
000355 A            157 V$DSTB   EQU     LC+45             BASE ADDR. FOR DST BLOCK                             00 00157
000356 A            158 V$LIT    EQU     LC+46             LAST LOCATION OF BACKGROUND LITERAL TABLE            00 00158
                    159 *        EQU     LC+47             UNUSED                                               00 00159
000360 A            160 V$CTAD   EQU     LC+48             BASE ADDR. FOR CONTROLLER ADDR. TABLE                00 00160
000361 A            161 V$SCTL   EQU     LC+49             CURRENT CONTROLLER IN SCAN                           00 00161
000362 A            162 V$NCTR   EQU     LC+50             NO. OF CONTROLLERS                                   00 00162
000363 A            163 V$PIMN   EQU     LC+51             EXTERNAL DEVICE ADDRESS TABLE FOR PINS               00 00163
                    164 *                                   (8 WORDS DEFINED IN PIM NO ORDER)                  00 00164
                    165 *        EQU     LC+59             UNUSED                                               00 00165
                    166 *        EQU     LC+60             UNUSED                                               00 00166
000375 A            167 V$SLFG   EQU     LC+61             SAL TASK BUSY FLAG     1=BUSY, 0=NOT BUSY            00 00167
000376 A            168 V$ERFG   EQU     LC+62             ERROR TASK BUSY FLAG   1=BUSY, 0=NOT BUSY            00 00168
000377 A            169 V$JOP    EQU     LC+63             JCP OPERATING FLAG                                   00 00169
000400 A            170 V$LUT1   EQU     LC+64             START LUN ADDR FOR JCP/OPCOM ASSIGNABLE              00 00170
000401 A            171 V$LUT2   EQU     LC+65             START LUN ADDR FOR UNASSIGNABLE                      00 00171
000402 A            172 V$LUT3   EQU     LC+66             START LUN ADDR FOR OPCOM ASSIGNABLE                  00 00172
000403 A            173 V$1MIN   EQU     LC+67             32767 - (60000/(5*V$CTMS)) + 1                       00 00173
                    174 *        EQU     LC+68             UNUSED                                               00 00174
                    175 *        EQU     LC+69             UNUSED                                               00 00175
                    176 *        EQU     LC+70             UNUSED                                               00 00176
                    177 *        EQU     LC+71             UNUSED                                               00 00177
000410 A            178 V$IOA    EQU     LC+72             I/O ALGORITHM                                        00 00178
000411 A            179 V$CKIT   EQU     LC+73             CLOCK INT. IN PIM BEFORE LOCKOUT FLAG.               00 00179
000412 A            180 V$JCB    EQU     LC+74             ALL SYSTEM BACKGROUND PROGRAMS AND JCP USE           00 00180
                    181 *                                  THIS SYSTEM BUFFER TO READ DIRECTIVES AND            00 00181
                    182 *                                  SOURCE RECORDS IN.                                   00 00182
000413 A            183 V$OCB    EQU     LC+75             OPCOM WILL READ OPERATOR KEY-IN REQUESTS             00 00183
                    184 *                                  IN THIS BUFFER.  IF JCP IS SET NOT ACTIVE            00 00184
                    185 *                                  AND A 1 DIRECTIVE IS INPUTED, OPCOM                  00 00185
                    186 *                                  WILL MOVE THE DIRECTIVE TO V$JCB BEFORE              00 00186
                    187 *                                  SCHEDULING JCP.                                      00 00187
000414 A            188 V$BVN    EQU     LC+76             BOTTOM OF VORTEX NUCLEUS                             00 00188
000415 A            189 V$BFC    EQU     LC+77             TOP OF FG RCS. AREA/BOTTOM OF FG BLK COMM.           00 00189
000416 A            190 V$TFC    EQU     LC+78             TOP OF FG BLK COMMON/TOP OF VORTEX CORE.             00 00190
                    191 *        EQU     LC+79             UNUSED                                               00 00191
                    192          EJEC                                                                           00 00192
                    193 ********************************************************************************       00 00193
                    194 *                                                                                       00 00194
                    195 ****     MASK TABLE DESCRIPTION                                                ***       00 00195
                    196 *                                                                                       00 00196
                    197 ********************************************************************************       00 00197
000420 A            199 MT       SET     0420                                                                   00 00199
000420 A            200 ZERO     EQU     MT                ZERO WORD                                            00 00200
000421 A            201 BS0      EQU     MT+1              BIT MASK CONTENTS 000001                             00 00201
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000422 A  202 BS1     EQU     MT+2                    000002                    00 00202
000423 A  203 BS2     EQU     MT+3                    000004                    00 00203
000424 A  204 BS3     EQU     MT+4                    000010                    00 00204
000425 A  205 BS4     EQU     MT+5                    000020                    00 00205
000426 A  206 BS5     EQU     MT+6                    000040                    00 00206
000427 A  207 BS6     EQU     MT+7                    000100                    00 00207
000430 A  208 BS7     EQU     MT+8                    000200                    00 00208
000431 A  209 BS8     EQU     MT+9                    000400                    00 00209
000432 A  210 BS9     EQU     MT+10                   001000                    00 00210
000433 A  211 BS10    EQU     MT+11                   002000                    00 00211
000434 A  212 BS11    EQU     MT+12                   004000                    00 00212
000435 A  213 BS12    EQU     MT+13                   010000                    00 00213
000436 A  214 BS13    EQU     MT+14                   020000                    00 00214
000437 A  215 BS14    EQU     MT+15                   040000                    00 00215
000440 A  216 BS15    EQU     MT+16                  0100000                    00 00216
000441 A  217 BR0     EQU     MT+17     BIT MASK CONTENTS  0177776              00 00217
000442 A  218 BR1     EQU     MT+18                      0177775              00 00218
000443 A  219 BR2     EQU     MT+19                      0177773              00 00219
000444 A  220 BR3     EQU     MT+20                      0177767              00 00220
000445 A  221 BR4     EQU     MT+21                      0177757              00 00221
000446 A  222 BR5     EQU     MT+22                      0177737              00 00222
000447 A  223 BR6     EQU     MT+23                      0177677              00 00223
000450 A  224 BR7     EQU     MT+24                      0177577              00 00224
000451 A  225 BR8     EQU     MT+25                      0177377              00 00225
000452 A  226 BR9     EQU     MT+26                      0176777              00 00226
000453 A  227 BR10    EQU     MT+27                      0175777              00 00227
000454 A  228 BR11    EQU     MT+28                      0173777              00 00228
000455 A  229 BR12    EQU     MT+29                      0167777              00 00229
000456 A  230 BR13    EQU     MT+30                      0157777              00 00230
000457 A  231 BR14    EQU     MT+31                      0137777              00 00231
000460 A  232 BR15    EQU     MT+32                      0077777              00 00232
000461 A  233 NEG     EQU     MT+33     SET ALL BITS                           00 00233
000462 A  234 LHW     EQU     MT+34     LEFT HALF WORD MASK 0177400            00 00234
000463 A  235 RHW     EQU     MT+35     RIGHT HALF WORD MASK    0377           00 00235
000421 A  236 ONE     EQU     MT+1      CONTAINS NUMBER  1                     00 00236
000422 A  237 TWO     EQU     MT+2      CONTAINS NUMBER  2                     00 00237
000464 A  238 THREE   EQU     MT+36     CONTAINS NUMBER  3                     00 00238
000423 A  239 FOUR    EQU     MT+3      CONTAINS NUMBER  4                     00 00239
000465 A  240 FIVE    EQU     MT+37     CONTAINS NUMBER  5                     00 00240
000466 A  241 SIX     EQU     MT+38     CONTAINS NUMBER  6                     00 00241
000467 A  242 SEVEN   EQU     MT+39     CONTAINS NUMBER  7                     00 00242
000424 A  243 EIGHT   EQU     MT+4      CONTAINS NUMBER  8                     00 00243
000470 A  244 NINE    EQU     MT+40     CONTAINS NUMBER  9                     00 00244
000471 A  245 TEN     EQU     MT+41     CONTAINS NUMBER 10                     00 00245
000421 A  246 BM1     EQU     MT+1      BIT MASK WORD  00001                   00 00246
000464 A  247 BM3     EQU     MT+36     BIT MASK WORD  00003                   00 00247
000467 A  248 BM7     EQU     MT+39     BIT MASK WORD  00007                   00 00248
000472 A  249 BM17    EQU     MT+42     BIT MASK WORD  00017                   00 00249
000473 A  250 BM37    EQU     MT+43     BIT MASK WORD  00037                   00 00250
000474 A  251 BM77    EQU     MT+44     BIT MASK WORD  00077                   00 00251
000475 A  252 BM177   EQU     MT+45     BIT MASK WORD  00177                   00 00252
000463 A  253 BM377   EQU     MT+35     BIT MASK WORD  00377                   00 00253
000476 A  254 BM777   EQU     MT+46     BIT MASK WORD  00777                   00 00254
000477 A  255 BM1777  EQU     MT+47     BIT MASK WORD  01777                   00 00255
          256         EJEC                                                     00 00256
          257 ********************************************************************** 00 00257
          258 *                                                                    00 00258
          259 ****    BIT TEST BIT DESIGNATION                                ***  00 00259
          260 *                                                                    00 00260
          261 ********************************************************************** 00 00261
000040 A  263 RA0     EQU     040       BT JUMPS WHEN A REGISTER IS 0          00 00263
000000 A  264 RA1     EQU     000       BT JUMPS WHEN A REGISTER IS 1          00 00264
000060 A  265 RB0     EQU     060       BT JUMPS WHEN B REGISTER IS 0          00 00265
000020 A  266 RB1     EQU     020       BT JUMPS WHEN B REGISTER IS 1          00 00266
          268 ********************************************************************** 00 00268
          269 *                                                                    00 00269
          270 **      THE BIT CHECKED                                           00 00270
          271 *                                                                    00 00271
          272 ********************************************************************** 00 00272
000000 A  274 B0      EQU     0                                                  00 00274
000001 A  275 B1      EQU     1                                                  00 00275
000002 A  276 B2      EQU     2                                                  00 00276
000003 A  277 B3      EQU     3                                                  00 00277
000004 A  278 B4      EQU     4                                                  00 00278
000005 A  279 B5      EQU     5                                                  00 00279
000006 A  280 B6      EQU     6                                                  00 00280
000007 A  281 B7      EQU     7                                                  00 00281
000010 A  282 B8      EQU     8                                                  00 00282
000011 A  283 B9      EQU     9                                                  00 00283
000012 A  284 B10     EQU     10                                                 00 00284
000013 A  285 B11     EQU     11                                                 00 00285
000014 A  286 B12     EQU     12                                                 00 00286
000015 A  287 B13     EQU     13                                                 00 00287
000016 A  288 B14     EQU     14                                                 00 00288
000017 A  289 B15     EQU     15                                                 00 00289
          290         EJEC                                                     00 00290
          291 ********************************************************************** 00 00291
          292 *                                                                    00 00292
          293 ****    DEVICE AND FUNCTION CODES                               ***  00 00293
          294 *                                                                    00 00294
          295 ********************************************************************** 00 00295
          297 ****    REAL TIME CLOCK                                         ***  00 00297
000047 A  298 CLOCK   EQU     047               DEVICE NUMBER 047                00 00298
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                    299 *
000747 A            300 DISCLK EQU     0700+CLOCK     DISABLE CLOCK
000147 A            301 ENACLK EQU     0100+CLOCK     ENABLE CLOCK
                    303 *
                    304 ****     PIM
000044 A            305 APIM   EQU     044            ALL PIMS DEVICE NUMBER
000040 A            306 PIM1   EQU     040
000041 A            307 PIM2   EQU     041
000042 A            308 PIM3   EQU     042
000043 A            309 PIM4   EQU     043
000040 A            310 PIM5   EQU     040
000040 A            311 PIM6   EQU     040
000040 A            312 PIM7   EQU     040
000040 A            313 PIM8   EQU     040
                    314 *
000444 A            315 DISPIM EQU     0400+APIM
000244 A            316 ENAPIM EQU     0200+APIM
                    318 ****     MEMORY PROTECT
000045 A            319 MP     EQU     045            DEVICE ADDRESS 045
000745 A            320 DISMP  EQU     0700+MP        DISABLE MEMORY PROTECT
000645 A            321 ENAMP  EQU     0600+MP        ENABLE MEMORY PROTECT
000045 A            322 MPMR0  EQU     0000+MP        SELECT MASK REGISTER 0
000145 A            323 MPMR1  EQU     0100+MP        SELECT MASK REGISTER 1
000245 A            324 MPMR2  EQU     0200+MP        SELECT MASK REGISTER 2
000345 A            325 MPMR3  EQU     0300+MP        SELECT MASK REGISTER 3
                    326        EJEC
                    327 *
                    328        NAME    DASSGN
                    329        EXT     DSERR
                    330        EXT     DSCLR
                    331        EXT     DCOUNT         CHARACTER POINTER
                    332        EXT     USER00
000001 A            333 X      EQU     1
000002 A            334 B      EQU     2
000040 A            335 BTA0   EQU     040            A REG., BIT =0
                    336 *
                    337 *      ASSIGN
                    338 *
                    339 *      ;ASSIGN,LU NAME=DEVICE NAME      MULTIPLE ASSIGNMENTS SEPARATED
                    340 *              LU NUMBER=DEVICE NAME     BY COMMAS.
                    341 *              LU NAME=LU NAME
                    342 *
                    343 *
000000 R            344 DASSGN EQU     *              ENTER TO PROCESS ASSIGN REQUESTS.
000000 005012 A     345        TAB
000001 140464 A     346        SUB     THREE          A= NO.OF CHARACTERS IN FIRST ITEM.
000002 001002 A     347        JAP     DASN10         ASSUME LU NUMBER IF GTR THAN 2
000003 000014 R
000004 005321 A     348        DECR    A1
000005 001010 A     349        JAZ     DASN10         1 CHAR. LU NUMBER
000006 000014 R
000007 002000 A     350        CALL    DFLUN          COMPARE LU NAME IN DC BUFFER WITH LUNT
000010 000376 R
000011 001016 A     351        JANZ    DASN2          A=0 MEANS NO MATCH FOUND
000012 000017 R
000013 R            352 DASN20 EQU     *              ASSUME L1 = LU NUMBER
000013 020422 A     353        LDB     TWO            SET FOR 2 CHARS.
000014 R            354 DASN10 EQU     *              L1 = LOGICAL UNIT NUMBER.
000014 005024 A     355        TBX
000015 002000 A     356        CALL    DNUM           CONVERT ASC TO BINARY.
000016 000415 R
000017 054266 A     357 DASN2  STA     DASTOR         SAVE LOGICAL UNIT NUMBER,L1
000020 020465 A     358        LDB     FIVE
000021 002000 A     359        CALL    DGNI               GET D1 TO BE ASSIGNED TO L1
000022 000506 R
000023 140423 A     360        SUB     FOUR           A= NO.OF CHARACTERS IN ITEM
000024 001010 A     361        JAZ     DASN24         ASSUME DEVICE NAME
000025 000177 R
000026 001002 A     362        JAP     DASN18         ERROR. DC04 MESSAGE.
000027 000246 R
000030 005111 A     363        IAR
000031 001010 A     364        JAZ     DASN30         3 CHARS. ASSUME LOGICAL UNIT NUMBER.
000032 000251 R
000033 005111 A     365        IAR
000034 030421 A     366        LDX     ONE            SET FOR 1 CHAR. LU NUMBER
000035 001016 A     367        JANZ    DASN31+1       JMP FOR 1 CHAR. LU NUMBER
000036 000270 R
000037 002000 A     368        CALL    DFLUN          FIND LOGICAL UNIT NAME.
000040 000376 R
000041 001010 A     369        JAZ     DASN40         NO NAME IN LUNT, OR IF LU NO OR DEV.NAME
000042 000274 R
                    370 *
                    371 *      DFUNDT/DLUNST
                    372 *
                    373 *       FIND/STORE DST ENTRY
                    374 *
                    375 *      DLUNDT  IS ENTERED TO FIND THE DST ENTRY ASSIGNED TO A LOGICAL
                    376 *       UNIT.
                    377 *      DLUNST
                    378 *       DLUNST IS ENTERED TO STORE THE DST ENTRY NUMBER TO THE
                    379 *         ASSIGNED LOGICAL UNIT IN THE LUNT
000043 R            380 DLUNDT EQU     *              ENTER WITH A=LUN
000043 007400 A     381        RJP
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000044 005311 A  382          DAR                                                    00 00382
000045 054330 A  383          STA     DFLUN       LUN 1-100,VALUE 0-99               00 00383
000046 006020 A  384          LDBI    V$LUT1                                         00 00384
000047 000400 A
000050 006140 A  385          SUBI    100                                            00 00385
000051 000144 A
000052 001004 A  386          JAN     DLUN14      LESS THAN 101                      00 00386
000053 000070 R
000054 054321 A  387          STA     DFLUN       LUN 101-179,VALUE 0-79             00 00387
000055 006140 A  388          SUBI    79                                             00 00388
000056 000117 A
000057 001004 A  389          JAN     DNUMY       LESS THAN 180. ERROR,NOT UNASSIGNABLE. 00 00389
000060 000500 R
000061 054314 A  390          STA     DFLUN       LUN 180-255,0-75                   00 00390
000062 006140 A  391          SUBI    76                                             00 00391
000063 000114 A
000064 001002 A  392          JAP     DASN18      ERROR                              00 00392
000065 000246 R
000066 005122 A  393 DLUN12   IBR                 LUN 180-255                        00 00393
000067 005122 A  394          IBR                 LUN 100-179                        00 00394
000070 026000 A  395 DLUN14   LDB     0,B         LUN LESS THAN 101                  00 00395
000071 014304 A  396          LDA     DFLUN                                          00 00396
000072 146000 A  397          SUB     0,B         NO. OF ENTRIES IN THIS BLOCK       00 00397
000073 001002 A  398          JAP     DASN18      ERROR                              00 00398
000074 000246 R
000075 005021 A  399          TBA                                                    00 00399
000076 124277 A  400          ADD     DFLUN                                          00 00400
000077 005012 A  401          TAB                 B=LUN ENTRY ADDR-1                 00 00401
000100 016001 A  402          LDA     1,B         GET LUN                            00 00402
000101 001007 A  403          JDFN    DLUN20      GET BYTE                           00 00403
000102 000154 R
000103 064272 A  404          STB     DFLUN       LUN ENTRY ADDR-1.                  00 00404
000104 005014 A  405          TAX                                                    00 00405
000105 005021 A  406          TBA                                                    00 00406
000106 140400 A  407          SUB     V$LUT1      CHECK IF DC TO BE REASSIGNED.      00 00407
000107 001016 A  408          JANZ    DASN8       NO.                                00 00408
000110 000142 R
000111 024173 A  409          LDB     DSTBT       YES.GET DST FOR DEVICE TO BE ASSIGNED. 00 00409
000112 016001 A  410          LDA     DSNAME,B    CHECK IF CT OR TY                  00 00410
000113 006130 A  411          ERAI    0141724     CT                                 00 00411
000114 141724 A
000115 001010 A  412          JAZ     DLUN15                                         00 00412
000116 000124 R
000117 016001 A  413          LDA     DSNAME,B                                       00 00413
000120 006130 A  414          ERAI    0152331                                        00 00414
000121 152331 A
000122 001016 A  415          JANZ    DNUMY       ERROR.NOT CT OR TY                 00 00415
000123 000500 R
000124 005041 A  416 DLUN15   TXA                                                    00 00416
000125 150463 A  417          ANA     PHW         OLD DC                             00 00417
000126 005312 A  418          DECR    012         B=DST ENTRY-1                      00 00418
000127 010355 A  419          LDA     V$DSTB      DETERMINE DST ADDR.                00 00419
000130 160464 A  420          MUL     THREE                                          00 00420
       000002 A  421 DSOPCM   EQU     2                                              00 00421
000131 016002 A  422          LDA     DSOPCM,B                                       00 00422
000132 006453 A  423          BT      BTA0+11,DASN8  JMP IF NOT DC DEVICE            00 00423
000133 000142 R
000134 130434 A  424          ERA     BS11        OTHERWISE RESET DC DEVICE FLAG TO NEW  00 00424
000135 056002 A  425          STA     DSOPCM,B    ASSIGNMENT                         00 00425
000136 024150 A  426          LDB     DSTBT       DST ADDR FOR NEW  DC DEVICE        00 00426
000137 016002 A  427          LDA     DSOPCM,B                                       00 00427
000140 110434 A  428          ORA     BS11                                           00 00428
000141 056002 A  429          STA     DSOPCM,B                                       00 00429
000142 024233 A  430 DASN8    LDB     DFLUN       LUN ENTRY ADDR-1                   00 00430
000143 005041 A  431          TXA                                                    00 00431
000144 150462 A  432          ANA     LHW         STORE NEW LUN ASSIGNMENT.          00 00432
000145 114077 A  433          ORA     DNSR98                                         00 00433
000146 056001 A  434          STA     1,B                                            00 00434
000147 020423 A  435          LDB     FOUR                                           00 00435
000150 002000 A  436          CALL    DGNI        GET NEXT ITEM FROM BUFFER          00 00436
000151 000506 R
000152 001000 A  437          JMP     DASSGN      DO NEXT ASSIGNMENT PAIRS           00 00437
000153 000000 R
000154 150463 A  438 DLUN20   ANA     PHW         CURRENT ASSIGNMENT                 00 00438
000155 054067 A  439          STA     DNSR98                                         00 00439
000156 005312 A  440          DECR    012         B= DST ENTRY                       00 00440
000157 010355 A  441          LDA     V$DSTB      GET DST BASE ADDR                  00 00441
000160 160464 A  442          MUL     THREE       B= DST ADDR                        00 00442
       000000 A  443 DSDASS   EQU     0                                              00 00443
000161 064125 A  444          STB     DSTBT       SAVE DST ADDR.                     00 00444
000162 026000 A  445 DASN6    LDB     DSDASS,B                                       00 00445
000163 010424 A  446          LDA     EIGHT                                          00 00446
000164 006436 A  447          BT      020+14,DSERR  UNASSIGNABLE,DC10 MSG            00 00447
000165 000000 E
000166 006437 A  448          BT      020+15,DSERR  DEVICE DOWN,DC10 MSG             00 00448
000167 000165 E
       000170 R  449 DASN7    EQU     *                                              00 00449
000170 014115 A  450          LDA     DASTOR      A= LU NO. FOR L1                   00 00450
       000171 R  451 DLUNST   EQU     *                                              00 00451
000171 007401 A  452          SOF                 SET DLUNST INDICATOR               00 00452
000172 001000 A  453          JMP     DLUNDT+1                                       00 00453
000173 000044 R
000174 006010 A  454 DASN22   LDAI    0130260     ASSUME ALPHA. SET 00 AS LAST       00 00454
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000175 130260 A
000176 055001 A   455          STA     1,X             2 CHAR. OF DEVICE NAME                          00 00455
       000177 R   456 DASN24   EQU     *               ASSUME D1= DEVICE NAME                          00 00456
                  457 *        DNSRCH                                                                  00 00457
                  458 *                                                                                00 00458
                  459 *     SEARCH DST FOR DEVICE NAME SUBROUTINE                                      00 00459
                  460 *                                                                                00 00460
                  461 *        DNSRCH  SEARCHES THE DST TABLE FOR A MATCHING 4 ASCII CHAR.             00 00461
                  462 *         DEVICE NAME SPECIFIED IN CALLER BUFFER.                                00 00462
       000177 R   463 DNSRCH   EQU     *                                                               00 00463
000177 020413 A   464          LDB     V$DCB           BUFFER ADDR.                                    00 00464
000200 016000 A   465          LDA     0,B             SAVE 1ST 2 CHARS.                               00 00465
000201 054041 A   466          STA     DNSR99                                                          00 00466
000202 026001 A   467          LDB     1,B             GET NEXT 2 CHARS.                               00 00467
000203 004450 A   468          LLRL    8                                                               00 00468
000204 150467 A   469          ANA     SEVEN           3RD CHAR                                        00 00469
000205 004252 A   470          LRLA    10                                                              00 00470
000206 054035 A   471          STA     DNSR99+1                                                        00 00471
000207 004450 A   472          LLRL    8               4TH CHAR.                                       00 00472
000210 150463 A   473          ANA     RHW                                                             00 00473
000211 006140 A   474          SUBI    0260                                                            00 00474
000212 000260 A
000213 004244 A   475          LRLA    4                                                               00 00475
000214 114027 A   476          ORA     DNSR99+1                                                        00 00476
000215 054026 A   477          STA     DNSR99+1        STORE CHARACTERS 3,4                            00 00477
000216 020355 A   478          LDB     V$DSTB          DST BASE ADDR                                   00 00478
000217 005101 A   479          INCR    01              A=1                                             00 00479
000220 054024 A   480          STA     DNSR98                                                          00 00480
000221 016001 A   481 DNSR4    LDA     1,B             COMPARE DSNAME WITH FIRST 2 CHARS.              00 00481
000222 001010 A   482          JAZ     DASN18          END OF DST TABLE. EXIT                          00 00482
000223 000246 R
000224 134016 A   483          ERA     DNSR99                                                          00 00483
000225 001016 A   484          JANZ    DNSR5           A=0 MATCH                                       00 00484
000226 000235 R
000227 016000 A   485 DNSR6    LDA     0,B             NOW COMPARE NEXT 2 CHARS.                       00 00485
000230 134013 A   486          ERA     DNSR99+1                                                        00 00486
000231 006150 A   487          ANAI    017760                                                          00 00487
000232 017760 A
000233 001010 A   488          JAZ     DASN6-1         COMPARE .DST FOUND                              00 00488
000234 000161 R
000235 005122 A   489 DNSR5    IBR                                                                     00 00489
000236 005122 A   490          IBR                                                                     00 00490
000237 005122 A   491          IBR                                                                     00 00491
000240 044004 A   492          INR     DNSR98                                                          00 00492
000241 001000 A   493          JMP     DNSR4                                                           00 00493
000242 000221 R
000243 000000 A   494 DNSR99   DATA    0,0                                                             00 00494
000244 000000 A
000245 000000 A   495 DNSR98   DATA    0                                                               00 00495
000246 010423 A   496 DASN18   LDA     FOUR            DC04 MSG.                                       00 00496
000247 001006 A   497          JMP     DSER00                                                          00 00497
000250 000000 E
       000251 R   498 DASN30   EQU     *               ENTER FOR 3-CHAR LU NUMBER.                     00 00498
000251 030413 A   499          LDX     V$DCB           CHECK FOR DUMMY                                 00 00499
000252 015001 A   500          LDA     1,X                                                             00 00500
000253 004350 A   501          LSRA    8                                                               00 00501
000254 006130 A   502          ERAI    0315            M                                               00 00502
000255 000315 A
000256 125000 A   503          ADD     0,X                                                             00 00503
000257 006140 A   504          SUBI    'DU'                                                            00 00504
000260 142325 A
000261 001016 A   505          JANZ    DASN31          IF NOT DUMMY                                    ********
000262 000267 R
000263 006057 A   506          STAE    DNSR98          SET LUN = 0                                     ********
000264 000245 R
000265 001000 A   507          JMP     DASN7                                                           ********
000266 000170 R
       000267 R   508 DASN31   EQU     *                                                               00 00506
000267 030464 A   509          LDX     THREE                                                           00 00507
000270 002000 A   510          CALL    UNUM            CONVERT TO BINARY FROM ASCII                    00 00508
000271 000415 R
       000272 R   511 DASN36   EQU     *                                                               00 00509
000272 001000 A   512          JMP     CLUNDT          NOW FIND DST                                    00 00510
000273 000043 R
       000274 R   513 DASN40   EQU     *               ENTER TO D1 FOR LU NUMBER OR DEVICE NAME.       00 00511
000274 030413 A   514          LDX     V$DCB                                                           00 00512
000275 015000 A   515          LDA     0,X                                                             00 00513
000276 004350 A   516          LSRA    8               CHECK IF 1ST CHAR. ASCII NO. OR ALPHA           00 00514
000277 006140 A   517          SUBI    0272                                                            00 00515
000300 000272 A
000301 001002 A   518          JAP     DASN22          ASSUME ALPHA.                                   00 00516
000302 000174 R
000303 030422 A   519 DASN42   LDX     TWO             ENTER FOR 2 CHAR. LU NUMBER                     00 00517
000304 001000 A   520          JMP     DASN31+1                                                        00 00518
000305 000270 R
000306 000000 A   521 DASTOR   DATA    0                                                               00 00519
                  522          EJEC                                                                    00 00520
                  523 *                                                                                00 00521
                  524 *                                                                                00 00522
                  525 *        DLDBT,DSTBT                                                             00 00523
                  526 *                                                                                00 00524
                  527 *     LOAD/STORE 1 CHARACTER IN BUFFER SUBROUTINE.                               00 00525
                  528 *                                                                                00 00526
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                    529 ****    ENTER VIA  JMPM  DLDBT    (TO LOAD A CHAR.)                                  00 00527
                    530 *                  DATA  LOCATION OF BUFFER ADDR * 2  FOR CHAR N/N+1                00 00528
                    531 *                                                      SWITCH                       00 00529
                    532 *                EXIT WITH A REG= ASCII CHARACTER = B REG.   X= UNCHANGED           00 00530
                    533 *                     BUFFER ADDRESS INCREMENTED TO NEXT CHAR.                      00 00531
                    534 *                                                                                   00 00532
                    535 ****    ENTER VIA  JMPM  DSTBT   (TO STORE A CHAR.)                                 00 00533
                    536 *                  DATA  LOCATION OF BUFFER ADDR *2,BIT 0=0 CHAR N                  00 00534
                    537 *                                                  BIT 0=1 CHAR N+1                 00 00535
                    538 *                  A REG = ASCII CHARACTER TO STORE                                 00 00536
                    539 *                                                                                   00 00537
                    540 *                EXIT WITH A,B DESTROYED. X REG UNCHANGED.                          00 00538
                    541 *                                                                                   00 00539
                    542 *                                                                                   00 00540
000307 000000 A     543 DSTBT   ENTR                    ENTER HERE TO STORE A BYTE                          00 00541
000310 150463 A     544 DSTBA   ANA     BM377           EXTRACT BYTE TO STORE                               00 00542
000311 054063 A     545         STA     DBYTX+1                                                             00 00543
000312 044061 A     546         INR     DBYTX           SET FLAG TO STORE CHAR.                             00 00544
000313 006017 A     547         LDAE    DSTBT           SET RETURN ADDR.                                    00 00545
000314 000307 R
000315 054053 A     548         STA     DLDBT                                                               00 00546
       000316 R     549 DLDBA   EQU     *               NOW COMMON PROCESSING                               00 00547
000316 074057 A     550         STX     DFLUN           SAVE X                                              00 00548
000317 034051 A     551         LDX     DLDBT           CALL SEQ ADDR                                       00 00549
000320 035000 A     552         LDX     0,1             GET LOC OF BUFFER ADDR.                             00 00550
000321 025000 A     553         LDB     0,1             NOW BUFFER ADDR * 2  FOR CHAR N/N+1 FLAG            00 00551
000322 005021 A     554         TBA                                                                         00 00552
000323 005111 A     555         IAR                                                                         00 00553
000324 055000 A     556         STA     0,1             INCREMENT BUFFER ADDR FOR NEXT CHAR.                00 00554
000325 044043 A     557         INR     DLDBT           NOW RETURN ADDR                                     00 00555
000326 005001 A     558         TZA                                                                         00 00556
000327 004477 A     559         LLRL    31                                                                  00 00557
000330 007401 A     560         SOF                     SET FOR CHAR N+1                                    00 00558
000331 001004 A     561         JAN     DBYTA           NEG IF CHAR N+1                                     00 00559
000332 000334 R
000333 007400 A     562         ROF                     RESET FOR CHAR N                                    00 00560
000334 016000 A     563 DBYTA   LDA     0,2             GET WORD                                            00 00561
000335 034036 A     564         LDX     DBYTX           LOAD/STORE INDICATOR                                00 00562
000336 001040 A     565         JXZ     DBYTC           JMP IF LOAD BYTE                                    00 00563
000337 000362 R
000340 001001 A     566         JOF     DBYTB           JMP IF LOW ORDER BYTE.  STORE BYTE                  00 00564
000341 000345 R
000342 004250 A     567         LRLA    8                   HIGH ORDER BYTE.                                00 00565
000343 001000 A     568         JMP     DBYTB+1                                                             00 00566
000344 000346 R
000345 007401 A     569 DBYTB   SOF                     RESET LOW ORDER SWITCH                              00 00567
000346 006150 A     570         ANAI    0177400                                                             00 00568
000347 177400 A
000350 114024 A     571         ORA     DBYTX+1         SET BYTE IN WORD                                    00 00569
000351 001001 A     572         JOF     DBYTG           JUMP IF LOW ORDER                                   00 00570
000352 000354 R
000353 004250 A     573         LRLA    8               ROTATE BYTE BACK TO HIGH ORDER                      00 00571
000354 056000 A     574 DBYTG   STA     0,2             STORE BYTE                                          00 00572
000355 014017 A     575         LDA     DBYTX+1                                                             00 00573
000356 005002 A     576         TZB                                                                         00 00574
000357 064014 A     577         STB     DBYTX           RESET STORE BYTE FLAG.                              00 00575
000360 001000 A     578         JMP     DBYTF                                                               00 00576
000361 000367 R
000362 001001 A     579 DBYTC   JOF     DBYTD           JMP FOR CHAR. N+1                                   00 00577
000363 000365 R
000364 004250 A     580         LRLA    8                                                                   00 00578
000365 150463 A     581 DBYTD   ANA     BM377           EXTRACT BYTE                                        00 00579
000366 005012 A     582         TAB                     EXIT WITH BYTE IN A,B                               00 00580
000367 034006 A     583 DBYTF   LDX     DFLUN                                                               00 00581
000370 001000 A     584         JMP     *               EXIT                                                00 00582
000371 000370 R
       000371 R     585 DLDBT   EQU     *-1             ENTER HERE TO LOAD A BYTE FROM BUFFER               00 00583
000372 001000 A     586         JMP     DLDBA                                                               00 00584
000373 000316 R
000374 000000 A     587 DBYTX   DATA    0,0                                                                 00 00585
000375 000000 A
                    588         EJEC                                                                        00 00586
                    589 *                                                                                   00 00587
                    590 *                                                                                   00 00588
                    591 *       DFLUN                                                                       00 00589
                    592 *                                                                                   00 00590
                    593 *     FIND LU NAME SUBROUTINE.                                                      00 00591
                    594 *                                                                                   00 00592
                    595 *       DFLUN  COMPARES THE 2-CHARACTER ALPHA-NUMERIC NAME IN DTEMP                 00 00593
                    596 *         WITH THE LEGAL LOGICAL UNIT NAMES IN LUNT. IF A COMPARISON                00 00594
                    597 *         CANNOT BE MADE, DSER00 IS CALLED TO OUTPUT THE DC04 ERROR                 00 00595
                    598 *         MESSAGE OR RETURN IS TO CALLER IF OVERFLOW INDICATOR ON.                  00 00596
                    599 *               ENTER VIA JMPM DFLUN     OVFL ON=RETURN CALLER ON NO-MATC           00 00597
                    600 *                                        OVFL OFF= ERROR ROUT. ON ERROR.            00 00598
                    601 *               EXIT  WITH  A = LOGICAL UNIT NUMBER,BINARY.                         00 00599
                    602 *                           A = 0 FOR NO COMPARISON AND RETURN TO                   00 00600
                    603 *                                 CALLER REQUESTED.                                 00 00601
                    604 *                                                                                   00 00602
                    605 *       IF A MATCH UP IS FOUND,BUT THE LOGICAL UNIT IS UNASSIGNABLE                 00 00603
                    606 *       (LOGICAL UNIT NUMBER =101-179),EXIT IS TO DSERR TO OUTPUT                   00 00604
                    607 *       THE DC08 ERROR MESSAGE.                                                     00 00605
                    608 *                                                                                   00 00606
000376 000000 A     609 DFLUN   ENTR                                                                        00 00607
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000377 030345 A  610          LDX     V$LUNT          LUNT ADDR                                  00 00608
000400 015000 A  611 DFLUN2   LDA     0,X             COMPARE LU NAME IN V$DCB AND LUNT          00 00609
000401 001010 A  612          JAZ     DFLUN4+1                  0 =END OF LUNT,ERROR.            00 00610
000402 000413 R
000403 137413 A  613          ERA*    V$DCB                                                      00 00611
000404 001010 A  614          JAZ     DFLUN4          MATCH-UP                                   00 00612
000405 000412 R
000406 005144 A  615          IXR                     TRY NEXT ENTRY IN LUNT                     00 00613
000407 005144 A  616          IXR                                                                00 00614
000410 001000 A  617          JMP     DFLUN2                                                     00 00615
000411 000400 R
000412 015001 A  618 DFLUN4   LDA     1,X                                                        00 00616
000413 001000 A  619          JMP*    DFLUN           RETURN                                     00 00617
000414 100376 R
                 620          EJEC                                                               00 00618
                 621 *                                                                           00 00619
                 622 *                                                                           00 00620
                 623 *        DNUM***                                                            00 00621
                 624 *     DECIMAL ASCII INTEGER TO BINARY CONVERSION                            00 00622
                 625 *                                                                           00 00623
                 626 *     THE DECIMAL INTEGER MUST BE POSITIVE AND IN THE RANGE               00 00624
                 627 *      0000-9999.IF NOT A DECIMAL INTEGER EXIT IS TO DSER00 TO            00 00625
                 628 *      OUTPUT THE DC02 ERROR MESSAGE.                                     00 00626
                 629 *                                                                           00 00627
                 630 *     EXIT WITH A= BINARY NO.    X UNCHANGED                              00 00628
                 631 *                                B DESTROYED                              00 00629
                 632 *                                                                           00 00630
000415 000000 A  633 DNUM     ENTR                                                               00 00631
000416 005002 A  634          TZB                                                                00 00632
000417 064063 A  635          STB     DNUMZ                                                      00 00633
000420 010413 A  636          LDA     V$DCB           GET BUFFER ADDR.                           00 00634
000421 004241 A  637          LRLA    1                                                          00 00635
000422 054062 A  638          STA     DNUMZ+2         BUFFER*2                                   00 00636
000423 002000 A  639 DNUMA    CALL    DLDBT,DNUMZ+2    GET ASCII CHAR. FROM BUFFER               00 00637
000424 000371 R
000425 000505 R
000426 005012 A  640          TAB                     SAVE CHARACTER                             00 00638
000427 144172 A  641          SUB     DSBLK                                                      00 00639
000430 001016 A  642          JANZ    DNUMG                                                      00 00640
000431 000435 R
000432 014050 A  643          LDA     DNUMZ           BLANK                                      00 00641
000433 001000 A  644          JMP     DNUMH                                                      00 00642
000434 000455 R
000435 140425 A  645 DNUMG    SUB     BS4             =020,NOW 0260                              00 00643
000436 001004 A  646          JAN     DNUME           ERROR,LESS THAN 0                          00 00644
000437 000443 R
000440 140471 A  647          SUB     TEN                                                        00 00645
000441 001004 A  648          JAN     DNUMF           OK                                         00 00646
000442 000446 R
000443 010422 A  649 DNUME    LDA     TWO             ERROR.DC02                                 00 00647
000444 001000 A  650          JMP     DSER00                                                     00 00648
000445 000250 E
000446 005021 A  651 DNUMF    TBA                                                                00 00649
000447 150472 A  652          ANA     BM17            MASK OUT BCD                               00 00650
000450 054033 A  653          STA     DNUMZ+1                                                    00 00651
000451 014031 A  654          LDA     DNUMZ           GET PREVIOUS DIGITS                        00 00652
000452 004244 A  655 DNUMK    LRLA    4               LRLA 3/LRLA 4CONVERT TO BCD OR PACK OCTAL  00 00653
000453 124030 A  656          ADD     DNUMZ+1         DIGIT JUST CONVERTED                       00 00654
000454 054026 A  657          STA     DNUMZ                                                      00 00655
000455 005344 A  658 DNUMH    DXR                                                                00 00656
000456 001046 A  659          JXNZ    DNUMA           X=0,ALL DIGITS CONVERTED                   00 00657
000457 000423 R
                 660 DNUMB    EQU     *                                                          00 00658
                 661 *                                                                           00 00659
                 662 *     POSITIVE DECIMAL 4-BIT BCD TO BINARY CONVERSION.                      00 00660
                 663 DDTB     EQU     *                                                          00 00661
000460 030423 A  664          LDX     FS2             =4 ,LOOP COUNT                             00 00662
000461 005012 A  665          TAB                                                                00 00663
000462 005001 A  666          TZA                                                                00 00664
000463 054017 A  667 DDTBA    STA     DNUMZ                                                      00 00665
000464 005001 A  668          TZA                                                                00 00666
000465 004444 A  669          LLRL    4               NOW BCD                                    00 00667
000466 124014 A  670          ADD     DNUMZ                                                      00 00668
000467 054013 A  671          STA     DNUMZ                                                      00 00669
000470 005344 A  672          DXR                                                                00 00670
000471 001040 A  673          JXZ*    DNUM            ALL DIGITS DONE.                           00 00671
000472 100415 R
000473 004242 A  674          LRLA    2                                                          00 00672
000474 124006 A  675          ADD     DNUMZ                                                      00 00673
000475 004241 A  676          LRLA    1                                                          00 00674
000476 001000 A  677          JMP     DDTBA                                                      00 00675
000477 000463 R
                 678 DDTBC    EQU     *-1                                                        00 00676
000500 005302 A  679 DNUMY    DECR    A2              B=-1                                       00 00677
000501 001000 A  680          JMP     DASN6+1         DC10 MSG.                                  00 00678
000502 000163 R
000503 000000 A  681 DNUMZ    DATA    0,0,0                                                      00 00679
000504 000000 A
000505 000000 A
                 682          EJEC                                                               00 00680
                 683 *                                                                           00 00681
                 684 *                                                                           00 00682
                 685 *        DSNI                                                               00 00683
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                    686 *                                                                                   00 00684
                    687 *       GET NEXT ITEM SUBROUTINE                                                    00 00685
                    688 *                                                                                   00 00686
                    689 *        OGNI SCANS THE VARIABLE FIELD OF THE INPUT BUFFER,V$OPBF,                  00 00687
                    690 *         AND STORES A VARIABLE INTO A BUFFER SPECIFIED IN THE CALLING              00 00688
                    691 *         SEQUENCE,A COMMA,PERIOD,EQUAL SIGN,MAX. COUNT  TERMINATES                00 00689
                    692 *         SCAN. BLANKS ARE IGNORED.                                                 00 00690
                    693 *                                                                                   00 00691
                    694 *        EXIT WITH A REG = COUNT OF CHARACTERS STORED IN BUFFER.                    00 00692
                    695 *                                                                                   00 00693
                    696 *                                                                                   00 00694
                    697 *                                                                                   00 00695
000506 000000 A     698 OGNI    ENTR                                                                        00 00696
000507 064102 A     699         STB     OGNIZ+1                                                             00 00697
       000510 R     700 OSCN    EQU     *                                                                   00 00698
000510 010413 A     701         LDA     V$OCB           GET OC BUFFER ADDR.                                 00 00699
000511 004241 A     702         LRLA    1                                                                   00 00700
000512 054104 A     703         STA     OSCNZ           BUFFER*2                                            00 00701
000513 054075 A     704         STA     OGNIZ                                                               00 00702
000514 034010 A     705         LDX     OSCNA+2                                                             00 00703
000515 015000 A     706         LDA     0,X                                                                 00 00704
000516 144100 A     707         SUB     OSCNZ                                                               00 00705
000517 005014 A     708         TAX                                                                         00 00706
000520 144077 A     709         SUB     OS80            CHECK IF 80 CHAR.                                   00 00707
000521 001002 A     710         JAP     OSCLR           YES.                                                00 00708
000522 000000 E
000523 002000 A     711 OSCNA   CALL    OLDBT,OCOUNT    LOAD A CHAR                                         00 00709
000524 000371 R
000525 000000 E
000526 134073 A     712         ERA     OSBLK           =0240                                               00 00710
000527 001010 A     713         JAZ     OSCNB                                                               00 00711
000530 000613 R
000531 005021 A     714         TBA                                                                         00 00712
000532 134071 A     715         ERA     OSCOM                                                               00 00713
000533 001010 A     716         JAZ     OSCNB           COMMA                                               00 00714
000534 000613 R
000535 005021 A     717         TBA                                                                         00 00715
000536 134064 A     718         ERA     OSEQ                                                                00 00716
000537 001010 A     719         JAZ     OSCNB           EQUAL SIGN                                          00 00717
000540 000613 R
000541 005021 A     720         TBA                                                                         00 00718
000542 134056 A     721         ERA     OSPER           PERIOD                                              00 00719
000543 001010 A     722         JAZ     OSCLR                                                               00 00720
000544 000522 E
000545 024006 A     723         LDB     OGNIE+2         OCOUNT ADDR.                                        00 00721
000546 016000 A     724         LDA     0,B             RESTORE TO NON BLANK POINTER                        00 00722
000547 005311 A     725         DAR                                                                         00 00723
000550 056000 A     726         STA     0,B                                                                 00 00724
000551 034040 A     727         LDX     OGNIZ+1                                                             00 00725
       000552 R     728 OGNIA   EQU     *               SCAN FOR 1ST NON-BLANK CHARACTER                    00 00726
000552 002000 A     729 OGNIE   CALL    OLDBT,OCOUNT    LOAD A CHARACTER FROM V$OPBF                        00 00727
000553 000371 R
000554 000525 E
000555 134044 A     730         ERA     OSBLK           =0240                                               00 00728
000556 001010 A     731         JAZ     OGNID           BLANK                                               00 00729
000557 000603 R
000560 005021 A     732         TBA                                                                         00 00730
000561 134042 A     733         ERA     OSCOM           COMMA                                               00 00731
000562 001010 A     734         JAZ     OGNID                                                               00 00732
000563 000603 R
000564 005021 A     735         TBA                                                                         00 00733
000565 134035 A     736         ERA     OSEQ            EQUAL SIGN                                          00 00734
000566 001010 A     737         JAZ     OGNID                                                               00 00735
000567 000603 R
000570 005021 A     738         TBA                                                                         00 00736
000571 134027 A     739         ERA     OSPER           PERIOD                                              00 00737
000572 001010 A     740         JAZ     OGNID                                                               00 00738
000573 000603 R
000574 005021 A     741         TBA                                                                         00 00739
000575 002000 A     742         CALL    OSTBT,OGNIZ     STORE CHAR                                          00 00740
000576 000307 R
000577 000611 R
000600 005344 A     743         DXR                                                                         00 00741
000601 001046 A     744         JXNZ    OGNIE           GET NEXT                                            00 00742
000602 000552 R
000603 005041 A     745 OGNID   TXA                                                                         00 00743
000604 005211 A     746         CPA                                                                         00 00744
000605 005111 A     747         IAR                                                                         00 00745
000606 124003 A     748         ADD     OGNIZ+1                                                             00 00746
       000607 R     749 OGNIX   EQU     *                                                                   00 00747
000607 001000 A     750         JMP*    OGNI            NOW EXIT                                            00 00748
000610 100506 R
000611 000000 A     751 OGNIZ   DATA    0,0                                                                 00 00749
000612 000000 A
       000613 R     752 OSCNX   EQU     *               RESTORE X                                           00 00750
                    753 *       ENTER FOR BLANK CHAR                                                        00 00751
000613 005144 A     754 OSCNB   IXR                                                                         00 00752
000614 005041 A     755         TXA                                                                         00 00753
000615 001000 A     756         JMP     OSCNA-3                                                             00 00754
000616 000520 R
000617 000000 A     757 OSCNZ   DATA    0                                                                   00 00755
000620 000120 A     758 OS80    DATA    80                                                                  00 00756
000621 000256 A     759 OSPER   DATA    0256            PERIOD                                              00 00757
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000622 000240 A   760 DSBLK   DATA     0240          BLANK                    00 00758
000623 000275 A   761 DSEQ    DATA     0275          EQUAL SIGN               00 00759
000624 000254 A   762 DSCOM   DATA     0254          COMMA                    00 00760
       000001 A   763 DSNAME  EQU      1                                      00 00761
       000000 R   764         END      DASSGN                                 00 00762
ENTRY NAMES
000000 R DASSGN
EXTERNAL NAMES
000554 E DCOUNT 000544 E DSCLR  000445 E DSER00 000167 E DSERR
SYMBOLS
000044 A APIM   000002 A B      000000 A B0     000001 A B1
000012 A B10    000013 A B11    000014 A B12    000015 A B13
000016 A B14    000017 A B15    000002 A B2     000003 A B3
000004 A B4     000005 A B5     000006 A B6     000007 A B7
000010 A B8     000011 A B9     000421 A BM1    000472 A BM17
000475 A BM177  000477 A BM1777 000464 A BM3    000473 A BM37
000463 A BM377  000467 A BM7    000474 A BM77   000476 A BM777
000441 A BR0    000442 A BR1    000453 A BR10   000454 A BR11
000455 A BR12   000456 A BR13   000457 A BR14   000460 A BR15
000443 A BR2    000444 A BR3    000445 A BR4    000446 A BR5
000447 A BR6    000450 A BR7    000451 A BR8    000452 A BR9
000421 A BS0    000422 A BS1    000433 A BS10   000434 A BS11
000435 A BS12   000436 A BS13   000437 A BS14   000440 A BS15
000423 A BS2    000424 A BS3    000425 A BS4    000426 A BS5
000427 A BS6    000430 A BS7    000431 A BS8    000432 A BS9
000040 A BTA0   000047 A CLOCK  000747 A DISCLK 000745 A DISMP
000444 A DISPIM 000000 A DSDASS 000001 A DSNAME 000002 A DSOPCM
000424 A EIGHT  000147 A ENACLK 000645 A ENAMP  000244 A ENAPIM
000465 A FIVE   000423 A FOUR   000300 A LC     000050 A LCJP
000462 A LHW    000045 A MP     000045 A MPMR0  000145 A MPMR1
000245 A MPMR2  000345 A MPMR3  000420 A MT     000461 A NEG
000470 A NINE   000014 R DASN10 000246 R DASN18 000017 R DASN2
000013 R DASN20 000174 R DASN22 000177 R DASN24 000251 R DASN30
000267 R DASN31 000272 R DASN36 000274 R DASN40 000303 R DASN42
000162 R DASN6  000170 R DASN7  000142 R DASN8  000000 R DASSGN
000306 R DASTOR 000334 R DBYTA  000345 R DBYTB  000362 R DBYTC
000365 R DBYTD  000367 R DBYTF  000354 R DBYTG  000374 R DBYTX
000554 E DCOUNT 000460 R DDTB   000463 R DDTBA  000477 R DDTBC
000376 R DFLUN  000400 R DFLUN2 000412 R DFLUN4 000506 R DGNI
000552 R DGNIA  000603 R DGNID  000552 R DGNIE  000607 R DGNIX
000611 R DGNIZ  000316 R DLDBA  000371 R DLDBT  000066 R DLUN12
000070 R DLUN14 000124 R DLUN15 000154 R DLUN20 000043 R DLUNDT
000171 R DLUNST 000421 A DNE    000221 R DNSR4  000235 R DNSR5
000227 R DNSR6  000245 R DNSR98 000243 R DNSR99 000177 R DNSRCH
000415 R DNUM   000423 R DNUMA  000460 R DNUMB  000443 R DNUME
000446 R DNUMF  000435 R DNUMG  000455 R DNUMH  000452 R DNUMK
000500 R DNUMY  000503 R DNUMZ  000620 R DS80   000622 R DSBLK
000544 E DSCLR  000510 R DSCN   000523 R DSCNA  000613 R DSCNB
000613 R DSCNX  000617 R DSCNZ  000624 R DSCOM  000623 R DSEQ
000445 E DSER00 000167 E DSERR  000621 R DSPER  000310 R DSTBA
000307 R DSTBT  000040 A PIM1   000041 A PIM2   000042 A PIM3
000043 A PIM4   000040 A PIM5   000040 A PIM6   000040 A PIM7
000040 A PIM8   000040 A RA0    000000 A RA1    000060 A RB0
000020 A RB1    000463 A RHW    000467 A SEVEN  000466 A SIX
000027 A TBATSK 000026 A TBCPTH 000011 A TBENTY 000003 A TBEVNT
000021 A TBIO   000014 A TBISA  000015 A TBISB  000017 A TBISP
000020 A TBISRS 000016 A TBISX  000022 A TBKN1  000023 A TBKN2
000024 A TBKN3  000002 A TBPL   000004 A TBRSA  000005 A TBRSB
000030 A TBRSE  000007 A TBRSP  000010 A TBRSTS 000006 A TBRSX
000000 A TBS0   000001 A TBS1   000012 A TBS10  000013 A TBS11
000014 A TBS12  000015 A TBS13  000016 A TBS14  000017 A TBS15
000002 A TBS2   000003 A TBS3   000004 A TBS4   000005 A TBS5
000006 A TBS6   000007 A TBS7   000010 A TBS8   000011 A TBS9
000001 A TBST   000025 A TBTLC  000013 A TBTMIN 000012 A TBTMS
000000 A TBTRD  000471 A TEN    000464 A THREE  000422 A TWO
000403 A V$1MIN 000415 A V$BFC  000075 A V$BGLB 000056 A V$BIC1
000315 A V$BTB  000414 A V$BVN  000334 A V$CAM  000353 A V$CKB
000411 A V$CKIT 000310 A V$CKPT 000301 A V$CPL  000076 A V$CRDM
000341 A V$CRDR 000354 A V$CRM  000302 A V$CRS  000000 A V$CTAD
000300 A V$CTL  000351 A V$CTMS 000070 A V$DATE 000355 A V$DSTB
000376 A V$ERFG 000347 A V$FGLB 000306 A V$FLRS 000350 A V$FREE
000320 A V$IM   000410 A V$IOA  000412 A V$JCB  000055 A V$JCFG
000077 A V$JCTM 000050 A V$JNAM 000377 A V$JOP  000004 A V$LCNT
000313 A V$LER  000356 A V$LIT  000317 A V$LLUP 000307 A V$LRSK
000312 A V$LSAL 000345 A V$LUNT 000315 A V$LUP  000400 A V$LUT1
000401 A V$LUT2 000402 A V$LUT3 000330 A V$MPM  000362 A V$NCTR
000413 A V$OCB  000346 A V$OPCF 000311 A V$OPCL 000363 A V$PIMN
000074 A V$PLCT 000305 A V$PTVB 000361 A V$SCTL 000352 A V$SCV
000375 A V$SLFG 000303 A V$TB   000342 A V$TBGT 000416 A V$TPC
000314 A V$TJCP 000344 A V$TMN  000343 A V$TMS  000304 A V$UTB
000001 A X      000420 A ZERO
    0 ERRORS ASSEMBLY COMPLETE

  305  APIM      315  316
  334  B         395  397  402  410  413  422  425  427  429
                 434  445  465  467  481  485  724  726
  249  BM17      652
  253  BM377     544  581
  212  BS11      424  428
  203  BS2       664
  205  BS4       645
  335  BTA0      423
```

298 CLOCK 300 301
443 DSDASS 445
763 DSNAME 410 413
421 DSOPCM 422 425 427 429
243 EIGHT 446
240 FIVE 358
239 FOUR 360 435 496
124 LC 125 126 127 128 129 130 131 132 133
134 135 136 137 138 139 140 141 142
143 145 146 147 148 149 150 151 152
153 154 155 156 157 158 160 161 162
163 167 168 169 170 171 172 173 178
179 180 183 188 189 198
99 LCJP 100 101 102 109 110 111 112 113 116
234 LHW 432
319 MP 320 321 322 323 324 325
199 MT 200 201 202 203 204 205 206 207 208
209 210 211 212 213 214 215 216 217
218 219 220 221 222 223 224 225 226
227 228 229 230 231 232 233 234 235
236 237 238 239 240 241 242 243 244
245 246 247 248 249 250 251 252 253
254 255
354 OASN10 347 349
496 OASN18 362 392 398 482
357 OASN2 351
454 OASN22 518
456 OASN24 361
498 OASN30 364
508 OASN31 367 505 520
513 OASN40 369
445 OASN6 488 680
449 OASN7 507
430 OASN8 408 423
344 OASSGN 328 437 764
521 OASTOR 357 450
563 OBYTA 561
569 OBYTB 566 568
579 OBYTC 565
581 OBYTD 579
583 OBYTF 578
574 OBYTG 572
587 OBYTX 545 546 564 571 575 577
0 OCOUNT 331 711 729
667 ODTBA 677
609 OFLUN 350 368 383 387 390 396 400 404 430
550 583 619
611 OFLUN2 617
618 OFLUN4 612 614
698 OGNI 359 436 750
745 OGNID 731 734 737 740
729 OGNIE 723 744
751 OGNIZ 699 704 727 742 748
549 OLDBA 586
585 OLDBT 548 551 557 639 711 729
395 OLUN14 386
416 OLUN15 412
438 OLUN20 403
380 OLUNDT 453 512
236 ONE 366
481 ONSR4 493
489 ONSR5 484
495 ONSR98 433 439 480 492 506
494 ONSR99 466 471 476 477 483 486
633 ONUM 356 510 673
639 ONUMA 659
649 ONUME 646
651 ONUMF 648
645 ONUMG 642
658 ONUMH 644
679 ONUMY 389 415
681 ONUMZ 635 638 639 643 653 654 656 657 667
670 671 675
758 OS80 709
760 OSBLK 641 712 730
0 OSCLR 330 710 722
711 OSCNA 705 756
754 OSCNB 713 716 719
757 OSCNZ 703 707
762 OSCOM 715 733
761 OSEQ 718 736
0 OSER00 332 497 650
0 OSERR 329 447 448
759 OSPER 721 739
543 OSTBT 409 426 444 547 742
235 RHW 417 438 473
242 SEVEN 469
245 TEN 647
238 THREE 346 420 442 509
237 TWO 353 519 649
157 V$DSTB 419 441 478
149 V$LUNT 610
170 V$LUT1 384 407

```
  0  V$OASS    10
183  V$OCB    464   499   514   613   636   701
333  %        455   500   503   515   611   618   706
```

```
                    1 *  THIS IS A COPYRIGHTED PROGRAM. COPYRIGHT 1972 BY VARIAN DATA MACHINE 03 00001
                    2 *                                                                        03 00002
                    3 *    V.D.M.  PART  NO.       92L0705-013C                                03 00003
                    4 *                                                                        03 00004
                    5 *                                              RELEASED    03/01/74      03 00005
                    6 *                                                                        03 00006
                    7 *              V$DABORT                                                  03 00007
                    8 *                                                                        03 00008
                    9 *                                                                        03 00009
                   10         TITLE   V$DABORT                                                 03 00010
                   11 ************************************************************************ 03 00011
                   12 ****    TIDB SETUP                                                   *** 03 00012
                   13 *                                                                       03 00013
                   14 ************************************************************************ 03 00014
000000 A           16 TBTRD   EQU     0            TASK THREAD                                  03 00016
000001 A           17 TBST    EQU     1            TASK STATUS                                  03 00017
000002 A           18 TBPL    EQU     2            STATUS CONT. (BITS15-6),PRIORITY LEVEL(5-0   03 00018
000003 A           19 TBEVNT  EQU     3            INTERRUPT EVENT                              03 00019
000004 A           20 TBRSA   EQU     4            A          REENTRANT AND SUSPEND STACK       03 00020
000005 A           21 TBRSB   EQU     5            B          REENTRANT AND SUSPEND STACK       03 00021
000006 A           22 TBRSX   EQU     6            X          REENTRANT AND SUSPEND STACK       03 00022
000007 A           23 TBRSP   EQU     7            OF/P       REENTRANT AND SUSPEND STACK       03 00023
000010 A           24 TBRSTS  EQU     8            TEMP. STG. REENTRANT AND SUSPEND STACK       03 00024
000011 A           25 TBENTY  EQU     9            TASK ENTRY LOCATION                          03 00025
000012 A           26 TBTMS   EQU     10           TIME COUNTER - CLOCK RESOLUTION IN 5MS INC   03 00026
000013 A           27 TBTMIN  EQU     11           TIME COUNTER - CLOCK MINUTE INCREMENTS       03 00027
000014 A           28 TBISA   EQU     12           A          INTERRUPT STACK                   03 00028
000015 A           29 TBISB   EQU     13           B          INTERRUPT STACK                   03 00029
000016 A           30 TBISX   EQU     14           X          INTERRUPT STACK                   03 00030
000017 A           31 TBISP   EQU     15           OF/P       INTERRUPT STACK                   03 00031
000020 A           32 TBISRS  EQU     16           REENT. STACK  INTERRUPT STACK                03 00032
000021 A           33 TBIO    EQU     17           BLK ALLOC(15-10),I/O THR(9-5),I/O ACT(4-0)   03 00033
000022 A           34 TBKN1   EQU     18           TASK NAME                                    03 00034
000023 A           35 TBKN2   EQU     19           TASK NAME                                    03 00035
000024 A           36 TBKN3   EQU     20           TASK NAME                                    03 00036
000025 A           37 TBTLC   EQU     21           1ST LOC. OF TASK ALLOCATABLE                 03 00037
000026 A           38 TBCPTH  EQU     22           BACKGROUND TASK QUEUE                        03 00038
000027 A           39 TBATSK  EQU     23           TIDB LOC. OF ACTIVATING TASK                 03 00039
000030 A           40 TBRSE   EQU     24           TASK ERROR CODE                              03 00040
                   41         EJEC                                                            03 00041
                   42 ************************************************************************ 03 00042
                   43 *                                                                        03 00043
                   44 ****    TASK STATUS DESCRIPTION  (BIT SET WORD 1)                    *** 03 00044
                   45 *                                                                        03 00045
                   46 ************************************************************************ 03 00046
000017 A           48 TBS15   EQU     15           INTERRUPT SUSPEND                            03 00048
000016 A           50 TBS14   EQU     14           TASK SUSPEND                                 03 00050
000015 A           51 TBS13   EQU     13           TASK ABORT                                   03 00051
000014 A           52 TBS12   EQU     12           TASK EXIT                                    03 00052
000013 A           54 TBS11   EQU     11           TIDB CORE RESIDENT                           03 00054
000012 A           55 TBS10   EQU     10           CORE RESIDENT TASK                           03 00055
000011 A           56 TBS9    EQU     9            FOREGROUND TASK                              03 00056
000010 A           58 TBS8    EQU     8            TASK PROTECTED                               03 00058
000007 A           59 TBS7    EQU     7            TASK SCHEDULED BY TIME DELAY                 03 00059
000006 A           60 TBS6    EQU     6            TIME DELAY ACTIVE                            03 00060
000005 A           62 TBS5    EQU     5            TASK WAITING TO BE LOADED                    03 00062
000004 A           63 TBS4    EQU     4            TASK ERROR                                   03 00063
000003 A           64 TBS3    EQU     3            TASK INTERRUPT EXPECTED                      03 00064
000002 A           66 TBS2    EQU     2            OVERLAY TASK                                 03 00066
000001 A           67 TBS1    EQU     1            UPON TERMINATION ACTIVATE TASK SCHED TASK    03 00067
000000 A           68 TBS0    EQU     0            TASK SEARCH-ALLOCATED-LOADED                 03 00068
                   69         EJEC                                                            03 00069
                   70 ************************************************************************ 03 00070
                   71 *                                                                        03 00071
                   72 ***     TASK STATUS DESCRIPTION  (BIT SET WORD 2)                    *** 03 00072
                   73 *                                                                        03 00073
                   74 ************************************************************************ 03 00074
                   76 *         BIT 15   -   TASK OPENED                                       03 00075
                   78 *         BIT 14   -   UNUSED                                            03 00078
                   79 *         BIT 13   -   OVERLAY LOAD                                      03 00079
                   80 *         BIT 12   -   TASK WAITING FOR BACKGROUND TASK I/O TO COMPLETE  03 00080
                   81 *                      TASK LOCKED-OUT UNTIL BG I/O COMPLETE OR BIT 11  03 00081
                   82 *                      IS SET  (ALLOCATABLE SPACE AVAILABLE)            03 00082
                   84 *         BIT 11   -   DEFINES THAT ALLOCATABLE SPACE IS AVAILABLE, TRY  03 00084
                   85 *                      ALLOCATING TASK AGAIN.  OVERRIDES BIT 12 SET OR  03 00085
                   86 *                      BIT 5 IN STATUS WORD.                            03 00086
                   87 *         BIT 10   -   BACKGROUND TASK BEING WRITTEN ON CHECKPOINT FILE. 03 00087
                   88 *         BIT  9   -   TASK WAITING FOR A TIDB TO COME AVAILABLE FOR     03 00088
                   89 *                      SCHEDULING.                                      03 00089
                   91 *         BIT  8 TO 6  - UNUSED                                          03 00091
                   92         EJEC                                                            03 00092
                   93 ************************************************************************ 03 00093
                   94 *                                                                        03 00094
                   95 ***     JOB PROCESSOR LOW CORE EQUATES                                ** 03 00095
                   96 *                                                                        03 00096
                   97 ************************************************************************ 03 00097
000050 A           99 LCJP    EQU     050                                                     03 00099
000050 A          100 V$JNAM  EQU     LCJP         JCP NAME                                   03 00100
000054 A          101 V$LCNT  EQU     LCJP+4       LINE COUNT                                 03 00101
000055 A          102 V$JCFG  EQU     LCJP+5       JCP FLAGS                                  03 00102
                  103 *                            BIT 2-0    = LOAD AND GO FLAGS             03 00103
                  104 *                            BIT  3     = DUMP FLAG  1=DUMP, 0=NO DUMP  03 00104
                  105 *                            BIT  4     = DUMP FLAG IF LOAD AND GO      03 00105
```

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                    106 *                                   BIT 9-5   = UNUSED                                          03 00106
                    107 *                                   BIT 15-10 = BG EXTRA CORE BLOCKS TO ALLOC                 03 00107
000056 A            109 V$BIC1  EQU     LCJP+6              BIC INTERRUPT ADDRESS TABLE  (10 WORDS)                    03 00109
000070 A            110 V$DATE  EQU     LCJP+16             JCP DATE RECORD                                           03 00110
000074 A            111 V$PLCT  EQU     LCJP+20             PERMINATE LINE COUNT                                      03 00111
000075 A            112 V$BGLB  EQU     LCJP+21             JCP LIB KEY AND LU NO. (BACKGROUND LIB)                   03 00112
000076 A            113 V$CRDM  EQU     LCJP+22             CARD KEYPUNCH TYPE, 0=026, 1=029                          03 00113
                    114 *                                   BIT 0 = SYSTEM NOMINAL KEYPUNCH MODE.                     03 00114
                    115 *                                   BIT 9 = CURRENT JOB KEYPUNCH MODE.                        03 00115
000077 A            116 V$JCTM  EQU     LCJP+23             TEMP. STORAGE FOR /MEM BLOCK                              03 00116
                    117         EJEC                                                                                  03 00117
                    118 **********************************************************************************        03 00118
                    119 *                                                                                             03 00119
                    120 ****    LOW CORE DESCRIPTION                                                      ***         03 00120
                    121 *                                                                                             03 00121
                    122 **********************************************************************************        03 00122
000300 A            124 LC      EQU     0300                                                                          03 00124
000300 A            125 V$CTL   EQU     LC                  CURRENT TASK TIDB LOCATION                                03 00125
000301 A            126 V$CPL   EQU     LC+1                CURRENT PRIORITY LEVEL                                    03 00126
000302 A            127 V$CRS   EQU     LC+2                CURRENT REENTRANT STACK POINTER                           03 00127
000303 A            128 V$TB    EQU     LC+3                POINTER TO HIGHEST PRIORITY TIDB                          03 00128
000304 A            129 V$UTB   EQU     LC+4                POINTER TO UNUSED TASK TIDB                               03 00129
000305 A            130 V$PTVB  EQU     LC+5                POINTER TO NEXT ENTRY IN REENTRANT STACK                  03 00130
000306 A            131 V$FLRS  EQU     LC+6                FIRST LOC. OF REENTRANT STACK                             03 00131
000307 A            132 V$LRSK  EQU     LC+7                LAST LOC. OF REENTRANT STACK+1                            03 00132
000310 A            133 V$CKPT  EQU     LC+8                CHECKPOINT FLAG 1=ON, 0=OFF                               03 00133
000311 A            134 V$OPCL  EQU     LC+9                LOC. OF TIDB FOR OPCOM TASK                               03 00134
000312 A            135 V$LSAL  EQU     LC+10               LOC. OF TIDB FOR SYSTEM SAL TASK                          03 00135
000313 A            136 V$LER   EQU     LC+11               LOC. OF TIDB FOR SYSTEM ERROR TASK                        03 00136
000314 A            137 V$TJCP  EQU     LC+12               LOC. OF TIDB FOR JOB CONTROL PROCESSOR TAS                03 00137
000315 A            138 V$BTB   EQU     LC+13               LOC. OF CURRENT ACTIVE BACKGROUND TSK TIDB                03 00138
000316 A            139 V$LUP   EQU     LC+14               LOC. OF 1ST UNPROTECTED WORD                              03 00139
000317 A            140 V$LLUP  EQU     LC+15               LOC. OF LAST UNPROTECTED WORD                             03 00140
000320 A            141 V$IM    EQU     LC+16               INTERRUPT MASK  (8 WORDS)                                 03 00141
000330 A            142 V$MPM   EQU     LC+24               MEMORY PROTECT MASK  (4 WORDS)                            03 00142
000334 A            143 V$CAM   EQU     LC+28               CORE ALLOCATION MASK  (4 WORDS)                           03 00143
                    144 *       EQU     LC+32               UNUSED                                                    03 00144
000341 A            145 V$CRDR  EQU     LC+33               CORE RESIDENT DIRECTORY LOCATION                          03 00145
000342 A            146 V$TBGT  EQU     LC+34               TOP OF THREAD OF BG TSK WAITING TO BE ALLO                03 00146
000343 A            147 V$TMS   EQU     LC+35               TIME OF DAY IN 5 MILLISECOND INCREMENTS                   03 00147
000344 A            148 V$TMN   EQU     LC+36               TIME OF DAY IN MINUTE INCREMENTS                          03 00148
000345 A            149 V$LUNT  EQU     LC+37               ADDR. OF LOGICAL UNIT NAME TABLE                          03 00149
000346 A            150 V$OPCF  EQU     LC+38               OPCOM LOCKOUT FLAG                                        03 00150
000347 A            151 V$FGLB  EQU     LC+39               KEY AND LU NO. FOR FOREGROUND LIB                         03 00151
000350 A            152 V$FREE  EQU     LC+40               FREE RUNNING COUNTER INCR. IN MICROSECONDS                03 00152
000351 A            153 V$CTMS  EQU     LC+41               CLOCK RESOLUTION IN 5 MILLISECOND INCR.                   03 00153
000352 A            154 V$SCV   EQU     LC+42               CLOCK SELECTED COUNT VALUE (1 TO 4095)                    03 00154
000353 A            155 V$CKB   EQU     LC+43               BASIC CLOCK INTERRUPT RATE IN MICROSECONDS                03 00155
000354 A            156 V$CRM   EQU     LC+44               CLOCK RESOLUTION INCR. FOR 1 MINUTE.                      03 00156
000355 A            157 V$DSTB  EQU     LC+45               BASE ADDR. FOR DST BLOCK                                  03 00157
000356 A            158 V$LIT   EQU     LC+46               LAST LOCATION OF BACKGROUND LITERAL TABLE                 03 00158
                    159 *       EQU     LC+47               UNUSED                                                    03 00159
000360 A            160 V$CTAD  EQU     LC+48               BASE ADDR. FOR CONTROLLER ADDR. TABLE                     03 00160
000361 A            161 V$SCTL  EQU     LC+49               CURRENT CONTROLLER IN SCAN                                03 00161
000362 A            162 V$NCTR  EQU     LC+50               NO. OF CONTROLLERS                                        03 00162
000363 A            163 V$PIMN  EQU     LC+51               EXTERNAL DEVICE ADDRESS TABLE FOR PIMS                    03 00163
                    164 *                                     (8 WORDS DEFINED IN PIM NO ORDER)                       03 00164
                    165 *       EQU     LC+59               UNUSED                                                    03 00165
                    166 *       EQU     LC+60               UNUSED                                                    03 00166
000375 A            167 V$SLFG  EQU     LC+61               SAL TASK BUSY FLAG      1=BUSY, 0=NOT BUSY                03 00167
000376 A            168 V$ERFG  EQU     LC+62               ERROR TASK BUSY FLAG    1=BUSY, 0=NOT BUSY                03 00168
000377 A            169 V$JOP   EQU     LC+63               JCP OPERATING FLAG                                        03 00169
000400 A            170 V$LUT1  EQU     LC+64               START LUN ADDR FOR JCP/OPCOM ASSIGNABLE                   03 00170
000401 A            171 V$LUT2  EQU     LC+65               START LUN ADDR FOR UNASSIGNABLE                           03 00171
000402 A            172 V$LUT3  EQU     LC+66               START LUN ADDR FOR OPCOM ASSIGNABLE                       03 00172
000403 A            173 V$1MIN  EQU     LC+67               32767 - (60000/(5*V$CTMS)) + 1                            03 00173
                    174 *       EQU     LC+68               UNUSED                                                    03 00174
                    175 *       EQU     LC+69               UNUSED                                                    03 00175
                    176 *       EQU     LC+70               UNUSED                                                    03 00176
                    177 *       EQU     LC+71               UNUSED                                                    03 00177
000410 A            178 V$IOA   EQU     LC+72               I/O ALGORITHM                                             03 00178
000411 A            179 V$CKIT  EQU     LC+73               CLOCK INT. IN PIM BEFORE LOCKOUT FLAG.                    03 00179
000412 A            180 V$JCB   EQU     LC+74               ALL SYSTEM BACKGROUND PROGRAMS AND JCP USE                03 00180
                    181 *                                   THIS SYSTEM BUFFER TO READ DIRECTIVES AND                 03 00181
                    182 *                                   SOURCE RECORDS IN.                                        03 00182
000413 A            183 V$OCB   EQU     LC+75               OPCOM WILL READ OPERATOR KEY-IN REQUESTS                  03 00183
                    184 *                                   IN THIS BUFFER.  IF JCP IS SET NOT ACTIVE                 03 00184
                    185 *                                   AND A 1 DIRECTIVE IS INPUTED, OPCOM                       03 00185
                    186 *                                   WILL MOVE THE DIRECTIVE TO V$JCB BEFORE                   03 00186
                    187 *                                   SCHEDULING JCP.                                           03 00187
000414 A            188 V$BVN   EQU     LC+76               BOTTOM OF VORTEX NUCLEUS                                  03 00188
000415 A            189 V$BFC   EQU     LC+77               TOP OF FG RES. AREA/BOTTOM OF FG BLK COMM.                03 00189
000416 A            190 V$TFC   EQU     LC+78               TOP OF FG BLK COMMON/TOP OF VORTEX CORE.                  03 00190
                    191 *       EQU     LC+79               UNUSED                                                    03 00191
                    192         EJEC                                                                                  03 00192
                    193 **********************************************************************************        03 00193
                    194 *                                                                                             03 00194
                    195 ****    MASK TABLE DESCRIPTION                                                    ***         03 00195
                    196 *                                                                                             03 00196
                    197 **********************************************************************************        03 00197
000420 A            199 MT      SET     0420                                                                          03 00199
000420 A            200 ZERO    EQU     MT                  ZERO WORD                                                 03 00200
000421 A            201 BS0     EQU     MT+1                BIT MASK CONTENTS 000001                                  03 00201
```

```
000422 A  202 BS1     EQU     MT+2
000423 A  203 BS2     EQU     MT+3
000424 A  204 BS3     EQU     MT+4
000425 A  205 BS4     EQU     MT+5
000426 A  206 BS5     EQU     MT+6
000427 A  207 BS6     EQU     MT+7
000430 A  208 BS7     EQU     MT+8
000431 A  209 BS8     EQU     MT+9
000432 A  210 BS9     EQU     MT+10
000433 A  211 BS10    EQU     MT+11
000434 A  212 BS11    EQU     MT+12
000435 A  213 BS12    EQU     MT+13
000436 A  214 BS13    EQU     MT+14
000437 A  215 BS14    EQU     MT+15
000440 A  216 BS15    EQU     MT+16
000441 A  217 BR0     EQU     MT+17
000442 A  218 BR1     EQU     MT+18
000443 A  219 BR2     EQU     MT+19
000444 A  220 BR3     EQU     MT+20
000445 A  221 BR4     EQU     MT+21
000446 A  222 BR5     EQU     MT+22
000447 A  223 BR6     EQU     MT+23
000450 A  224 BR7     EQU     MT+24
000451 A  225 BR8     EQU     MT+25
000452 A  226 BR9     EQU     MT+26
000453 A  227 BR10    EQU     MT+27
000454 A  228 BR11    EQU     MT+28
000455 A  229 BR12    EQU     MT+29
000456 A  230 BR13    EQU     MT+30
000457 A  231 BR14    EQU     MT+31
000460 A  232 BR15    EQU     MT+32
000461 A  233 NEG     EQU     MT+33
000462 A  234 LHW     EQU     MT+34
000463 A  235 RHW     EQU     MT+35
000421 A  236 ONE     EQU     MT+1
000422 A  237 TWO     EQU     MT+2
000464 A  238 THREE   EQU     MT+36
000423 A  239 FOUR    EQU     MT+3
000465 A  240 FIVE    EQU     MT+37
000466 A  241 SIX     EQU     MT+38
000467 A  242 SEVEN   EQU     MT+39
000424 A  243 EIGHT   EQU     MT+4
000470 A  244 NINE    EQU     MT+40
000471 A  245 TEN     EQU     MT+41
000421 A  246 BM1     EQU     MT+1
000464 A  247 BM3     EQU     MT+36
000467 A  248 BM7     EQU     MT+39
000472 A  249 BM17    EQU     MT+42
000473 A  250 BM37    EQU     MT+43
000474 A  251 BM77    EQU     MT+44
000475 A  252 BM177   EQU     MT+45
000463 A  253 BM377   EQU     MT+35
000476 A  254 BM777   EQU     MT+46
000477 A  255 BM1777  EQU     MT+47
          256         EJEC
          257 ********************************************************************************
          258 *
          259 ****     BIT TEST BIT DESIGNATION                                          ***
          260 *
          261 ********************************************************************************
000040 A  263 RA0     EQU     040          BT JUMPS WHEN A REGISTER IS 0
000000 A  264 RA1     EQU     000          BT JUMPS WHEN A REGISTER IS 1
000060 A  265 RB0     EQU     060          BT JUMPS WHEN B REGISTER IS 0
000020 A  266 RB1     EQU     020          BT JUMPS WHEN B REGISTER IS 1
          268 ********************************************************************************
          269 *
          270 **       THE BIT CHECKED
          271 *
          272 ********************************************************************************
000000 A  274 B0      EQU     0
000001 A  275 B1      EQU     1
000002 A  276 B2      EQU     2
000003 A  277 B3      EQU     3
000004 A  278 B4      EQU     4
000005 A  279 B5      EQU     5
000006 A  280 B6      EQU     6
000007 A  281 B7      EQU     7
000010 A  282 B8      EQU     8
000011 A  283 B9      EQU     9
000012 A  284 B10     EQU     10
000013 A  285 B11     EQU     11
000014 A  286 B12     EQU     12
000015 A  287 B13     EQU     13
000016 A  288 B14     EQU     14
000017 A  289 B15     EQU     15
          290         EJEC
          291 ********************************************************************************
          292 *
          293 ****     DEVICE AND FUNCTION CODES                                         ***
          294 *
          295 ********************************************************************************
          297 ****     REAL TIME CLOCK                                                   ***
000047 A  298 CLOCK   EQU     047          DEVICE NUMBER 047

                                  000002                          03 00202
                                  000004                          03 00203
                                  000010                          03 00204
                                  000020                          03 00205
                                  000040                          03 00206
                                  000100                          03 00207
                                  000200                          03 00208
                                  000400                          03 00209
                                  001000                          03 00210
                                  002000                          03 00211
                                  004000                          03 00212
                                  010000                          03 00213
                                  020000                          03 00214
                                  040000                          03 00215
                                 0100000                          03 00216
BIT MASK CONTENTS                 0177776                          03 00217
                                  0177775                          03 00218
                                  0177773                          03 00219
                                  0177767                          03 00220
                                  0177757                          03 00221
                                  0177737                          03 00222
                                  0177677                          03 00223
                                  0177577                          03 00224
                                  0177377                          03 00225
                                  0176777                          03 00226
                                  0175777                          03 00227
                                  0173777                          03 00228
                                  0167777                          03 00229
                                  0157777                          03 00230
                                  0137777                          03 00231
                                  0077777                          03 00232
SET ALL BITS                                                       03 00233
LEFT HALF WORD MASK 0177400                                        03 00234
RIGHT HALF WORD MASK    0377                                       03 00235
CONTAINS NUMBER  1                                                 03 00236
CONTAINS NUMBER  2                                                 03 00237
CONTAINS NUMBER  3                                                 03 00238
CONTAINS NUMBER  4                                                 03 00239
CONTAINS NUMBER  5                                                 03 00240
CONTAINS NUMBER  6                                                 03 00241
CONTAINS NUMBER  7                                                 03 00242
CONTAINS NUMBER  8                                                 03 00243
CONTAINS NUMBER  9                                                 03 00244
CONTAINS NUMBER 10                                                 03 00245
BIT MASK WORD 00001                                                03 00246
BIT MASK WORD  00003                                               03 00247
BIT MASK WORD  00007                                               03 00248
BIT MASK WORD  00017                                               03 00249
BIT MASK WORD  00037                                               03 00250
BIT MASK WORD  00077                                               03 00251
BIT MASK WORD  00177                                               03 00252
BIT MASK WORD  00377                                               03 00253
BIT MASK WORD  00777                                               03 00254
BIT MASK WORD  01777                                               03 00255
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                    299 *
000747  A           300 DISCLK  EQU     0700+CLOCK      DISABLE CLOCK                                   03 00299
000147  A           301 ENACLK  EQU     0100+CLOCK      ENABLE CLOCK                                    03 00300
                    303 *                                                                               03 00301
                    304 ****     PIM                                                            ***     03 00303
000044  A           305 APIM    EQU     044             ALL PIMS DEVICE NUMBER                          03 00304
000040  A           306 PIM1    EQU     040                                                             03 00305
000041  A           307 PIM2    EQU     041                                                             03 00306
000042  A           308 PIM3    EQU     042                                                             03 00307
000043  A           309 PIM4    EQU     043                                                             03 00308
000040  A           310 PIM5    EQU     040                                                             03 00309
000040  A           311 PIM6    EQU     040                                                             03 00310
000040  A           312 PIM7    EQU     040                                                             03 00311
000040  A           313 PIM8    EQU     040                                                             03 00312
                    314 *                                                                               03 00313
000444  A           315 DISPIM  EQU     0400+APIM                                                       03 00314
000244  A           316 ENAPIM  EQU     0200+APIM                                                       03 00315
                    318 ****     MEMORY PROTECT                                                 ***     03 00316
000045  A           319 MP      EQU     045             DEVICE ADDRESS 045                              03 00318
000745  A           320 DISMP   EQU     0700+MP         DISABLE MEMORY PROTECT                          03 00319
000645  A           321 ENAMP   EQU     0600+MP         ENABLE MEMORY PROTECT                           03 00320
000045  A           322 MPMR0   EQU     0000+MP         SELECT MASK REGISTER 0                          03 00321
000145  A           323 MPMR1   EQU     0100+MP         SELECT MASK REGISTER 1                          03 00322
000245  A           324 MPMR2   EQU     0200+MP         SELECT MASK REGISTER 2                          03 00323
000345  A           325 MPMR3   EQU     0300+MP         SELECT MASK REGISTER 3                          03 00324
                    326         EJEC                                                                    03 00325
                    327 *                                                                               03 00326
                    328 *       OABORT,ORESUME,OATTCH                                                   03 00327
                    329 *                                                                               03 00328
                    330         NAME    OABORT                                                          03 00329
                    331         EXT     OSCLR                                                           03 00330
                    332         EXT     OSERR                                                           03 00331
                    333         EXT     OSER00                                                          03 00332
                    334         EXT     OCOUNT                                                          03 00333
000002  A           335 B       EQU     2                                                               03 00334
000001  A           336 X       EQU     1                                                               03 00335
000040  A           337 BTA0    EQU     040             A REG. BIT =0                                   03 00336
000000  R           338 OABORT  EQU     *               ENTER TO PROCESS ABORT REQUEST                  03 00337
000060  A           339 BTB0    EQU     060             B REG,BIT=0                                     03 00338
000020  A           340 BTB1    EQU     020             B REG,BIT=1                                     03 00339
000000  005014  A   341         TAX                     SAVE NUMBER OF CHARACTERS IN TASK NAME          03 00340
000001  140467  A   342         SUB     SEVEN           TASK NAME GREATER THAN 6 CHARACTERS NOT         03 00341
                    343 *                                 LEGAL                                         03 00342
000002  001004  A   344         JAN     OABT2           JUMP IF SIX OR LESS CHARACTERS                  03 00343
000003  000006  R                                                                                       03 00344
000004  001000  A   345         JMP     OAT40           ILLEGAL TASK NAME-JUMP TO PRINT OC04            03 00345
000005  000604  R                                                                                       03 00346
                    346 *                                 ERROR MESSAGE-INVALID OPCOM PARAMETER         03 00347
000006  005041  A   347 OABT2   TXA                     RECOVER NUMBER OF CHARACTERS IN TASK NAME        03 00348
000007  006464  A   348         BT      BTB0+4,OATTCH    BIT=0,ATTACH REQUEST                           03 00349
000010  000045  R                                                                                       03 00350
000011  030431  A   349         LDX     BS8             =0400                                           03 00351
000012  006420  A   350         BT      BTB1,OABT1      RESUME REQUEST                                  03 00352
000013  000016  R                                                                                       03 00353
000014  006030  A   351         LDXI    0500            ABORT REQUEST                                   03 00354
000015  000500  A                                                                                       03 00355
000016  074020  A   352 OABT1   STX     OABRQT+2                                                        03 00356
000017  006506  A   353         JSR     OTKNAM,B        TRANSFER TASK NAME TO RESUME REQT.              03 00357
000020  000213  R                                                                                       03 00358
000021  000040  R   354         DATA    OABRQT+3                                                        03 00359
000022  006010  A   355         LDAI    'V$'            CHECK IF OPCOM TASK                             03 00360
000023  153244  A                                                                                       03 00361
000024  134013  A   356         ERA     OABRQT+3                                                        03 00362
000025  006120  A   357         ADDI    'OP'                                                            03 00363
000026  147720  A                                                                                       03 00364
000027  134011  A   358         ERA     OABRQT+4                                                        03 00365
000030  006120  A   359         ADDI    'CM'                                                            03 00366
000031  141715  A                                                                                       03 00367
000032  134007  A   360         ERA     OABRQT+5                                                        03 00368
000033  001010  A   361         JAZ     OABT4           ERROR,OPCOM TASK                                03 00369
000034  000606  R                                                                                       03 00370
                    362 OABRQT  ABORT   'TA','SK','12'   MOD. FOR ABORT,RESUME REQUESTS                 03 00371
000035  006505  A                                                                                       03 00372
000036  000406  A                                                                                       03 00373
000037  000500  A                                                                                       03 00374
000040  152301  A                                                                                       03 00375
000041  151713  A                                                                                       03 00376
000042  130662  A                                                                                       03 00377
000043  001000  A   363         JMP     OSCLR           NOW CLEAR BUFFER AND EXIT.                      03 00378
000044  000000  E                                                                                       03 00379
                    364         EJEC                                                                    03 00380
                    365         EXT     V$TBSR                                                          03 00381
                    366 *       OATTCH                                                                  03 00382
                    367 *                                                                               03 00383
                    368 *       ;ATTACH,TASK NAME,PIM LINE NO.,EVENT WORD,ENABLE MASK IND.              03 00384
                    369 *                                                                               03 00385
                    370 *                                                                               03 00386
000045  R           371 OATTCH  EQU     *               PROCESS ATTACH REQUEST.                         03 00387
000045  006506  A   372         JSR     OTKNAM,B                                                        03 00388
000046  000210  R                                                                                       03 00389
000047  000210  R   373         DATA    OATNAM          TRANSFER NAME IN BUFFER                         03 00390
000050  020300  A   374         LDB     V$CTL           TIDB                                            03 00391
000051  006010  A   375         LDAI    OATNAM                                                          03 00392
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000052 000210 R
000053 006505 A   376          JSR     V$TBSR,X    SEARCH TIDB THREAD                                  03 00376
000054 000000 E
000055 001004 A   377          JAN     DAT40       ERROR IF NEGATIVE,SEARCH UNSUCCESSFUL.              03 00377
000056 000604 R
000057 054125 A   378          STA     DATSAV      SAVE TIDB ADDR.                                     03 00378
000060 020422 A   379          LDB     TWO                                                             03 00379
000061 002000 A   380          CALL    DGNI        GET PIM LINE NO.                                    03 00380
000062 000256 R
000063 030413 A   381          LDX     V$DCB                                                           03 00381
000064 015000 A   382          LDA     0,X                                                             03 00382
000065 150463 A   383          ANA     RHW         GET LINE NO.                                        03 00383
000066 144114 A   384          SUB     DZER        =0260                                               03 00384
000067 054116 A   385          STA     DATSAV+1    SAVE LINE NO.                                       03 00385
000070 140424 A   386          SUB     EIGHT                                                           03 00386
000071 001002 A   387          JAP     DNUME       ERROR GTR THAN 7                                    03 00387
000072 000600 R
000073 015000 A   388          LDA     0,X                                                             03 00388
000074 004350 A   389          LSRA    8           GET PIM NO.                                         03 00389
000075 144105 A   390          SUB     DZER        =0260                                               03 00390
000076 005012 A   391          TAB                                                          C.1        03 00391
000077 140424 A   392          SUB     EIGHT                                                C.1        03 00392
000100 001002 A   393          JAP     DNUME       ERROR IF GREATER THAN 7                  C.1        03 00393
000101 000600 R
000102 010427 A   394          LDA     BS6         0100                                                03 00394
000103 001020 A   395 DAT05     JBZ     DAT07                                                           03 00395
000104 000111 R
000105 005322 A   396          DBR                                                                     03 00396
000106 120425 A   397          ADD     BS4         020                                                 03 00397
000107 001000 A   398          JMP     DAT05                                                           03 00398
000110 000103 R
       000111 R   399 DAT07     EQU     *                                                               03 00399
000111 124074 A   400          ADD     DATSAV+1    ADD LINE NO.                                        03 00400
000112 124073 A   401          ADD     DATSAV+1                                                        03 00401
000113 005012 A   402          TAB                 INTERRUPT TRAP LOCATION                             03 00402
000114 016000 A   403          LDA     0,B                                                             03 00403
000115 130433 A   404          ERA     BS10        02000                                               03 00404
000116 001016 A   405          JANZ    DAT40       IGNORE IF NOT JMPM                                  03 00405
000117 000604 R
000120 036001 A   406          LDX     1,B         GET LINE HANDLER ADDR.                              03 00406
000121 020424 A   407 DAT10     LDB     EIGHT                                                           03 00407
000122 002000 A   408          CALL    DGNI        NOW GET INTERRUPT EVENT WORD                        03 00408
000123 000256 R
000124 002000 A   409          CALL    DCTNUM                                                          03 00409
000125 000550 R
000126 055003 A   410          STA     3,X         STORE EVENT WORD IN LINE HANDLER.                   03 00410
000127 014055 A   411          LDA     DATSAV      GET TIDB ADDR AND STORE IN                          03 00411
000130 055004 A   412          STA     4,X             LINE HANDLER.                                   03 00412
000131 024054 A   413          LDB     DATSAV+1    GET LINE NO. 0-7                                    03 00413
000132 010421 A   414          LDA     ONE                                                             03 00414
000133 001020 A   415 DAT15     JBZ     DAT20                                                           03 00415
000134 000141 R
000135 005322 A   416          DBR                 SET UP PIM LINE MASK                                03 00416
000136 004241 A   417          LRLA    1                                                               03 00417
000137 001000 A   418          JMP     DAT15                                                           03 00418
000140 000133 R
000141 054044 A   419 DAT20     STA     DATSAV+1    SAVE  MASK.                                         03 00419
000142 020421 A   420          LDB     ONE                                                             03 00420
000143 002000 A   421          CALL    DGNI        NOW GET ENABLE/DISABLE PIM MASK                     03 00421
000144 000256 R
000145 001010 A   422          JAZ     DAT22-1     NONE.DEFAULT IS TO ENABLE                           03 00422
000146 000157 R
000147 030413 A   423          LDX     V$DCB                                                           03 00423
000150 015000 A   424          LDA     0,X         GET CHARACTER                                       03 00424
000151 004350 A   425          LSRA    8                                                               03 00425
000152 005012 A   426          TAB                                                                     03 00426
000153 134030 A   427          ERA     DCHARE      CHAR. E                                             03 00427
000154 007400 A   428          RDF                                                                     03 00428
000155 001016 A   429          JANZ    DAT22       DISABLE                                             03 00429
000156 000160 R
000157 007401 A   430          SDF                 ENABLE                                              03 00430
       000160 R   431 DAT22     EQU     *                                                               03 00431
000160 024026 A   432          LDB     DATSAV+2    GET PIM NO. 0-7                                     03 00432
000161 016363 A   433          LDA     V$PIMN,B    GET PIM DEVICE ADDR.                                03 00433
000162 114007 A   434          ORA     DAT25       =0103100                                            03 00434
000163 054006 A   435          STA     DAT25       BUILD OUTPUT PIM MASK INSTRUCTION.                  03 00435
000164 016320 A   436          LDA     V$IM,B      GET MASK                                            03 00436
000165 114020 A   437          ORA     DATSAV+1    GET LINE MASK.                                      03 00437
000166 001007 A   438          JDFN    *+3         EXECUTE IF ENABLE                                   03 00438
000167 000171 R
000170 134015 A   439          ERA     DATSAV+1                                                        03 00439
000171 056320 A   440          STA     V$IM,B                                                          03 00440
000172 103100 A   441 DAT25     OAR     0           OUTPUT PIM MASK                                     03 00441
000173 024011 A   442          LDB     DATSAV      GET TASK TIDB ADDR                                  03 00442
000174 016001 A   443          LDA     TBST,B                                                          03 00443
000175 110424 A   444          ORA     BS0         SET INTERRUPT EXPECT BIT                            03 00444
000176 056001 A   445          STA     TBST,B                                                          03 00445
000177 005001 A   446          TZA                 CLEAR EVENT WORD                                    03 00446
000200 056003 A   447          STA     TBEVNT,B                                                        03 00447
000201 001000 A   448          JMP     DSCLR       NOW CLEAR V$UPBF  AND  EXIT.                        03 00448
000202 000044 E
000203 000260 A   449 DZER      DATA    0260                                                            03 00449
000204 000305 A   450 DCHARE    DATA    0305        ASCII CHAR.E                                        03 00450
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000205 000000 A   451 DATSAV DATA    0,0,0          TEMP. STORAGE                                  03 00451
000206 000000 A
000207 000000 A
000210 000000 A   452 DATNAM DATA    0,0,0          NAME BUFFER                                    03 00452
000211 000000 A
000212 000000 A
                  453          EJEC                                                               03 00453
                  454 *                                                                           03 00454
                  455 *        DTKNAM                                                             03 00455
                  456 *                                                                           03 00456
                  457 *     GET AND STORE TASK NAME                                               03 00457
                  458 *                                                                           03 00458
                  459 *        DTKNAM IS ENTERED TO STORE THE TASK NAME FROM DC BUFFER INTO       03 00459
                  460 *         THE USER SPECIFIED BUFFER. THE NAME MUST CONTAIN AT LEAST         03 00460
                  461 *         1 CHARACTER BUT NOT MORE THAN 6.TRAILING BLANKS WILL BE STORED.   03 00461
                  462 *                                                                           03 00462
                  463 *              ENTER    VIA   JSR  DTKNAM                                   03 00463
                  464 *                             DATA BUFFER ADDR. TO STORE NAME               03 00464
                  465 *                                                                           03 00465
                  466 *                       WITH A= CHARACTER COUNT                             03 00466
                  467 *                                                                           03 00467
                  468 *              EXIT  A=B=X DESTROYED.                                       03 00468
                  469 *                                                                           03 00469
                  470 *              ERROR EXIT TO USER00                                         03 00470
                  471 *                                                                           03 00471
                  472 *                                                                           03 00472
                  473 *                                                                           03 00473
                  474 *                                                                           03 00474
000213            475 DTKNAM EQU     *                                                            03 00475
000213 064032 A   476          STB     DTKNM6+1                                                   03 00476
000214 026000 A   477          LDB     0,B            BUFFER ADDR                                 03 00477
000215 064011 A   478          STB     DTKNM3+1                                                   03 00478
000216 064034 A   479          STB     DTKNM8+1       STORE BUFFER ADDR.                          03 00479
000217 020413 A   480          LDB     V$DCB                                                      03 00480
000220 064004 A   481          STB     DTKNM2+1                                                   03 00481
000221 044024 A   482          INR     DTKNM6+1       SET UP EXIT ADDR.                           03 00482
000222 005012 A   483          TAB                                                                03 00483
000223 005004 A   484          TZX                                                                03 00484
000224 006015 A   485 DTKNM2   LDAE    *,X            MODIFIED TO DC BUFFER ADDR.                 03 00485
000225 000224 R
000226 006055 A   486 DTKNM3   STAE    *,X            STORE NAME FROM DTEMP TO CALLER BUFFER.     03 00486
000227 000226 R
000230 005021 A   487          TBA                                                                03 00487
000231 140464 A   488          SUB     THREE                                                      03 00488
000232 001004 A   489          JAN     DTKNM4         2 OR LESS CHARS.                            03 00489
000233 000241 R
000234 005322 A   490          DBR                                                                03 00490
000235 005322 A   491          DECR    02             B= NO. OF CHAR.                             03 00491
000236 005144 A   492          IXR                                                                03 00492
000237 001000 A   493          JMP     DTKNM2         PROCESS NEXT 2 CHARS.                       03 00493
000240 000224 R
000241 006647 A   494 DTKNM4   SRE     TWO,7,040      CHECK IF X=3                                03 00494
000242 000422 A
000243 001000 A   495          JMP     *+4                                                        03 00495
000244 000247 R
000245 001000 A   496 DTKNM6   JMP     *              YES. EXIT                                   03 00496
000246 000245 R
000247 005144 A   497          IXR                                                                03 00497
000250 006010 A   498          LDAI    0120240                                                    03 00498
000251 120240 A
000252 006055 A   499 DTKNM8   STAE    *,X            STORE TRAILING BLANKS                       03 00499
000253 000252 R
000254 001000 A   500          JMP     DTKNM4                                                     03 00500
000255 000241 R
                  501          EJEC                                                               03 00501
                  502 *                                                                           03 00502
                  503 *        DGNI                                                               03 00503
                  504 *                                                                           03 00504
                  505 *     GET NEXT ITEM SUBROUTINE                                              03 00505
000256 000000 A   506 DGNI     ENTR                                                               03 00506
000257 074064 A   507          STX     DGNIX+1                                                    03 00507
000260 010413 A   508          LDA     V$DCB          BUFFER ADDR.                                03 00508
000261 004241 A   509          LRLA    1               *2                                         03 00509
000262 054116 A   510          STA     DGNIZ                                                      03 00510
000263 064113 A   511          STB     DGNIZ+1                                                    03 00511
000264 005024 A   512          TBX                                                                03 00512
000265 002000 A   513 DGNIA    CALL    DSCN           SCAN FOR 1ST NON-BLANK CHARACTER            03 00513
000266 000403 R
000267 144342 A   514          SUB     DS80                                                       03 00514
000270 001002 A   515          JAP     DGNID          ALL ITEMS COMPLETED                         03 00515
000271 000335 R
000272 002000 A   516 DGNIE    CALL    DLDBT,DCOUNT   LOAD A CHARACTER FROM V$DFBF                03 00516
000273 000543 R
000274 000014 R
000275 134006 A   517          ERA     DSBLK          =0240                                       03 00517
000276 001000 A   518          JAZ     DGNIA          JMP IF BLANK                                03 00518
000277 000243 R
000300 005021 A   519          TBA                                                                03 00519
000301 134004 A   520          ERA     DSCOM          COMMA                                       03 00520
000302 001000 A   521          JAZ     DGNID                                                      03 00521
000303 000315 R
000304 005021 A   522          TBA                                                                03 00522
000305 134007 A   523          ERA     DSEQ           EQUAL SIGN                                  03 00523
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000306 001010 A  524          JAZ     OGNID                                    03 00524
000307 000325 R
000310 005021 A  525          TBA                                              03 00525
000311 134321 A  526          ERA     OSPER           PERIOD                   03 00526
000312 001010 A  527          JAZ     OGNIG                                    03 00527
000313 000372 R
000314 005021 A  528          TBA                                              03 00528
000315 002000 A  529          CALL    OSTBT,OGNIZ     STORE CHAR               03 00529
000316 000461 R
000317 000401 R
000320 005344 A  530          DXR                                              03 00530
000321 001040 A  531          JXZ     OGNIF           JMP IF MAX CHARS STORED  03 00531
000322 000347 R
000323 001000 A  532          JMP     OGNIE                                    03 00532
000324 000272 R
000325 005041 A  533 OGNID    TXA                                              03 00533
000326 005211 A  534          CPA                                              03 00534
000327 005111 A  535          IAR                                              03 00535
000330 124051 A  536          ADD     OGNIZ+1                                  03 00536
000331 006440 A  537          BT      BTA0,OGNIX      CHECK FOR ODD CHAR.      03 00537
000332 000343 R
000333 005014 A  538          TAX                     YES. STORE ASCII BLANK   03 00538
000334 024044 A  539          LDB     OGNIZ           GET BUFFER ADDR.         03 00539
000335 004141 A  540          LSRB    1                                        03 00540
000336 016000 A  541          LDA     0,B             GET LAST STORED CHAR.    03 00541
000337 150462 A  542          ANA     LHW                                      03 00542
000340 114273 A  543          ORA     OSBLK           OR ASCII BLANK           03 00543
000341 056000 A  544          STA     0,B                                      03 00544
000342 005041 A  545          TXA                                              03 00545
000343 006030 A  546 OGNIX    LDXI    *                                        03 00546
000344 000343 R
000345 001000 A  547          JMP*    OGNI            NOW EXIT                 03 00547
000346 100256 R
000347 002000 A  548 OGNIF    CALL    OSCN            SPACE TO NEXT ITEM       03 00548
000350 000403 R
000351 144260 A  549          SUB     OS80                                     03 00549
000352 001002 A  550          JAP     OGNID           ALL DONE                 03 00550
000353 000325 R
000354 002000 A  551          CALL    OLDBT,OCOUNT                             03 00551
000355 000543 R
000356 000274 E
000357 134256 A  552          ERA     OSCOM           COMMA                    03 00552
000360 001010 A  553          JAZ     OGNID                                    03 00553
000361 000325 R
000362 005021 A  554          TBA                                              03 00554
000363 134251 A  555          ERA     OSEQ            EQUAL SIGN               03 00555
000364 001010 A  556          JAZ     OGNID                                    03 00556
000365 000325 R
000366 005021 A  557          TBA                                              03 00557
000367 134243 A  558          ERA     OSPER           PERIOD                   03 00558
000370 001016 A  559          JANZ    OGNIF                                    03 00559
000371 000347 R
000372 010413 A  560 OGNIG    LDA     V$OCB           V$OPBF ADDR              03 00560
000373 004241 A  561          LRLA    1                                        03 00561
000374 124235 A  562          ADD     OS80                                     03 00562
000375 024062 A  563          LDB     OSCADR          OCOUNT ADDR.             03 00563
000376 056000 A  564          STA     0,B                                      03 00564
000377 001000 A  565          JMP     OGNID                                    03 00565
000400 000325 R
000401 000000 A  566 OGNIZ    DATA    0,0                                      03 00566
000402 000000 A
                 567          EJEC                                             03 00567
                 568 *                                                         03 00568
                 569 *                                                         03 00569
                 570 *        OSCN                                             03 00570
                 571 *                                                         03 00571
                 572 *     SCAN VARIABLE FIELD SUBROUTINE                      03 00572
                 573 *                                                         03 00573
                 574 *        OSCN SCANS THE VARIABLE FIELD OF THE INPUT BUFFER,V$OPBF,  03 00574
                 575 *         FOR A NON-BLANK CHARACTER.IT EXITS WITH THE CHARACTER     03 00575
                 576 *         POSITION IN A. IF A PERIOD IS ENCOUNTERED THE VARIABLE    03 00576
                 577 *         LIST IS CONSIDERED TERMINATED AND CHAR. POSITION 72 IS    03 00577
                 578 *         PLACED IN A. ALSO LOC OCOUNT CONTAINS CHARACTER POSITION. 03 00578
                 579 *                                                         03 00579
                 580 *                                                         03 00580
000403 000000 A  581 OSCN     ENTR                                             03 00581
000404 074032 A  582          STX     OSCNX+1                                  03 00582
000405 010413 A  583          LDA     V$OCB           GET OC BUFFER ADDR.      03 00583
000406 004241 A  584          LRLA    1                                        03 00584
000407 054047 A  585          STA     OSCNZ           BUFFER*2                 03 00585
000410 024047 A  586          LDB     OSCADR                                   03 00586
000411 016000 A  587          LDA     0,B             GET ADDR IN OCOUNT       03 00587
000412 144044 A  588          SUB     OSCNZ                                    03 00588
000413 005014 A  589          TAX                                              03 00589
000414 144213 A  590          SUB     OS80            CHECK IF 80 CHAR.        03 00590
000415 001002 A  591          JAP     OSCNC           YES.                     03 00591
000416 000435 R
000417 002000 A  592 OSCNA    CALL    OLDBT,OCOUNT    LOAD A CHAR              03 00592
000420 000543 R
000421 000356 E
000422 134211 A  593          ERA     OSBLK           =0240                    03 00593
000423 001010 A  594          JAZ     OSCNB                                    03 00594
000424 000442 R
```

```
000425 003021 A   595          TBA                                                  03 00595
000426 134204 A   596          ERA     OSPER          PERIOD                        03 00596
000427 024030 A   597          LDB     OSCADR                                       03 00597
000430 001010 A   598          JAZ     OSCND                                        03 00598
000431 000451 R
000432 016000 A   599          LDA     0,B                                          03 00599
000433 005311 A   600          DAR                                                  03 00600
000434 056000 A   601          STA     0,B                                          03 00601
000435 005041 A   602 OSCNC    TXA                                                  03 00602
000436 006030 A   603 OSCNX    LDXI    *              RESTORE X                     03 00603
000437 000436 R
000440 001000 A   604          JMP*    OSCN           EXIT                          03 00604
000441 100403 R
                  605 *        ENTER FOR BLANK CHAR                                 03 00605
000442 005144 A   606 OSCNB    IXR                                                  03 00606
000443 005041 A   607          TXA                                                  02 00607
000444 144165 A   608          SUB     OS80           CHECK IF 80 CHAR.             03 00608
000445 001004 A   609          JAN     OSCNA          GET NEXT CHAR.                03 00609
000446 000417 R
000447 001000 A   610          JMP     OSCNC                                        02 00610
000450 000435 R
                  611 *        ENTER FOR PERIOD                                     03 00611
000451 014005 A   612 OSCND    LDA     OSCNZ                                        03 00612
000452 124157 A   613          ADD     OS80                                         03 00613
000453 056000 A   614          STA     0,B                                          03 00614
000454 014155 A   615          LDA     OS80                                         03 00615
000455 001000 A   616          JMP     OSCNX                                        03 00616
000456 000436 R
000457 000000 A   617 OSCNZ    DATA    0                                            03 00617
000460 000421 E   618 OSCADR   DATA    OCOUNT                                       03 00618
                  619          EJEC                                                 03 00619
                  620 *                                                            03 00620
                  621 *                                                            03 00621
                  622 *        OLDBT,OSTBT                                         03 00622
                  623 *                                                            03 00623
                  624 *    LOAD/STORE 1 CHARACTER IN BUFFER SUBROUTINE.            03 00624
                  625 *                                                            03 00625
                  626 ****   ENTER VIA  JMPM  OLDBT    (TO LOAD A CHAR.)          03 00626
                  627 *                 DATA  LOCATION OF BUFFER ADDR * 2  FOR CHAR N/N+1  03 00627
                  628 *                                                  SWITCH    03 00628
                  629 *                 EXIT WITH A REG= ASCII CHARACTER = B REG.  X= UNCHANGED  03 00629
                  630 *                       BUFFER ADDRESS INCREMENTED TO NEXT CHAR.  03 00630
                  631 *                                                            03 00631
                  632 ****   ENTER VIA  JMPM  OSTBT    (TO STORE A CHAR.)         03 00632
                  633 *                 DATA  LOCATION OF BUFFER ADDR *2,BIT 0=0 CHAR N  03 00633
                  634 *                                                BIT 0=1 CHAR N+1  03 00634
                  635 *                 A REG = ASCII CHARACTER TO STORE           03 00635
                  636 *                                                            03 00636
                  637 *                 EXIT WITH A,B DESTROYED. X REG UNCHANGED.  03 00637
                  638 *                                                            03 00638
                  639 *                                                            03 00639
000461 000000 A   640 OSTBT    ENTR                   ENTER HERE TO STORE A BYTE    03 00640
000462 150463 A   641 OSTBA    ANA     BM377          EXTRACT BYTE TO STORE         03 00641
000463 054063 A   642          STA     OBYTX+1                                      03 00642
000464 044061 A   643          INR     OBYTX          SET FLAG TO STORE CHAR.       03 00643
000465 006017 A   644          LDAE    OSTBT          SET RETURN ADDR.              03 00644
000466 000461 R
000467 054053 A   645          STA     OLDBT                                        03 00645
          000470 R 646 OLDBA    EQU     *              NOW COMMON PROCESSING         03 00646
000470 074050 A   647          STX     OBYTF+1        SAVE X                        03 00647
000471 034051 A   648          LDX     OLDBT          CALL SEQ ADDR                 03 00648
000472 035000 A   649          LDX     0,1            GET LOC OF BUFFER ADDR.       03 00649
000473 025000 A   650          LDB     0,1            NOW BUFFER ADDR * 2  FOR CHAR N/N+1 FLAG  03 00650
000474 005021 A   651          TBA                                                  03 00651
000475 005111 A   652          IHR                                                  03 00652
000476 055000 A   653          STA     0,1            INCREMENT BUFFER ADDR FOR NEXT CHAR.  03 00653
000477 044043 A   654          INR     OLDBT          NOW RETURN ADDR               03 00654
000500 005001 A   655          TZA                                                  03 00655
000501 004477 A   656          LLRL    31                                           03 00656
000502 007401 A   657          SOF                    SET FOR CHAR N+1              03 00657
000503 001004 A   658          JAN     OBYTA          NEG IF CHAR N+1               03 00658
000504 000506 R
000505 007400 A   659          ROF                    RESET FOR CHAR N              03 00659
000506 016000 A   660 OBYTA    LDA     0,2            GET WORD                      03 00660
000507 034036 A   661          LDX     OBYTX          LOAD/STORE INDICATOR          03 00661
000510 001040 A   662          JXZ     OBYTC          JMP IF LOAD BYTE              03 00662
000511 000533 R
000512 001001 A   663          JOF     OBYTB          JMP IF LOW ORDER BYTE.  STORE BYTE  03 00663
000513 000517 R
000514 004250 A   664          LRLA    8                    HIGH ORDER BYTE.        03 00664
000515 001000 A   665          JMP     OBYTB+1                                      03 00665
000516 000520 R
000517 007401 A   666 OBYTB    SOF                    RESET LOW ORDER SWITCH        03 00666
000520 150462 A   667          ANA     LH'            E.2 ********                  03 00667
000521 114023 A   668          ORA     OBYTX+1        SET BYTE IN WORD              03 00668
000522 001001 A   669          JOF     OBYTG          JUMP IF LOW ORDER             03 00669
000523 000525 R
000524 004250 A   670          LRLA    8              ROTATE BYTE BACK TO HIGH ORDER  03 00670
000525 056000 A   671 OBYTG    STA     0,2            STORE BYTE                    03 00671
000526 014020 A   672          LDA     OBYTX+1                                      03 00672
000527 005002 A   673          TZE                                                  03 00673
000530 064015 A   674          XTR     OBYTX          RESET STORE BYTE FLAG.        03 00674
000531 001000 A   675          JMP     OBYTF                                        03 00675
```

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000532 000540 R
000533 001001 A   676 OBYTC   JOF      OBYTD          JMP FOR CHAR. N+1                                  03 00676
000534 000536 R
000535 004250 A   677          LRLA     8                                                                 03 00677
000536 150463 A   678 OBYTD    ANA      BM377          EXTRACT BYTE                                       03 00678
000537 005012 A   679          TAB                     EXIT WITH BYTE IN A,B                              03 00679
000540 006030 A   680 OBYTF    LDXI     *                                                                 03 00680
000541 000540 R
000542 001000 A   681          JMP      *              EXIT                                               03 00681
000543 000542 R
       000543 R   682 OLDBT    EQU      *-1            ENTER HERE TO LOAD A BYTE FROM BUFFER              03 00682
000544 001000 A   683          JMP      OLDBA                                                             03 00683
000545 000470 R
000546 000000 A   684 OBYTX    DATA     0,0                                                               03 00684
000547 000000 A
                  685          EJEC                                                                       03 00685
                  686 *                                                                                   03 00686
                  687 *        OCTNUM***                                                                  03 00687
                  688 *     OCTAL ASCII INTEGER TO BINARY CONVERSION                                      03 00688
                  689 *        IF IT IS NOT AN OCTAL INTEGER THE OC02 ERROR MESSAGE                       03 00689
                  690 *        IS OUTPUT.                                                                 03 00690
                  691 *                                                                                   03 00691
000550 000000 A   692 OCTNUM   ENTR                     ENTER FOR OCTAL CONVERSION                         03 00692
000551 074052 A   693          STX      ONUMX+1        SAVE X                                             03 00693
000552 005014 A   694          TAX                     CHARACTER COUNT NOW IN X                           03 00694
000553 005002 A   695          TZB                                                                        03 00695
000554 054052 A   696          STB      ONUMZ                                                             03 00696
000555 010413 A   697          LDA      V$OCB          GET BUFFER ADDR.                                   03 00697
000556 004241 A   698          LRLA     1                                                                 03 00698
000557 054051 A   699          STA      ONUMZ+2        BUFFER*2                                           03 00699
000560 002000 A   700 ONUMA    CALL     OLDBT,ONUMZ+2   GET ASCII CHAR. FROM BUFFER                       03 00700
000561 000543 R
000562 000631 R
000563 005012 A   701          TAB                     SAVE CHARACTER                                     03 00701
000564 144047 A   702          SUB      OSBLK          =0240                                              03 00702
000565 001016 A   703          JANZ     ONUMG                                                             03 00703
000566 000572 R
000567 014037 A   704          LDA      ONUMZ          BLANK                                              03 00704
000570 001000 A   705          JMP      ONUMH                                                             03 00705
000571 000620 R
000572 140425 A   706 ONUMG    SUB      BS4            =020   0260                                E.2*******
000573 001004 A   707          JAN      ONUME          ERROR,LESS THAN 0                                  03 00707
000574 000600 R
000575 140424 A   708          SUB      EIGHT                                                             03 00708
000576 001004 A   709          JAN      ONUMF          OK                                                 03 00709
000577 000611 R
000600 010422 A   710 ONUME    LDA      TWO            ERROR
000601 001010 A   711          DATA     01010          = JAZ INSTR., SKIP NEXT WORD                       03 00711
000602 010464 A   712 OTKNM9   LDA      THREE                                                             03 00712
000603 001010 A   713          DATA     01010          = JAZ INSTR., SKIP NEXT WORD                       03 00713
000604 010423 A   714 OAT40    LDA      FOUR           OC04  MSG.                                         03 00714
000605 001010 A   715          DATA     01010          = JAZ INSTR., SKIP NEXT WORD                       03 00715
000606 010465 A   716 OABT4    LDA      FIVE           OC05 ERROR MSG                                     03 00716
000607 001000 A   717          JMP      OSER00                                                            03 00717
000610 000000 E
000611 005021 A   718 ONUMF    TBA                                                                        03 00718
000612 150472 A   719          ANA      BM17           MASK OUT BCD                                       03 00719
000613 054014 A   720          STA      ONUMZ+1                                                           03 00720
000614 014012 A   721          LDA      ONUMZ          GET PREVIOUS DIGITS                                03 00721
000615 004243 A   722 ONUMK    LRLA     3                                                                 03 00722
000616 124011 A   723          ADD      ONUMZ+1        DIGIT JUST CONVERTED                               03 00723
000617 054007 A   724          STA      ONUMZ                                                             03 00724
000620 005344 A   725 ONUMH    DXR                                                                        03 00725
000621 001046 A   726          JXNZ     ONUMA          X=0 IF ALL DIGITS CONVERTED.                       03 00726
000622 000560 R
000623 006030 A   727 ONUMX    LDXI     *              RESTORE X                                          03 00727
000624 000623 R
000625 001000 A   728          JMP*     OCTNUM                                                            03 00728
000626 100550 R
000627 000000 A   729 ONUMZ    DATA     0,0,0                                                             03 00729
000630 000000 A
000631 000000 A
000632 000120 A   730 OS80     DATA     80                                                                03 00730
000633 000256 A   731 OSPER    DATA     0256           PERIOD                                             03 00731
000634 000240 A   732 OSBLK    DATA     0240           BLANK                                              03 00732
000635 000275 A   733 OSEQ     DATA     0275           EQUAL SIGN                                         03 00733
000636 000254 A   734 OSCOM    DATA     0254           COMMA                                              03 00734
       000000 R   735          END      OABORT                                                            03 00735
ENTRY NAMES
000000 R OABORT
EXTERNAL NAMES
000460 E OCOUNT  000202 E OSCLR   000610 E OSER00  000000 E OSERR
000000 E V$EXEC  000054 E V$TBSR
SYMBOLS
000044 A APIM    000002 A B       000000 A B0      000001 A B1
000012 A B10     000013 A B11     000014 A B12     000015 A B13
000016 A B14     000017 A B15     000002 A B2      000003 A B3
000004 A B4      000005 A B5      000006 A B6      000007 A B7
000010 A B8      000011 A B9      000421 A BM1     000472 A BM17
000475 A BM177   000477 A BM1777  000464 A BM3     000473 A BM37
000463 A BM377   000467 A BM7     000474 A BM77    000476 A BM777
000441 A BR0     000442 A BR1     000453 A BR10    000454 A BR11
000455 A BR12    000456 A BR13    000457 A BR14    000460 A BR15
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000443 A BR2     000444 A BR3     000445 A BR4     000446 A BR5
000447 A BR6     000450 A BR7     000451 A BR8     000452 A BR9
000421 A BS0     000422 A BS1     000433 A BS10    000434 A BS11
000435 A BS12    000436 A BS13    000437 A BS14    000440 A BS15
000423 A BS2     000424 A BS3     000425 A BS4     000426 A BS5
000427 A BS6     000430 A BS7     000431 A BS8     000432 A BS9
000040 A BTA0    000060 A BTB0    000020 A BTB1    000047 A CLOCK
000747 A DISCLK  000745 A DISMP   000444 A DISPIM  000424 A EIGHT
000147 A ENACLK  000645 A ENAMP   000244 A ENAPIM  000465 A FIVE
000423 A FOUR    000300 A LC      000050 A LCJP    000462 A LHW
000045 A MP      000045 A MPMR0   000145 A MPMR1   000245 A MPMR2
000345 A MPMR3   000420 A MT      000461 A NEG     000470 A NINE
000000 R DABORT  000035 R DABRQT  000016 R DABT1   000006 R DABT2
000606 R DABT4   000103 R DAT05   000111 R DAT07   000121 R DAT10
000133 R DAT15   000141 R DAT20   000160 R DAT22   000172 R DAT25
000604 R DAT40   000210 R DATNAM  000205 R DATSAV  000045 R DATTCH
000506 R DBYTA   000517 R DBYTB   000533 R DBYTC   000536 R DBYTD
000540 R DBYTF   000525 R DBYTG   000546 R DBYTX   000204 R DCHARE
000460 E DCOUNT  000550 R DCTNUM  000256 R DGNI    000265 R DGNIA
000325 R DGNID   000272 R DGNIE   000347 R DGNIF   000372 R DGNIG
000343 R DGNIX   000401 R DGNIZ   000470 R DLDBA   000543 R DLDBT
000421 A DNE     000560 R DNUMA   000600 R DNUME   000611 R DNUMF
000572 R DNUMG   000620 R DNUMH   000615 R DNUMK   000623 R DNUMX
000627 R DNUMZ   000632 R DS80    000634 R DSBLK   000460 R DSCADR
000202 E DSCLR   000403 R DSCN    000417 R DSCNA   000442 R DSCNB
000435 R DSCNC   000451 R DSCND   000436 R DSCNX   000457 R DSCNZ
000636 R DSCOM   000635 R DSEQ    000610 E DSER00  000000 E DSERR
000633 R DSPER   000462 R DSTBA   000461 R DSTBT   000213 R DTKNAM
000224 R DTKNM2  000226 R DTKNM3  000241 R DTKNM4  000245 R DTKNM6
000252 R DTKNM8  000602 R DTKNM9  000203 R DZER    000040 A PIM1
000041 A PIM2    000042 A PIM3    000043 A PIM4    000040 A PIM5
000040 A PIM6    000040 A PIM7    000040 A PIM8    000040 A RA0
000000 A RA1     000060 A RB0     000020 A RB1     000463 A RHW
000467 A SEVEN   000466 A SIX     000027 A TBATSK  000026 A TBCPTH
000011 A TBENTY  000003 A TBEVNT  000021 A TBID    000014 A TBISA
000015 A TBISB   000017 A TBISP   000020 A TBISRS  000016 A TBISX
000022 A TBKN1   000023 A TBKN2   000024 A TBKN3   000002 A TBPL
000004 A TBRSA   000005 A TBRSB   000030 A TBRSE   000007 A TBRSP
000010 A TBRSTS  000006 A TBRSX   000000 A TBS0    000001 A TBS1
000012 A TBS10   000013 A TBS11   000014 A TBS12   000015 A TBS13
000016 A TBS14   000017 A TBS15   000002 A TBS2    000003 A TBS3
000004 A TBS4    000005 A TBS5    000006 A TBS6    000007 A TBS7
000010 A TBS8    000011 A TBS9    000001 A TBST    000025 A TBTLC
000013 A TBTMIN  000012 A TBTMS   000000 A TBTRD   000471 A TEN
000464 A THREE   000422 A TWO     000403 A V$1MIN  000415 A V$BFC
000075 A V$BGLB  000056 A V$BIC1  000315 A V$BTB   000414 A V$BVN
000334 A V$CAM   000353 A V$CKB   000411 A V$CKIT  000310 A V$CKPT
000301 A V$CPL   000076 A V$CRDM  000341 A V$CRDR  000354 A V$CRM
000302 A V$CRS   000360 A V$CTAD  000300 A V$CTL   000351 A V$CTMS
000070 A V$DATE  000355 A V$DSTB  000376 A V$ERFG  000000 E V$EXEC
000347 A V$FGLB  000306 A V$FLRS  000350 A V$FREE  000320 A V$IM
000410 A V$IOA   000412 A V$JCB   000055 A V$JCFG  000077 A V$JCTM
000050 A V$JNAM  000377 A V$JOP   000054 A V$LCNT  000313 A V$LER
000356 A V$LIT   000317 A V$LLUP  000307 A V$LRSK  000312 A V$LSAL
000345 A V$LUNT  000316 A V$LUP   000400 A V$LUT1  000401 A V$LUT2
000402 A V$LUT3  000330 A V$MPM   000362 A V$NCTR  000413 A V$OCR
000346 A V$OPCF  000311 A V$OPCL  000363 A V$PIMN  000074 A V$PLCT
000305 A V$PTVB  000361 A V$SCTL  000352 A V$SCV   000375 A V$SLFG
000303 A V$TB    000342 A V$TBGT  000054 E V$TBSP  000416 A V$TFC
000314 A V$TJCP  000344 A V$TMN   000343 A V$TMS   000204 A V$UTB
000001 A X       000420 A ZERO
```

0 ERRORS ASSEMBLY COMPLETE

```
305  APIM     315  316
335  B        353  372  403  406  433  436  440  443  445
              447  477  541  544  564  587  599  601  614
249  BM17     719
253  BM377    641  678
211  BS10     404
204  BS3      444
205  BS4      397  706
207  BS6      394
209  BS8      349
337  BTA0     537
339  BTB0     348
340  BTB1     350
298  CLOCK    300  301
243  EIGHT    386  392  407  708
240  FIVE     716
239  FOUR     714
104  LC       125  126  127  128  129  130  131  132  133
              134  135  136  137  138  139  140  141  142
              143  145  146  147  148  149  150  151  152
              153  154  155  156  157  158  160  161  162
              163  167  168  169  170  171  172  173  178
              179  180  183  188  189  190
 99  LCJP     100  101  102  109  110  111  112  113  116
234  LHW      542  667
319  MP       320  321  322  323  324  325
199  MT       200  201  202  203  204  205  206  207  208
              209  210  211  212  213  214  215  216  217
              218  219  220  221  222  223  224  225  226
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		227	228	229	230	231	232	233	234	235
		236	237	238	239	240	241	242	243	244
		245	246	247	248	249	250	251	252	253
		254	255							
338	DABORT	330	735							
362	DABRQT	352	354	356	358	360				
352	DABT1	350								
347	DABT2	344								
716	DABT4	361								
395	DAT05	398								
399	DAT07	395								
415	DAT15	418								
419	DAT20	415								
431	DAT22	422	429							
441	DAT25	434	435							
714	DAT40	345	377	405						
452	DATNAM	373	375							
451	DATSAV	378	385	400	401	411	413	419	432	437
		439	442							
371	DATTCH	348								
660	DBYTA	658								
666	DBYTB	663	665							
676	DBYTC	662								
678	DBYTD	676								
680	DBYTF	647	675							
671	DBYTG	669								
684	DBYTX	642	643	661	668	672	674			
450	DCHARE	427								
0	DCOUNT	334	516	551	592	618				
692	DCTNUM	409	728							
506	DGNI	380	408	421	547					
513	DGNIA	518								
533	DGNID	515	521	524	550	553	556	565		
516	DGNIE	532								
548	DGNIF	531	559							
560	DGNIG	527								
546	DGNIX	507	537							
566	DGNIZ	510	511	529	536	539				
646	DLDBA	683								
682	DLDBT	516	551	592	645	648	654	700		
236	DNE	414	420							
700	DNUMA	726								
710	DNUME	387	393	707						
718	DNUMF	709								
706	DNUMG	703								
725	DNUMH	705								
727	DNUMX	693								
729	DNUMZ	696	699	700	704	720	721	723	724	
730	DS80	514	549	562	590	608	613	615		
732	DSBLK	517	543	593	702					
618	DSCADR	563	586	597						
0	DSCLR	331	363	448						
581	DSCN	513	548	604						
592	DSCNA	609								
606	DSCNB	594								
602	DSCNC	591	610							
612	DSCND	598								
603	DSCNX	582	616							
617	DSCNZ	585	588	612						
734	DSCOM	520	552							
733	DSEQ	523	555							
0	DSER00	333	717							
0	DSERR	332								
731	DSPER	526	558	596						
640	DSTBT	529	644							
475	DTKNAM	353	372							
485	DTKNM2	481	493							
486	DTKNM3	478								
494	DTKNM4	489	500							
496	DTKNM6	476	482							
499	DTKNM8	479								
449	DZER	384	390							
235	RHW	383								
242	SEVEN	342								
19	TBEVNT	447								
17	TBST	443	445							
238	THREE	488	712							
237	TWO	379	494	710						
125	V$CTL	374								
141	V$IM	436	440							
0	V$DABO	10								
183	V$DCB	381	423	480	508	560	583	697		
163	V$PIMN	433								
0	V$TBSR	365	376							
336	X	376	382	388	410	412	424	485	486	499

```
                                1 *  THI$ IS A COPYRIGHTED PROGRAM. COPYRIGHT 1972 BY VARIAN DATA MACHINE 01 00001
                                2 *                                                                       01 00002
                                3 *    V.D.M.  PART  NO.      92L0705-014B                                01 00003
                                4 *                                                                       01 00004
                                5 *                                          RELEASED   07/13/73          01 00005
                                6 *                                                                       01 00006
                                7 *              V$OTIME                                                  01 00007
                                8 *                                                                       01 00008
                                9 *                                                                       01 00009
                               10         TITLE   V$OTIME                                                 01 00010
                               11 ***************************************************************************** 01 00011
                               12 ****     TIDB SETUP                                                  *** 01 00012
                               13 *                                                                       01 00013
                               14 ***************************************************************************** 01 00014
000000 A                       16 TBTRD   EQU     0            TASK THREAD                                01 00016
000001 A                       17 TBST    EQU     1            TASK STATUS                                01 00017
000002 A                       18 TBPL    EQU     2            STATUS CONT. (BITS15-6),PRIORITY LEVEL(5-0 01 00018
000003 A                       19 TBEVNT  EQU     3            INTERRUPT EVENT                            01 00019
000004 A                       20 TBRSA   EQU     4            A          REENTRANT AND SUSPEND STACK     01 00020
000005 A                       21 TBRSB   EQU     5            B          REENTRANT AND SUSPEND STACK     01 00021
000006 A                       22 TBRSX   EQU     6            X          REENTRANT AND SUSPEND STACK     01 00022
000007 A                       23 TBRSP   EQU     7            OF/P       REENTRANT AND SUSPEND STACK     01 00023
000010 A                       24 TBRSTS  EQU     8            TEMP. STG. REENTRANT AND SUSPEND STACK     01 00024
000011 A                       25 TBENTY  EQU     9            TASK ENTRY LOCATION                        01 00025
000012 A                       26 TBTMS   EQU     10           TIME COUNTER - CLOCK RESOLUTION IN 5MS INC 01 00026
000013 A                       27 TBTMIN  EQU     11           TIME COUNTER - CLOCK MINUTE INCREMENTS     01 00027
000014 A                       28 TBISA   EQU     12           A            INTERRUPT STACK               01 00028
000015 A                       29 TBISB   EQU     13           B            INTERRUPT STACK               01 00029
000016 A                       30 TBISX   EQU     14           X            INTERRUPT STACK               01 00030
000017 A                       31 TBISP   EQU     15           OF/P         INTERRUPT STACK               01 00031
000020 A                       32 TBISRS  EQU     16           REENT. STACK INTERRUPT STACK               01 00032
000021 A                       33 TBIO    EQU     17           BLK ALLOC(15-10),I/O THR(9-5),I/O ACT(4-0) 01 00033
000022 A                       34 TBKN1   EQU     18           TASK NAME                                  01 00034
000023 A                       35 TBKN2   EQU     19           TASK NAME                                  01 00035
000024 A                       36 TBKN3   EQU     20           TASK NAME                                  01 00036
000025 A                       37 TBTLC   EQU     21           1ST LOC. OF TASK ALLOCATABLE               01 00037
000026 A                       38 TBCPTH  EQU     22           BACKGROUND TASK QUEUE                      01 00038
000027 A                       39 TBATSK  EQU     23           TIDB LOC. OF ACTIVATING TASK               01 00039
000030 A                       40 TBRSE   EQU     24           TASK ERROR CODE                            01 00040
                               41         EJEC                                                           01 00041
                               42 ***************************************************************************** 01 00042
                               43 *                                                                       01 00043
                               44 ****     TASK STATU$ DESCRIPTION  (BIT SET WORD 1)                   *** 01 00044
                               45 *                                                                       01 00045
                               46 ***************************************************************************** 01 00046
000017 A                       48 TBS15   EQU     15           INTERRUPT SUSPEND                          01 00048
000016 A                       50 TBS14   EQU     14           TASK SUSPEND                               01 00050
000015 A                       51 TBS13   EQU     13           TASK ABORT                                 01 00051
000014 A                       52 TBS12   EQU     12           TASK EXIT                                  01 00052
000013 A                       54 TBS11   EQU     11           TIDB CORE RESIDENT                         01 00054
000012 A                       55 TBS10   EQU     10           CORE RESIDENT TASK                         01 00055
000011 A                       56 TBS9    EQU     9            FOREGROUND TASK                            01 00056
000010 A                       58 TBS8    EQU     8            TASK PROTECTED                             01 00058
000007 A                       59 TBS7    EQU     7            TASK SCHEDULED BY TIME DELAY               01 00059
000006 A                       60 TBS6    EQU     6            TIME DELAY ACTIVE                          01 00060
000005 A                       62 TBS5    EQU     5            TASK WAITING TO BE LOADED                  01 00062
000004 A                       63 TBS4    EQU     4            TASK ERROR                                 01 00063
000003 A                       64 TBS3    EQU     3            TASK INTERRUPT EXPECTED                    01 00064
000002 A                       66 TBS2    EQU     2            OVERLAY TASK                               01 00066
000001 A                       67 TBS1    EQU     1            UPON TERMINATION ACTIVATE TASK SCHED TASK  01 00067
000000 A                       68 TBS0    EQU     0            TASK SEARCH-ALLOCATED-LOADED               01 00068
                               69         EJEC                                                           01 00069
                               70 ***************************************************************************** 01 00070
                               71 *                                                                       01 00071
                               72 ***      TASK STATUS DESCRIPTION  (BIT SET WORD 2)                   *** 01 00072
                               73 *                                                                       01 00073
                               74 ***************************************************************************** 01 00074
                               76 *         BIT 15   -  TASK OPENED                                       01 00076
                               78 *         BIT 14   -  UNUSED                                            01 00078
                               79 *         BIT 13   -  OVERLAY LOAD                                      01 00079
                               80 *         BIT 12   -  TASK WAITING FOR BACKGROUND TASK I/O TO COMPLETE  01 00080
                               81 *                     TASK LOCKED-OUT UNTIL BG I/O COMPLETE OR BIT 11   01 00081
                               82 *                     IS SET  (ALLOCATABLE SPACE AVAILABLE)             01 00082
                               84 *         BIT 11   -  DEFINES THAT ALLOCATABLE SPACE IS AVAILABLE. TRY  01 00084
                               85 *                     ALLOCATING TASK AGAIN.  OVERRIDES BIT 12 SET OR   01 00085
                               86 *                     BIT 5 IN STATUS WORD.                             01 00086
                               87 *         BIT 10   -  BACKGROUND TASK BEING WRITTEN ON CHECKPOINT FILE. 01 00087
                               88 *         BIT  9   -  TASK WAITING FOR A TIDP TO COME AVAILABLE FOR     01 00088
                               89 *                     SCHEDULING.                                       01 00089
                               91 *         BIT  8 TO 6  - UNUSED                                         01 00091
                               92         EJEC                                                           01 00092
                               93 ***************************************************************************** 01 00093
                               94 *                                                                       01 00094
                               95 ***      JOB PROCESSOR LOW CORE EQUATES                                ** 01 00095
                               96 *                                                                       01 00096
                               97 ***************************************************************************** 01 00097
000050 A                       99 LCJP    EQU     050                                                    01 00099
000050 A                      100 V$JNAM  EQU     LCJP         JCP NAME                                  01 00100
000054 A                      101 V$LCNT  EQU     LCJP+4       LINE COUNT                                01 00101
000055 A                      102 V$JCFG  EQU     LCJP+5       JCP FLAGS                                 01 00102
                              103 *                            BIT 2-0    = LOAD AND GO FLAGS            01 00103
                              104 *                            BIT  3     = DUMP FLAG  1=DUMP, 0=NO DUMP 01 00104
                              105 *                            BIT  4     = DUMP FLAG IF LOAD AND GO     01 00105
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                    106 *                                BIT 9-5    = UNUSED                                          01 00106
                    107 *                                BIT 15-10  = BG EXTRA CORE BLOCKS TO ALLOC                   01 00107
000056 A            109 V$BIC1  EQU      LCJP+6          BIC INTERRUPT ADDRESS TABLE  (10 WORDS)                      01 00109
000070 A            110 V$DATE  EQU      LCJP+16         JCP DATE RECORD                                              01 00110
000074 A            111 V$PLCT  EQU      LCJP+20         PERMINATE LINE COUNT                                         01 00111
000075 A            112 V$BGLB  EQU      LCJP+21         JCP LIB KEY AND LU NO. (BACKGROUND LIB)                      01 00112
000076 A            113 V$CRDM  EQU      LCJP+22         CARD KEYPUNCH TYPE, 0=026, 1=029                             01 00113
                    114 *                                BIT 0 = SYSTEM NOMINAL KEYPUNCH MODE.                        01 00114
                    115 *                                BIT 9 = CURRENT JOB KEYPUNCH MODE.                           01 00115
000077 A            116 V$JCTM  EQU      LCJP+23         TEMP. STORAGE FOR /MEM BLOCK                                 01 00116
                    117         EJEC                                                                                  01 00117
                    118 ********************************************************************************************* 01 00118
                    119 *                                                                                             01 00119
                    120 ****     LOW CORE DESCRIPTION                                                          ***    01 00120
                    121 *                                                                                             01 00121
                    122 ********************************************************************************************* 01 00122
000300 A            124 LC      EQU      0300                                                                         01 00124
000300 A            125 V$CTL   EQU      LC              CURRENT TASK TIDB LOCATION                                   01 00125
000301 A            126 V$CPL   EQU      LC+1            CURRENT PRIORITY LEVEL                                       01 00126
000302 A            127 V$CRS   EQU      LC+2            CURRENT REENTRANT STACK POINTER                              01 00127
000303 A            128 V$TB    EQU      LC+3            POINTER TO HIGHEST PRIORITY TIDB                             01 00128
000304 A            129 V$UTB   EQU      LC+4            POINTER TO UNUSED TASK TIDB                                  01 00129
000305 A            130 V$PTVB  EQU      LC+5            POINTER TO NEXT ENTRY IN REENTRANT STACK                     01 00130
000306 A            131 V$FLRS  EQU      LC+6            FIRST LOC. OF REENTRANT STACK                                01 00131
000307 A            132 V$LRSK  EQU      LC+7            LAST LOC. OF REENTRANT STACK+1                               01 00132
000310 A            133 V$CKPT  EQU      LC+8            CHECKPOINT FLAG 1=ON, 0=OFF                                  01 00133
000311 A            134 V$OPCL  EQU      LC+9            LOC. OF TIDB FOR OPCOM TASK                                  01 00134
000312 A            135 V$LSAL  EQU      LC+10           LOC. OF TIDB FOR SYSTEM SAL TASK                             01 00135
000313 A            136 V$LER   EQU      LC+11           LOC. OF TIDB FOR SYSTEM ERROR TASK                           01 00136
000314 A            137 V$TJCP  EQU      LC+12           LOC. OF TIDB FOR JOB CONTROL PROCESSOR TAS                   01 00137
000315 A            138 V$BTB   EQU      LC+13           LOC. OF CURRENT ACTIVE BACKGROUND TSK TIDB                   01 00138
000316 A            139 V$LUP   EQU      LC+14           LOC. OF 1ST UNPROTECTED WORD                                 01 00139
000317 A            140 V$LLUP  EQU      LC+15           LOC. OF LAST UNPROTECTED WORD                                01 00140
000320 A            141 V$IM    EQU      LC+16           INTERRUPT MASK  (8 WORDS)                                    01 00141
000330 A            142 V$MPM   EQU      LC+24           MEMORY PROTECT MASK  (4 WORDS)                               01 00142
000334 A            143 V$CAM   EQU      LC+28           CORE ALLOCATION MASK  (4 WORDS)                              01 00143
                    144 *       EQU      LC+32           UNUSED                                                       01 00144
000341 A            145 V$CRDR  EQU      LC+33           CORE RESIDENT DIRECTORY LOCATION                             01 00145
000342 A            146 V$TBGT  EQU      LC+34           TOP OF THREAD OF BG TSK WAITING TO BE ALLO                   01 00146
000343 A            147 V$TMS   EQU      LC+35           TIME OF DAY IN 5 MILLISECOND INCREMENTS                      01 00147
000344 A            148 V$TMN   EQU      LC+36           TIME OF DAY IN MINUTE INCREMENTS                             01 00148
000345 A            149 V$LUNT  EQU      LC+37           ADDR. OF LOGICAL UNIT NAME TABLE                             01 00149
000346 A            150 V$OPCF  EQU      LC+38           OPCOM LOCKOUT FLAG                                           01 00150
000347 A            151 V$FGLB  EQU      LC+39           KEY AND LU NO. FOR FOREGROUND LIB                            01 00151
000350 A            152 V$FREE  EQU      LC+40           FREE RUNNING COUNTER INCR. IN MICROSECONDS                   01 00152
000351 A            153 V$CTMS  EQU      LC+41           CLOCK RESOLUTION IN 5 MILLISECOND INCR.                      01 00153
000352 A            154 V$SCV   EQU      LC+42           CLOCK SELECTED COUNT VALUE (1 TO 4095)                       01 00154
000353 A            155 V$CKB   EQU      LC+43           BASIC CLOCK INTERRUPT RATE IN MICROSECONDS                   01 00155
000354 A            156 V$CRM   EQU      LC+44           CLOCK RESOLUTION INCR. FOR 1 MINUTE.                         01 00156
000355 A            157 V$DSTB  EQU      LC+45           BASE ADDR. FOR DST BLOCK                                     01 00157
000356 A            158 V$LIT   EQU      LC+46           LAST LOCATION OF BACKGROUND LITERAL TABLE                    01 00158
                    159 *       EQU      LC+47           UNUSED                                                       01 00159
000360 A            160 V$CTAD  EQU      LC+48           BASE ADDR. FOR CONTROLLER ADDR. TABLE                        01 00160
000361 A            161 V$SCTL  EQU      LC+49           CURRENT CONTROLLER IN SCAN                                   01 00161
000362 A            162 V$NCTR  EQU      LC+50           NO. OF CONTROLLERS                                           01 00162
000363 A            163 V$PIMN  EQU      LC+51           EXTERNAL DEVICE ADDRESS TABLE FOR PIMS                       01 00163
                    164 *                                 (8 WORDS DEFINED IN PIM NO ORDER)                          01 00164
                    165 *       EQU      LC+59           UNUSED                                                       01 00165
                    166 *       EQU      LC+60           UNUSED                                                       01 00166
000373 A            167 V$SLFG  EQU      LC+61           SAL TASK BUSY FLAG      1=BUSY, 0=NOT BUSY                   01 00167
000376 A            168 V$ERFG  EQU      LC+62           ERROR TASK BUSY FLAG    1=BUSY, 0=NOT BUSY                   01 00168
000377 A            169 V$JOP   EQU      LC+63           JCP OPERATING FLAG                                           01 00169
000400 A            170 V$LUT1  EQU      LC+64           START LUN ADDR FOR JCP/OPCOM ASSIGNABLE                      01 00170
000401 A            171 V$LUT2  EQU      LC+65           START LUN ADDR FOR UNASSIGNABLE                              01 00171
000402 A            172 V$LUT3  EQU      LC+66           START LUN ADDR FOR OPCOM ASSIGNABLE                          01 00172
000403 A            173 V$1MIN  EQU      LC+67           32767 - (60000/(5*V$CTMS)) + 1                               01 00173
                    174 *       EQU      LC+68           UNUSED                                                       01 00174
                    175 *       EQU      LC+69           UNUSED                                                       01 00175
                    176 *       EQU      LC+70           UNUSED                                                       01 00176
                    177 *       EQU      LC+71           UNUSED                                                       01 00177
000410 A            178 V$IOA   EQU      LC+72           I/O ALGORITHM                                                01 00178
000411 A            179 V$CKIT  EQU      LC+73           CLOCK INT. IN PIM BEFORE LOCKOUT FLAG.                       01 00179
000412 A            180 V$JCB   EQU      LC+74           ALL SYSTEM BACKGROUND PROGRAMS AND JCP USE                   01 00180
                    181 *                                THIS SYSTEM BUFFER TO READ DIRECTIVES AND                  01 00181
                    182 *                                SOURCE RECORDS IN.                                         01 00182
000413 A            183 V$OCB   EQU      LC+75           OPCOM WILL READ OPERATOR KEY-IN REQUESTS                     01 00183
                    184 *                                IN THIS BUFFER.  IF JCP IS SET NOT ACTIVE                  01 00184
                    185 *                                AND A 1 DIRECTIVE IS INPUTED, OPCOM                        01 00185
                    186 *                                WILL MOVE THE DIRECTIVE TO V$JCB BEFORE                    01 00186
                    187 *                                SCHEDULING JCP.                                            01 00187
000414 A            188 V$BVN   EQU      LC+76           BOTTOM OF VORTEX NUCLEUS                                     01 00188
000415 A            189 V$BFC   EQU      LC+77           TOP OF FG RES. AREA/BOTTOM OF FG BLK COMM.                   01 00189
000416 A            190 V$TFC   EQU      LC+78           TOP OF FG BLK COMMON/TOP OF VORTEX CORE.                     01 00190
                    191 *       EQU      LC+79           UNUSED                                                       01 00191
                    192         EJEC                                                                                  01 00192
                    193 ********************************************************************************************* 01 00193
                    194 *                                                                                             01 00194
                    195 ****     MASK TABLE DESCRIPTION                                                        ***    01 00195
                    196 *                                                                                             01 00196
                    197 ********************************************************************************************* 01 00197
000420 A            199 MT      SET      0420                                                                         01 00199
000420 A            200 ZERO    EQU      MT              ZERO WORD                                                    01 00200
000421 A            201 BS0     EQU      MT+1            BIT MASK CONTENTS 000001                                     01 00201
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000422 A  202 BS1     EQU     MT+2                    000002                  01 00202
000423 A  203 BS2     EQU     MT+3                    000004                  01 00203
000424 A  204 BS3     EQU     MT+4                    000010                  01 00204
000425 A  205 BS4     EQU     MT+5                    000020                  01 00205
000426 A  206 BS5     EQU     MT+6                    000040                  01 00206
000427 A  207 BS6     EQU     MT+7                    000100                  01 00207
000430 A  208 BS7     EQU     MT+8                    000200                  01 00208
000431 A  209 BS8     EQU     MT+9                    000400                  01 00209
000432 A  210 BS9     EQU     MT+10                   001000                  01 00210
000433 A  211 BS10    EQU     MT+11                   002000                  01 00211
000434 A  212 BS11    EQU     MT+12                   004000                  01 00212
000435 A  213 BS12    EQU     MT+13                   010000                  01 00213
000436 A  214 BS13    EQU     MT+14                   020000                  01 00214
000437 A  215 BS14    EQU     MT+15                   040000                  01 00215
000440 A  216 BS15    EQU     MT+16                  0100000                  01 00216
000441 A  217 BR0     EQU     MT+17   BIT MASK CONTENTS 0177776               01 00217
000442 A  218 BR1     EQU     MT+18                   0177775                 01 00218
000443 A  219 BR2     EQU     MT+19                   0177773                 01 00219
000444 A  220 BR3     EQU     MT+20                   0177767                 01 00220
000445 A  221 BR4     EQU     MT+21                   0177757                 01 00221
000446 A  222 BR5     EQU     MT+22                   0177737                 01 00222
000447 A  223 BR6     EQU     MT+23                   0177677                 01 00223
000450 A  224 BR7     EQU     MT+24                   0177577                 01 00224
000451 A  225 BR8     EQU     MT+25                   0177377                 01 00225
000452 A  226 BR9     EQU     MT+26                   0176777                 01 00226
000453 A  227 BR10    EQU     MT+27                   0175777                 01 00227
000454 A  228 BR11    EQU     MT+28                   0173777                 01 00228
000455 A  229 BR12    EQU     MT+29                   0167777                 01 00229
000456 A  230 BR13    EQU     MT+30                   0157777                 01 00230
000457 A  231 BR14    EQU     MT+31                   0137777                 01 00231
000460 A  232 BR15    EQU     MT+32                   0077777                 01 00232
000461 A  233 NEG     EQU     MT+33   SET ALL BITS                            01 00233
000462 A  234 LHW     EQU     MT+34   LEFT HALF WORD MASK 0177400             01 00234
000463 A  235 RHW     EQU     MT+35   RIGHT HALF WORD MASK   0377             01 00235
000421 A  236 ONE     EQU     MT+1    CONTAINS NUMBER  1                      01 00236
000422 A  237 TWO     EQU     MT+2    CONTAINS NUMBER  2                      01 00237
000464 A  238 THREE   EQU     MT+36   CONTAINS NUMBER  3                      01 00238
000423 A  239 FOUR    EQU     MT+3    CONTAINS NUMBER  4                      01 00239
000465 A  240 FIVE    EQU     MT+37   CONTAINS NUMBER  5                      01 00240
000466 A  241 SIX     EQU     MT+38   CONTAINS NUMBER  6                      01 00241
000467 A  242 SEVEN   EQU     MT+39   CONTAINS NUMBER  7                      01 00242
000424 A  243 EIGHT   EQU     MT+4    CONTAINS NUMBER  8                      01 00243
000470 A  244 NINE    EQU     MT+40   CONTAINS NUMBER  9                      01 00244
000471 A  245 TEN     EQU     MT+41   CONTAINS NUMBER 10                      01 00245
000421 A  246 BM1     EQU     MT+1    BIT MASK WORD  00001                    01 00246
000464 A  247 BM3     EQU     MT+36   BIT MASK WORD  00003                    01 00247
000467 A  248 BM7     EQU     MT+39   BIT MASK WORD  00007                    01 00248
000472 A  249 BM17    EQU     MT+42   BIT MASK WORD  00017                    01 00249
000473 A  250 BM37    EQU     MT+43   BIT MASK WORD  00037                    01 00250
000474 A  251 BM77    EQU     MT+44   BIT MASK WORD  00077                    01 00251
000475 A  252 BM177   EQU     MT+45   BIT MASK WORD  00177                    01 00252
000463 A  253 BM377   EQU     MT+35   BIT MASK WORD  00377                    01 00253
000476 A  254 BM777   EQU     MT+46   BIT MASK WORD  00777                    01 00254
000477 A  255 BM1777  EQU     MT+47   BIT MASK WORD  01777                    01 00255
          256         EJEC                                                  01 00256
          257 ********************************************************************** 01 00257
          258 *                                                                01 00258
          259 ****    BIT TEST BIT DESIGNATION                              ***  01 00259
          260 *                                                                01 00260
          261 ********************************************************************** 01 00261
000040 A  263 RA0     EQU     040             BT JUMPS WHEN A REGISTER IS 0    01 00263
000000 A  264 RA1     EQU     000             BT JUMPS WHEN A REGISTER IS 1    01 00264
000060 A  265 RB0     EQU     060             BT JUMPS WHEN B REGISTER IS 0    01 00265
000020 A  266 RB1     EQU     020             BT JUMPS WHEN B REGISTER IS 1    01 00266
          268 ********************************************************************** 01 00268
          269 *                                                                01 00269
          270 **      THE BIT CHECKED                                         01 00270
          271 *                                                                01 00271
          272 ********************************************************************** 01 00272
000000 A  274 B0      EQU     0                                               01 00274
000001 A  275 B1      EQU     1                                               01 00275
000002 A  276 B2      EQU     2                                               01 00276
000003 A  277 B3      EQU     3                                               01 00277
000004 A  278 B4      EQU     4                                               01 00278
000005 A  279 B5      EQU     5                                               01 00279
000006 A  280 B6      EQU     6                                               01 00280
000007 A  281 B7      EQU     7                                               01 00281
000010 A  282 B8      EQU     8                                               01 00282
000011 A  283 B9      EQU     9                                               01 00283
000012 A  284 B10     EQU     10                                              01 00284
000013 A  285 B11     EQU     11                                              01 00285
000014 A  286 B12     EQU     12                                              01 00286
000015 A  287 B13     EQU     13                                              01 00287
000016 A  288 B14     EQU     14                                              01 00288
000017 A  289 B15     EQU     15                                              01 00289
          290         EJEC                                                  01 00290
          291 ********************************************************************** 01 00291
          292 *                                                                01 00292
          293 ****    DEVICE AND FUNCTION CODES                             ***  01 00293
          294 *                                                                01 00294
          295 ********************************************************************** 01 00295
          297 ****    REAL TIME CLOCK                                       ***  01 00297
000047 A  298 CLOCK   EQU     047             DEVICE NUMBER 047                01 00298
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                    299 *
000747 A            300 DISCLK EQU     0700+CLOCK     DISABLE CLOCK                                    01 00299
000147 A            301 ENACLK EQU     0100+CLOCK     ENABLE CLOCK                                     01 00300
                    303 *                                                                              01 00301
                    304 ****    PIM                                                                    01 00303
000044 A            305 APIM    EQU    044            ALL PIMS DEVICE NUMBER                       ***  01 00304
000040 A            306 PIM1    EQU    040                                                             01 00305
000041 A            307 PIM2    EQU    041                                                             01 00306
000042 A            308 PIM3    EQU    042                                                             01 00307
000043 A            309 PIM4    EQU    043                                                             01 00308
000040 A            310 PIM5    EQU    040                                                             01 00309
000040 A            311 PIM6    EQU    040                                                             01 00310
000040 A            312 PIM7    EQU    040                                                             01 00311
000040 A            313 PIM8    EQU    040                                                             01 00312
                    314 *                                                                              01 00313
000444 A            315 DISPIM EQU     0400+APIM                                                       01 00314
000244 A            316 ENAPIM EQU     0200+APIM                                                       01 00315
                    318 ****    MEMORY PROTECT                                                         01 00316
000045 A            319 MP      EQU    045            DEVICE ADDRESS 045                           ***  01 00318
000745 A            320 DISMP   EQU    0700+MP        DISABLE MEMORY PROTECT                          01 00319
000645 A            321 ENAMP   EQU    0600+MP        ENABLE MEMORY PROTECT                           01 00320
000045 A            322 MPMR0   EQU    0000+MP        SELECT MASK REGISTER 0                          01 00321
000145 A            323 MPMR1   EQU    0100+MP        SELECT MASK REGISTER 1                          01 00322
000245 A            324 MPMR2   EQU    0200+MP        SELECT MASK REGISTER 2                          01 00323
000345 A            325 MPMR3   EQU    0300+MP        SELECT MASK REGISTER 3                          01 00324
                    326         EJEC                                                                   01 00325
                    327 *                                                                              01 00326
                    328 *                                                                              01 00327
                    329 *       TIME                                                                   01 00328
                    330 *                                                                              01 00329
                    331 *       ;TIME,TIME OF DAY  TO ENTER TIME                                       01 00330
                    332 *                                                                              01 00331
                    333 *   OR  ;TIME              TO DISPLAY TIME                                     01 00332
                    334 *                                                                              01 00333
                    335 *                                                                              01 00334
                    336 *                                                                              01 00335
000001 A            337 X       EQU    1                                                               01 00336
000002 A            338 B       EQU    2                                                               01 00337
                    339         EXT    OCOUNT                                                          01 00338
                    340         EXT    OSERR                                                           01 00339
                    341         EXT    OSCLR                                                           01 00340
000060 A            342 BTB0    EQU    060            B REG,BIT=0                                      01 00341
000020 A            343 BTB1    EQU    020            B REG,BIT=1                                      01 00342
                    344         NAME   OTIME                                                           01 00343
000000 R            345 OTIME   EQU    *              PROCESS TIME REQUEST                             01 00344
000000 006460 A     346         BT     BTB0,ODEVDN                                                     01 00345
000001 000257 R
000002 006424 A     347         BT     BTB1*4,ODEVUP                                                   01 00346
000003 000174 R
000004 006470 A     348         BT     BTB0+8,ODATE                                                    01 00347
000005 000101 R
000006 001010 A     349         JAZ    OTDSPY         ENTER WITH A= NO. OF CHARACTERS.                 01 00348
000007 000042 R
000010 140465 A     350         SUB    FIVE            A=0 MEANS TO DISPLAY TIME                       01 00349
000011 001002 A     351         JAP    ONUME          ERROR                                            01 00350
000012 000606 R
000013 010422 A     352         LDA    TWO                                                             01 00351
000014 002000 A     353         CALL   ONUM           CONVERT HOURS TO BINARY                          01 00352
000015 000555 R
000016 005014 A     354         TAX                   RETURN A= BINARY                                 01 00353
000017 006140 A     355         SUBI   24                                                              01 00354
000020 000030 A
000021 001002 A     356         JAP    ONUME          GTR THAN 24                                      01 00355
000022 000606 R
000023 020413 A     357         LDB    V$OCB                                                           01 00356
000024 016001 A     358         LDA    1,B                                                             01 00357
000025 056000 A     359         STA    0,B            STORE MINUTES IN TOP OF BUFFER                   01 00358
000026 010422 A     360         LDA    TWO            NOW GET MINUTES                                  01 00359
000027 002000 A     361         CALL   ONUM             A=MIN.                                         01 00360
000030 000555 R
000031 144012 A     362         SUB    OTDS1+1                                                         01 00361
000032 001002 A     363         JAP    ONUME          GTR THAN 59                                      01 00362
000033 000606 R
000034 124007 A     364         ADD    OTDS1+1                                                         01 00363
000035 005042 A     365         TXB                   B=HOURS                                          01 00364
000036 164005 A     366         MUL    OTDS1+1        =60                                              01 00365
000037 060344 A     367         STB    V$TMN          B= TIME IN MINUTES                               01 00366
000040 001000 A     368 OTMEND  JMP    OSCLR          CLEAR BUFFER AND EXIT                            01 00367
000041 000000 E
       000042 R     369 OTDSPY  EQU    *              ENTER FOR DISPLAY TIME REQUEST                   01 00368
000042 020344 A     370         LDB    V$TMN          GET CURRENT TIME.                                01 00369
000043 006170 A     371 OTDS1   DIVI   60             B= HOURS , A= MINUTES.                           01 00370
000044 000074 A
000045 030413 A     372         LDX    V$OCB                                                           01 00371
000046 065000 A     373         STB    0,X            SAVE                                             01 00372
000047 002000 A     374         CALL   OBTA           CONVERT BINARY TO ASCII                          01 00373
000050 000413 R
000051 005021 A     375         TBA                                                                    01 00374
000052 114006 A     376         ORA    OTDS2+1        SET BLANK IF ONLY 1 DIGIT                        01 00375
000053 054022 A     377         STA    OTDISP+2       SET MINUTES IN TIME MSG                          01 00376
000054 015000 A     378         LDA    0,X            GET HOURS                                        01 00377
000055 002000 A     379         CALL   OBTA           CONVERT TO ASCII                                 01 00378
000056 000413 R
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000057 005021 A   380                IBA
000060 006110 A   381 DTDS2  DRAI     0130260          SET ASCII 00 IF HOUR  0                    01 00380
000061 130260 A                                                                                   01 00381
000062 054012 A   382                STA      DTDISP+1                                            01 00382
000063 006010 A   383                LDAI     DTDCB    DCB ADDR.                                  01 00383
000064 000070 R
000065 005002 A   384                TZB                                                         01 00384
000066 001000 A   385                JMP      DPMSG    OUTPUT MSG AND EXIT                        01 00385
000067 000377 R
                  386 DTDCB  DCB      6,DTDISP-1,0     DCB 5 WORDS+PRINT CONTROL WORD             01 00386
000070 000006 A
000071 000073 R
000072 000000 A
000073 120240 A   387                DATA     '  '     PRINT CONTROL=BLANK,PRINT ONLY             01 00387
       000074 R   388 DTDISP EQU      *        TIME DISPLAY MSG                                    01 00388
000074 152240 A   389                DATA     'T '                                                01 00389
000075 144310 A   390                DATA     'HH'        T HHMM HRS                              01 00390
000076 146715 A   391                DATA     'MM'                                                01 00391
000077 120310 A   392                DATA     ' H'                                                01 00392
000100 151323 A   393                DATA     'RS'                                                01 00393
                  394                EJEC                                                        01 00394
                  395 *                                                                          01 00395
                  396 *                                                                          01 00396
                  397 *        DATE                                                              01 00397
                  398 *                                                                          01 00398
                  399 *        ;DATE,MM/DD/YY                                                    01 00399
                  400 *                                                                          01 00400
                  401 *                                                                          01 00401
       000101 R   402 DDATE  EQU      *        PROCESS DATE REQUEST.                              01 00402
000101 140470 A   403                SUB      NINE     ENTER WITH A= NUMBER OF DIGITS             01 00403
000102 001002 A   404                JAP      DNUME    ERROR,TOO MANY                             01 00404
000103 000606 R
000104 030413 A   405                LDX      V$DCB                                               01 00405
000105 015000 A   406                LDA      0,X                                                 01 00406
000106 054052 A   407                STA      DDAT1+1                                             01 00407
000107 010422 A   408                LDA      TWO                                                 01 00408
000110 002000 A   409                CALL     DNUM                                                01 00409
000111 000555 R
000112 144021 A   410                SUB      DDAT4+1  RETURN A=BINARY                            E.2********
000113 005002 A   411                TZB      INIT FLAG FOR AMERICAN DATE-MM/DD/YY                01 00411
000114 064056 A   412                STB      EDATE                                               01 00412
000115 001004 A   413                JAN      DDAT2    JUMP IF MONTH FIRST                        01 00413
000116 000124 R
000117 144026 A   414                SUB      DDAT3+1  CHECK IF LESS THAN 31 DAYS                E.2********
000120 001002 A   415                JAP      DNUME    ERROR                                      01 00415
000121 000606 R
000122 020421 A   416                LDB      ONE                                                 E.2********
000123 064047 A   417                STB      FDATE    SET FLAG TO DENOTE DAYS FIRST-DD/MM/YY     01 00417
       000124 R   418 DDAT2  EQU      *                                                           01 00418
000124 015001 A   419                LDA      1,X                                                 01 00419
000125 025002 A   420                LDB      2,X                                                 01 00420
000126 004430 A   421                LLRL     8                                                   01 00421
000127 055000 A   422                STA      0,X                                                 01 00422
000130 010422 A   423                LDA      TWO                                                 01 00423
000131 002000 A   424                CALL     DNUM     CONVERT DAY TO BINARY                      01 00424
000132 000555 R
000133 006140 A   425 DDAT4  SUBI     13       CHECK TO SEE IF IN BOUNDS FOR MONTHS       E.2********
000134 000015 A
000135 001004 A   426                JAN      DDAT3    OK                                         01 00426
000136 000151 R
000137 005002 A   427                TZB                                                         01 00427
000140 004460 A   428                LLRL     16                                                  01 00428
000141 134031 A   429                ERA      EDATE    CHECK TO SEE IF DATE FLAG SET              01 00429
000142 001016 A   430                JANZ     DNUME    ERROR (EDATE=1)                            01 00430
000143 000606 R                               *
000144 004460 A   431                LLRL     16                                                  01 00431
000145 006140 A   432 DDAT5  SUBI     19                                                  E.2********
000146 000023 A
000147 001002 A   433                JAP      DNUME    ERROR-OUT OF RANGE FOR DAYS                01 00433
000150 000606 R
       000151 R   434 DDAT3  EQU      *                                                           01 00434
000151 015003 A   435                LDA      3,X      GET YEAR                                   01 00435
000152 055000 A   436                STA      0,X                                                 01 00436
000153 010422 A   437                LDA      TWO                                                 01 00437
000154 002000 A   438                CALL     DNUM     CONVERT YEAR                               01 00438
000155 000555 R
000156 006010 A   439 DDAT1  LDAI     *        SET DATE IN V$DATE                                 01 00439
000157 000156 R
000160 050070 A   440                STA      V$DATE   ASCII CHARACTERS                           01 00440
000161 015001 A   441                LDA      1,X                                                 01 00441
000162 050071 A   442                STA      V$DATE+1                                            01 00442
000163 015002 A   443                LDA      2,X                                                 01 00443
000164 050072 A   444                STA      V$DATE+2                                            01 00444
000165 015003 A   445                LDA      3,X                                                 01 00445
000166 050073 A   446                STA      V$DATE+3                                            01 00446
000167 001000 A   447                JMP      0,LR                                                01 00447
000170 000041 E
000171 000172 R   448 DDAT9  DATA     *+1                                                         01 00448
000172 000000 A   449                DATA     0                                                   01 00449
000173 000000 A   450 EDATE  DATA     0                                                           01 00450
                  451                EJEC                                                        01 00451
                  452 *                                                                          01 00452
                  453 *                                                                          01 00453
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                    454 *       DDEVUP                                                                  01 00454
                    455 *                                                                               01 00455
                    456 *       ;DEVUP,DEVICE NAME                                                      01 00456
                    457 *                                                                               01 00457
                    458 *                                                                               01 00458
      000000 A      459 DSDVDN  EQU     0                                                               01 00459
      000174 R      460 DDEVUP  EQU     *           PROCESS DEVICE UP REQUEST                           01 00460
000174 020440 A     461         LDB     BS15                                                            01 00461
000175 064060 A     462         STB     DDEV99      SET DEVUP INDICATOR                                 01 00462
000176 140422 A     463         SUB     TWO                                                             01 00463
000177 001016 A     464         JANZ    DDEV2                                                           01 00464
000200 000205 R
000201 030413 A     465         LDX     V$DCB                                                           01 00465
000202 006010 A     466         LDAI    0130260     ASSUME 00 FOR LAST 2 CHAR. OF DEVICE NAME           01 00466
000203 130260 A
000204 055001 A     467         STA     1,X                                                             01 00467
000205 006506 A     468 DDEV2   JSR     DNSRCH,B                                                        01 00468
000206 000500 R
000207 001010 A     469         JAZ     DDEV10      ERROR. NOT IN DST TABLE                             01 00469
000210 000250 R
000211 005012 A     470         TAB                                                                     01 00470
000212 014043 A     471         LDA     DDEV99                                                          01 00471
000213 001004 A     472         JAN     DDEV6       SKIP DC AND SYSTEM DEVICE CHECK                     01 00472
000214 000237 R
000215 005021 A     473         TBA                                                                     01 00473
000216 030400 A     474         LDX     V$LUT1                                                          01 00474
000217 135001 A     475         ERA     1,X                                                             01 00475
000220 150463 A     476         ANA     RHW         DC DEVICE. ERROR.                                   01 00476
000221 001010 A     477         JAZ     DDEV12                                                          01 00477
000222 000253 R
000223 030401 A     478         LDX     V$LUT2      START ADDR FOR UNASSIGNABLE BLOCK                   01 00478
000224 074003 A     479         STX     DDEV4+1                                                         01 00479
000225 035000 A     480         LDX     0,X         NO. OF ENTRIES IN BLOCK                             01 00480
000226 005021 A     481         TBA                 DST ENTRY NO.                                       01 00481
000227 006135 A     482 DDEV4   ERAE    V$LUT2,X    V$LUT2 CONTENT                                      01 00482
000230 000401 A
000231 150463 A     483         ANA     RHW                                                             01 00483
000232 001010 A     484         JAZ     DDEV12      ERROR                                               01 00484
000233 000253 R
000234 005344 A     485         DXR                                                                     01 00485
000235 001046 A     486         JXNZ    DDEV4-1     DO NEXT IF NOT DONE                                 E.2********
000236 000226 R
000237 010355 A     487 DDEV6   LDA     V$DSTB                                                          01 00489
000240 005322 A     488         DBR                                                                     01 00489
000241 160464 A     489         MUL     THREE       B= DST ENTRY ADDR.                                  01 00490
000242 016000 A     490         LDA     DSDVDN,B                                                        01 00491
000243 110440 A     491         ORA     BS15        SET UP                                              01 00492
000244 134011 A     492         ERA     DDEV99      0=DEVDN,100000=DEVUP                                01 00493
000245 056000 A     493         STA     DSDVDN,B                                                        01 00494
000246 001000 A     494         JMP     DSCLR                                                           01 00495
000247 000170 E
000250 010423 A     495 DDEV10  LDA     FOUR                                                            01 00496
000251 001000 A     496         JMP     DSERR       SET DC04                                            01 00497
000252 000000 E
000253 010466 A     497 DDEV12  LDA     SIX         OUTPUT  DC06 MSG.                                   01 00498
000254 001000 A     498         JMP     DSERR                                                           01 00499
000255 000252 E
000256 000000 A     499 DDEV99  DATA    0           DEVICE UP/DOWN INDICATOR.                           01 00500
                    500         EJEC                                                                    01 00501
                    501 *                                                                               01 00502
                    502 *                                                                               01 00503
                    503 *       DDEVDN                                                                  01 00504
                    504 *                                                                               01 00505
                    505 *       ;DEVDN,DEVICE NAME                                                      01 00506
                    506 *                                                                               01 00507
                    507 *                                                                               01 00508
      000257 R      508 DDEVDN  EQU     *           DEVICE DOWN PROCESSOR.                              01 00509
000257 005002 A     509         TZB                 SET DEVICE DOWN INDICATOR                           01 00510
000260 001000 A     510         JMP     DDEVUP+1    COMMON PROCESSING.                                  01 00511
000261 000175 R
                    511         EJEC                                                                    01 00512
                    512 *                                                                               01 00513
                    513 *       DDTB                                                                    01 00514
                    514 *                                                                               01 00515
                    515 *     POSITIVE DECIMAL 4-BIT BCD TO BINARY CONVERSION.                          01 00516
                    516 *                                                                               01 00517
                    517 *       ENTER WITH DECIMAL BCD INTEGER,0000-9999 IN A REG.                      01 00518
                    518 *                                                                               01 00519
                    519 *       EXIT  WITH BINARY IN A,  X REG, IS UNCHANGED.                           01 00520
                    520 *                                                                               01 00521
000262 000000 A     521 DDTB    ENTR                                                                    01 00522
000263 074021 A     522         STX     DDTBB+1                                                         01 00523
000264 030423 A     523         LDX     BS2             =4 ,LOOP COUNT                                  01 00524
000265 005012 A     524         TAB                                                                     01 00525
000266 005001 A     525         TZA                                                                     01 00526
000267 054020 A     526 DDTBA   STA     DDTBC                                                           01 00527
000270 005001 A     527         TZA                                                                     01 00528
000271 004444 A     528         LLRL    4               NOW BCD                                         01 00529
000272 124015 A     529         ADD     DDTBC                                                           01 00530
000273 054014 A     530         STA     DDTBC                                                           01 00531
000274 005344 A     531         DXR                                                                     01 00532
000275 001040 A     532         JXZ     DDTBB           ALL DIGITS DONE                                 01 00533
000276 000304 R
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000277 004242 A   533          LRLA    2                                                    01 00534
000300 124007 A   534          ADD     ODTBC                                                01 00535
000301 004241 A   535          LRLA    1                                                    01 00536
000302 001000 A   536          JMP     ODTBA                                                01 00537
000303 000267 R
000304 006030 A   537 ODTBB    LDXI    *               RESTORE X                            01 00538
000305 000304 R
000306 001000 A   538          JMP*    ODTB            RETURN                               01 00539
000307 100262 R
000310 000000 A   539 ODTBC    DATA    0                                                    01 00540
                  540          EJEC                                                         01 00541
                  541 *                                                                     01 00542
                  542 *                                                                     01 00543
                  543 *        OLDBT,OSTBT                                                  01 00544
                  544 *                                                                     01 00545
                  545 *    LOAD/STORE 1 CHARACTER IN BUFFER SUBROUTINE.                     01 00546
                  546 *                                                                     01 00547
                  547 ****   ENTER VIA  JMPM  OLDBT    (TO LOAD A CHAR.)                   01 00548
                  548 *                 DATA  LOCATION OF BUFFER ADDR * 2  FOR CHAR N/N+1  01 00549
                  549 *                                                    SWITCH           01 00550
                  550 *                 EXIT WITH A REG= ASCII CHARACTER = B REG.  X= UNCHANGED 01 00551
                  551 *                                 BUFFER ADDRESS INCREMENTED TO NEXT CHAR. 01 00552
                  552 *                                                                     01 00553
                  553 ****   ENTER VIA  JMPM  OSTBT    (TO STORE A CHAR.)                  01 00554
                  554 *                 DATA  LOCATION OF BUFFER ADDR *2,BIT 0=0 CHAR N     01 00555
                  555 *                                                  BIT 0=1 CHAR N+1   01 00556
                  556 *                 A REG = ASCII CHARACTER TO STORE                    01 00557
                  557 *                                                                     01 00558
                  558 *              EXIT WITH A,B DESTROYED. X REG UNCHANGED.              01 00559
                  559 *                                                                     01 00560
                  560 *                                                                     01 00561
000311 000000 A   561 OSTBT    ENTR                    ENTER HERE TO STORE A BYTE           01 00562
000312 150463 A   562 OSTBA    ANA     BM377           EXTRACT BYTE TO STORE                01 00563
000313 054062 A   563          STA     OBYTX+1                                              01 00564
000314 044060 A   564          INR     OBYTX           SET FLAG TO STORE CHAR.              01 00565
000315 006017 A   565          LDAE    OSTBT           SET RETURN ADDR.                     01 00566
000316 000311 R
000317 054052 A   566          STA     OLDBT                                                01 00567
               000320 R   567 OLDBA    EQU     *       NOW COMMON PROCESSING                01 00568
000320 074047 A   568          STX     OBYTF+1         SAVE X                               01 00569
000321 034050 A   569          LDX     OLDBT           CALL SEQ ADDR                        01 00570
000322 035000 A   570          LDX     0,1             GET LOC OF BUFFER ADDR.              01 00571
000323 025000 A   571          LDB     0,1             NOW BUFFER ADDR * 2  FOR CHAR N/N+1 FLAG 01 00572
000324 005121 A   572          INCR    021             TBA IAR                          E.2******** 
000325 055000 A   573          STA     0,1             INCREMENT BUFFER ADDR FOR NEXT CHAR. 01 00575
000326 044043 A   574          INR     OLDBT           NOW RETURN ADDR                      01 00576
000327 005001 A   575          TZA                                                          01 00577
000330 004477 A   576          LLRL    31                                                   01 00578
000331 007401 A   577          SOF                     SET FOR CHAR N+1                     01 00579
000332 001004 A   578          JAN     OBYTA           NEG IF CHAR N+1                      01 00580
000333 000335 R
000334 007400 A   579          ROF                     RESET FOR CHAR N                     01 00581
000335 016000 A   580 OBYTA    LDA     0,2             GET WORD                             01 00582
000336 034036 A   581          LDX     OBYTX           LOAD/STORE INDICATOR                 01 00583
000337 001040 A   582          JXZ     OBYTC           JMP IF LOAD BYTE                     01 00584
000340 000362 R
000341 001001 A   583          JOF     OBYTB           JMP IF LOW ORDER BYTE.  STORE BYTE   01 00585
000342 000346 R
000343 004250 A   584          LRLA    8                       HIGH ORDER BYTE.             01 00586
000344 001000 A   585          JMP     OBYTB+1                                              01 00587
000345 000347 R
000346 007401 A   586 OBYTB    SOF                     RESET LOW ORDER SWITCH           E.2******** 
000347 150460 A   587          ANA     LHW                                                  01 00590
000350 114025 A   588          ORA     OBYTX+1         SET BYTE IN WORD                     01 00591
000351 001001 A   589          JOF     OBYTG           JUMP IF LOW ORDER                    01 00592
000352 000354 R
000353 004250 A   590          LRLA    8               ROTATE BYTE BACK TO HIGH ORDER       01 00593
000354 056000 A   591 OBYTG    STA     0,2             STORE BYTE                           01 00594
000355 014020 A   592          LDA     OBYTX+1                                              01 00595
000356 005002 A   593          TZB                                                          01 00596
000357 064015 A   594          STB     OBYTX           RESET STORE BYTE FLAG.               01 00597
000360 001000 A   595          JMP     OBYTF                                                01 00598
000361 000367 R
000362 001001 A   596 OBYTC    JOF     OBYTD           JMP FOR CHAR. N+1                    01 00599
000363 000365 R
000364 004250 A   597          LRLA    8                                                    01 00600
000365 150463 A   598 OBYTD    ANA     BM377           EXTRACT BYTE                         01 00601
000366 005012 A   599          TAB                     EXIT WITH BYTE IN A,B                01 00602
000367 006030 A   600 OBYTF    LDXI    *                                                    01 00603
000370 000367 R
000371 001000 A   601          JMP     *               EXIT                                 01 00604
000372 000371 R
               000373 R   602 OLDBT    EQU     *-1     ENTER HERE TO LOAD A BYTE FROM BUFFER 01 00605
000373 001000 A   603          JMP     OLDBA                                                01 00606
000374 000320 R
000375 000000 A   604 OBYTX    DATA    0,0                                                  01 00607
000376 000000 A
                  605          EJEC                                                         01 00608
                  606 *                                                                     01 00609
                  607 *                                                                     01 00610
                  608 *        OPMSG                                                        01 00611
                  609 *                                                                     01 00612
                  610 *     OUTPUT MESSAGE  ROUTINE
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                    611 *                                                                   01 00613
                    612 *       DPMSG IS CALLED TO OUTPUT A MESSAGE TO THE OPCOM DEVICE.    01 00614
                    613 *        FOR ONE MESSAGE OUTPUT                                     01 00615
                    614 *              ENTER VIA JMP DPMSG  WITH THE A REG = DCB ADDRESS.   01 00616
                    615 *                                                    B=0.           01 00617
                    616 *       DPMSG WILL CALL EXIT UPON RETURN FROM V$IOC AND UPON CLEAR  01 00618
                    617 *         OPCOM BUFFER, V$OPBF.                                    01 00619
                    618 *                                                                   01 00620
                    619 *        FOR MULTIPLE MESSAGES AND RETURN TO CALLER FOLLOWING EACH  01 00621
                    620 *              ENTER VIA  JSR  DPMSG,B                            01 00622
                    621 *                        WITH A = DCB ADDR.                       01 00623
                    622 *                                                                   01 00624
                    623 *                                                                   01 00625
 000377 R           624 DPMSG  EQU     *                                                    01 00626
000377 054004 A     625        STA     OUTMSG+4        A= DCB ADDR                          01 00627
                    626 OUTMSG WRITE   *,1,0,0         WAIT,WRITE,LUN=DC                    01 00628

000400 006505 A
000401 000404 A
000402 100000 A
000403 000401 A
000404 000400 R
000405 000000 A
000406 000000 A
000407 001020 A     627        JBZ     DSCLR           ONE MSG ONLY                         01 00629
000410 000247 E
000411 006706 A     628        IJMP    0,B             RETURN TO CALLER FOR NEXT MESSAGE    01 00630
000412 000000 A
                    629        EJEC                                                         01 00631
                    630 *                                                                   01 00632
                    631 *       DBTA                                                        01 00633
                    632 *                                                                   01 00634
                    633 *     BINARY TO ASCII CONVERSION.                                   01 00635
                    634 *                                                                   01 00636
                    635 *       CONVERTS A BINARY INTEGER 0-9999 TO FOUR ASCII CHARACTERS.  01 00637
                    636 *                ENTER WITH INTEGER IN A REGISTER,VIA JMPM DBTA.    01 00638
                    637 *                                                                   01 00639
                    638 *                EXIT WITH ASCII CHARACTERS IN A,B. LEADING ZEROS   01 00640
                    639 *                  ARE SUPPRESSED.                                  01 00641
                    640 *                                                                   01 00642
                    641 *                A,B DESTROYED,  X UNCHANGED.                       01 00643
                    642 *                                                                   01 00644
                    643 *                                                                   01 00645
                    644 *                                                                   01 00646
000413 000000 A     645 DBTA   ENTR                                                         01 00647
000414 074035 A     646        STX     DBTZ+1          SAVE X                               01 00648
000415 005012 A     647        TAB                                                         01 00649
000416 005001 A     648        TZA                                                         01 00650
000417 006170 A     649        DIVI    1000                                                01 00651
000420 001750 A
000421 004050 A     650        LRLB    8               A=REMAINDER,B=QUOTIENT               01 00652
000422 064005 A     651        STB     DBTC+1          1ST CHAR.                            01 00653
000423 005012 A     652        TAB                                                         01 00654
000424 005001 A     653        TZA                                                         01 00655
000425 006170 A     654        DIVI    100             FIND HUNDREDS DIGIT                  01 00656
000426 000144 A
000427 006030 A     655 DBTC   LDXI    *                                                   01 00657
000430 000427 R
000431 005064 A     656        MERG    064             B OR X TO X ,CHAR 1,2                01 00658
000432 005012 A     657        TAB                                                         01 00659
000433 005001 A     658        TZA                                                         01 00660
000434 170471 A     659        DIV     TEN             A=REMAINDER, B=QOUTIENT          E.2********
000435 004050 A     660        LRLB    8               POSITION CHAR 3.                     01 00662
000436 005032 A     661        MERG    032             A OR B TO B,  CHARS. 3,4             01 00663
000437 005041 A     662        TXA                     GET CHAR 1,2                         01 00664
000440 001010 A     663        JAZ     DBTG            BOTH CHARS 1,2 ARE ZEROS.            01 00665
000441 000460 R
000442 150462 A     664        ANA     LHW             CHECK CHAR 1 FOR ZERO                01 00666
000443 001016 A     665        JANZ    DBTE            NO                                   01 00667
000444 000455 R
000445 014027 A     666        LDA     DBBZ            YES,SUPPRESS LEADING ZERO,=0120260   01 00668
000446 005051 A     667 DBTD   MERG    051             X OR A TO A, CHAR 1,2                01 00669
000447 034027 A     668        LDX     DB2ZE           =0130260                             01 00670
000450 005062 A     669        MERG    062             X OR B TO B, CHAR 3,4                01 00671
000451 006030 A     670 DBTZ   LDXI    *               RESTORE X                            01 00672
000452 000451 R
000453 001000 A     671        JMP*    DBTA            EXIT                                 01 00673
000454 100413 R
                    672 *     ENTER FOR NO LEADING ZEROS.                                   01 00674
000455 014021 A     673 DBTE   LDA     DB2ZE           =0130260                             01 00675
000456 001000 A     674        JMP     DBTD                                                 01 00676
000457 000446 R
                    675 *     ENTER FOR LEADING ZEROS CHARACTERS 1,2                        01 00677
000460 004450 A     676 DBTG   LLRL    8               CHECK CHAR 3                         01 00678
000461 001016 A     677        JANZ    DBTI            NOT ZERO.                            01 00679
000462 000471 R
000463 004450 A     678 DBTF   LLRL    8               SUPPRESS CHAR 3. MOVE CHAR 4.        01 00680
000464 114010 A     679        ORA     DBBZ            =0120260                             01 00681
000465 005012 A     680        TAB                     B REG. = CHAR 3,4                    01 00682
000466 014007 A     681 DBTH   LDA     DB2BLK          =0130240, SUPPRESS CHARS 1,2         01 00683
000467 001000 A     682        JMP     DBTZ                                                 01 00684
000470 000451 R
                    683 *     ENTER CHAR 3 IS NOT ZERO.                                     01 00685
000471 114002 A     684 DBTI   ORA     DBZERO          CHAR 3 IN A                          01 00686
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000472 001000 A   685          JMP     OBTF                                                    01 00687
000473 000463 R
000474 000260 A   686 OBZERO   DATA    0260                                                    01 00688
000475 120260 A   687 OBBZ     DATA    0120260                                                 01 00689
000476 130240 A   688 OB2BLK   DATA    0130240                                                 01 00690
000477 130260 A   689 OB2ZE    DATA    0130260                                                 01 00691
                  690          EJEC                                                            01 00692
                  691 *        ONSRCH                                                          01 00693
                  692 *                                                                        01 00694
                  693 *     SEARCH DST FOR DEVICE NAME SUBROUTINE                              01 00695
                  694 *                                                                        01 00696
                  695 *       ONSRCH  SEARCHES THE DST TABLE FOR A MATCHING 4 ASCII CHAR.    01 00697
                  696 *        DEVICE NAME SPECIFIED IN CALLER BUFFER.                        01 00698
                  697 *                                                                        01 00699
                  698 *               ENTER  VIA    JSR    ONSRCH,B                          01 00700
                  699 *                                                                        01 00701
                  700 *               EXIT WITH A=DST ENTRY NO.  B=DST ADDR.,X=UNCHANGED     01 00702
                  701 *                                                                        01 00703
                  702 *                    IF SEARCH IS UNSUCCESSFUL,EXIT WITH A=0           01 00704
                  703 *                                                                        01 00705
                  704 *                                                                        01 00706
                  705 *                                                                        01 00707
                  706 *                                                                        01 00708
      000500 R    707 ONSRCH   EQU     *                                                       01 00709
000500 064051 A   708          STB     ONSR99-1        RETURN ADDR                             01 00710
000501 020413 A   709          LDB     V$OCB                                                   01 00711
000502 016000 A   710          LDA     0,B             SAVE 1ST 2 CHARS.                       01 00712
000503 054047 A   711          STA     ONSR99                                                  01 00713
000504 026001 A   712          LDB     1,B             GET NEXT 2 CHARS.                       01 00714
000505 004450 A   713          LLRL    8                                                       01 00715
000506 150467 A   714          ANA     SEVEN           3RD CHAR                                01 00716
000507 004252 A   715          LRLA    10                                                      01 00717
000510 054043 A   716          STA     ONSR99+1                                                01 00718
000511 004450 A   717          LLRL    8               4TH CHAR.                               01 00719
000512 150463 A   718          ANA     RHW                                                     01 00720
000513 006140 A   719          SUBI    0260                                                    01 00721
000514 000260 A
000515 004244 A   720          LRLA    4                                                       01 00722
000516 114035 A   721          ORA     ONSR99+1                                                01 00723
000517 054034 A   722          STA     ONSR99+1        STORE CHARACTERS 3,4                    01 00724
000520 020355 A   723          LDB     V$DSTB          DST BASE ADDR                           01 00725
000521 010421 A   724          LDA     ONE                                                     01 00726
000522 054025 A   725          STA     ONSR98+1        SET DST ENTRY NO. TO ONE.               01 00727
000523 016001 A   726 ONSR4    LDA     1,B             COMPARE DSNAME WITH FIRST 2 CHARS.      01 00728
000524 001010 A   727          JAZ*    ONSR99-1        END OF DST TABLE. EXIT                  01 00729
000525 100552 R
000526 134024 A   728          ERA     ONSR99                                                  01 00730
000527 001010 A   729          JAZ     ONSR6           MATCH. COMPARE NEXT 2 CHARS.            01 00731
000530 000537 R
000531 005122 A   730 ONSR5    IBR                                                             01 00732
000532 005122 A   731          IBR                                                             01 00733
000533 005122 A   732          IBR                                                             01 00734
000534 044013 A   733          INR     ONSR98+1        INCREMENT ENTRY NO.                     01 00735
000535 001000 A   734          JMP     ONSR4                                                   01 00736
000536 000523 R
000537 016000 A   735 ONSR6    LDA     0,B             NOW COMPARE NEXT 2 CHARS.               01 00737
000540 134013 A   736          ERA     ONSR99+1                                                01 00738
000541 006150 A   737          ANAI    017760                                                  01 00739
000542 017760 A
000543 001010 A   738          JAZ     ONSR98          COMPARE. DST FOUND.                     01 00740
000544 000547 R
000545 001000 A   739          JMP     ONSR5           TRY NEXT ENTRY                          01 00741
000546 000531 R
000547 006010 A   740 ONSR98   LDAI    *               A= DST ENTRY NO.                        01 00742
000550 000547 R
000551 001000 A   741          JMP     *               NOW RETURN                              01 00743
000552 000551 R
000553 000000 A   742 ONSR99   DATA    0,0                                                     01 00744
000554 000000 A
                  743          EJEC                                                            01 00745
                  744 *                                                                        01 00746
                  745 *                                                                        01 00747
                  746 *        ONUM***                                                         01 00748
                  747 *     DECIMAL ASCII INTEGER TO BINARY CONVERSION                         01 00749
                  748 *                                                                        01 00750
                  749 *       THE DECIMAL INTEGER MUST BE POSITIVE AND IN THE RANGE          01 00751
                  750 *        0000-9999.IF NOT A DECIMAL INTEGER EXIT IS TO OSER00 TO        01 00752
                  751 *        OUTPUT THE OC02 ERROR MESSAGE.                                 01 00753
000555 000000 A   752 ONUM     ENTR                                                            01 00754
000556 074047 A   753          STX     ONUMX+1         SAVE X                                  01 00755
000557 005014 A   754          TAX                     CHARACTER COUNT NOW IN X                01 00756
000560 005002 A   755          TZB                                                             01 00757
000561 064047 A   756          STB     ONUMZ                                                   01 00758
000562 010413 A   757          LDA     V$OCB                                                   01 00759
000563 004241 A   758          LRLA    1                                                       01 00760
000564 054046 A   759          STA     ONUMZ+2         BUFFER*2                                01 00761
000565 002000 A   760 ONUMA    CALL    OLDBT,ONUMZ+2   GET ASCII CHAR. FROM BUFFER             01 00762
000566 000372 R
000567 000630 R
000570 005012 A   761          TAB                     SAVE CHARACTER                          01 00763
000571 006140 A   762          SUBI    0240                                                    01 00764
000572 000240 A
000573 001010 A   763          JANZ    ONUMG                                                   01 00765
```

```
000574 000600 R
000575 014033 A   764          LDA     ONUMZ       BLANK                                          01 00766
000576 001000 A   765          JMP     ONUMH                                                      01 00767
000577 000620 R
000600 140425 A   766 ONUMG    SUB     BS4         0260   (BS4=020)                               E.2********
000601 001004 A   767          JAN     ONUME       ERROR,LESS THAN 0                              01 00769
000602 000606 R
000603 140471 A   768          SUB     TEN                                                        E.2********
000604 001004 A   769          JAN     ONUMF       OK                                             01 00771
000605 000611 R
000606 010422 A   770 ONUME    LDA     TWO         ERROR                                          01 00772
000607 001000 A   771          JMP     OSERR                                                      01 00773
000610 000255 E
000611 005021 A   772 ONUMF    TBA                                                                01 00774
000612 150472 A   773          ANA     BM17        MASK OUT BCD                                   01 00775
000613 054016 A   774          STA     ONUMZ+1                                                    01 00776
000614 014014 A   775          LDA     ONUMZ       GET PREVIOUS DIGITS                            01 00777
000615 004244 A   776 ONUMK    LRLA    4           LRLA 3/LRLA 4CONVERT TO BCD OR PACK OCTAL      01 00778
000616 124013 A   777          ADD     ONUMZ+1     DIGIT JUST CONVERTED                           01 00779
000617 054011 A   778          STA     ONUMZ                                                      01 00780
000620 005344 A   779 ONUMH    DXR                                                                01 00781
000621 001046 A   780          JXNZ    ONUMA       JUMP IF ALL DIGITS NOT CONVERTED TO BCD E.2********
000622 000565 R
       000623 R   781 ONUMB    EQU     *                                                          01 00784
000623 002000 A   782          CALL    ODTB        CONVERT BCD TO BINARY                          01 00785
000624 000262 R
000625 006030 A   783 ONUMX    LDXI    *           RESTORE X                                      01 00786
000626 000625 R
000627 001000 A   784          JMP*    ONUM                                                       01 00787
000630 100555 R
000631 000000 A   785 ONUMZ    DATA    0,0,0                                                      01 00788
000632 000000 A
000633 000000 A
       000000 R   786          END     OTIME                                                      01 00789
ENTRY NAMES
000000 R OTIME
EXTERNAL NAMES
000000 E OCOUNT 000410 E OSCLR  000610 E OSERR  000000 E V$IOC
SYMBOLS
000044 A APIM   000002 A B      000000 A B0     000001 A B1
000012 A B10    000013 A B11    000014 A B12    000015 A B13
000016 A B14    000017 A B15    000002 A B2     000003 A B3
000004 A B4     000005 A B5     000006 A B6     000007 A B7
000010 A B8     000011 A B9     000421 A BM1    000472 A BM17
000475 A BM177  000477 A BM1777 000464 A BM3    000473 A BM37
000463 A BM377  000467 A BM7    000474 A BM77   000476 A BM777
000441 A BR0    000442 A BR1    000453 A BR10   000454 A BR11
000455 A BR12   000456 A BR13   000457 A BR14   000460 A BR15
000443 A BR2    000444 A BR3    000445 A BR4    000446 A BR5
000447 A BR6    000450 A BR7    000451 A BR8    000452 A BR9
000421 A BS0    000422 A BS1    000433 A BS10   000434 A BS11
000435 A BS12   000436 A BS13   000437 A BS14   000440 A BS15
000423 A BS2    000424 A BS3    000425 A BS4    000426 A BS5
000427 A BS6    000430 A BS7    000431 A BS8    000432 A BS9
000060 A BTB0   000020 A BTB1   000047 A CLOCK  000747 A DISCLK
000745 A DISMP  000444 A DISPIM 000000 A DSDVDN 000173 R EDATE
000424 A EIGHT  000147 A ENACLK 000645 A ENAMP  000244 A ENAPIM
000465 A FIVE   000423 A FOUR   000300 A LC     000050 A LCJP
000462 A LHW    000045 A MP     000045 A MPMR0  000145 A MPMR1
000245 A MPMR2  000345 A MPMR3  000420 A MT     000461 A NEG
000470 A NINE   000476 R OB2BLK 000477 R OB2ZE  000475 R OBBZ
000413 R OBTA   000427 R OBTC   000446 R OBTD   000455 R OBTE
000463 R OBTF   000460 R OBTG   000466 R OBTH   000471 R OBTI
000451 R OBTZ   000335 R OBYTA  000346 R OBYTB  000362 R OBYTC
000365 R OBYTD  000367 R OBYTF  000354 R OBYTG  000375 R OBYTX
000474 R OBZERO 000000 E OCOUNT 000156 R ODAT1  000124 R ODAT2
000151 R ODAT3  000133 R ODAT4  000145 R ODAT5  000171 R ODAT9
000101 R ODATE  000250 R ODEV10 000253 R ODEV12 000205 R ODEV2
000227 R ODEV4  000237 R ODEV6  000256 R ODEV99 000257 R ODEVDN
000174 R ODEVUP 000262 R ODTB   000267 R ODTBA  000304 R ODTBB
000310 R ODTBC  000320 R OLDBA  000372 R OLDBT  000421 A ONE
000523 R ONSR4  000531 R ONSR5  000537 R ONSR6  000547 R ONSR98
000553 R ONSR99 000500 R ONSRCH 000555 R ONUM   000565 R ONUMA
000623 R ONUMB  000606 R ONUME  000611 R ONUMF  000600 R ONUMG
000620 R ONUMH  000615 R ONUMK  000625 R ONUMX  000631 R ONUMZ
000377 R OPMSG  000410 E OSCLR  000610 E OSERR  000312 R OSTBA
000311 R OSTBT  000070 R OTDCB  000074 R OTDISP 000043 R OTDS1
000060 R OTDS2  000042 R OTDSPY 000000 R OTIME  000040 R OTMEND
000400 R OUTMSG 000040 A PIM1   000041 A PIM2   000042 A PIM3
000043 A PIM4   000040 A PIM5   000040 A PIM6   000040 A PIM7
000040 A PIM8   000040 A RA0    000000 A RA1    000060 A RB0
000020 A RB1    000463 A RHW    000467 A SEVEN  000466 A SIX
000027 A TBATSK 000026 A TBCPTH 000011 A TBENTY 000003 A TBEVNT
000021 A TBIO   000014 A TBISA  000015 A TBISB  000017 A TBISP
000020 A TBISRS 000016 A TBISX  000022 A TBKN1  000023 A TBKN2
000024 A TBKN3  000002 A TBPL   000004 A TBRSA  000005 A TBRSB
000030 A TBRSE  000007 A TBRSP  000010 A TBRSTS 000006 A TBRSX
000000 A TBS0   000001 A TBS1   000012 A TBS10  000013 A TBS11
000014 A TBS12  000015 A TBS13  000016 A TBS14  000017 A TBS15
000002 A TBS2   000003 A TBS3   000004 A TBS4   000005 A TBS5
000006 A TBS6   000007 A TBS7   000010 A TBS8   000011 A TBS9
000001 A TBST   000025 A TBTLC  000013 A TBTMIN 000012 A TBTMS
000000 A TBTRD  000471 A TEN    000464 A THREE  000422 A TWO
```

```
000403 A V$1MIN 000415 A V$BFC  000075 A V$BGLB 000056 A V$BIC1
000315 A V$BTB  000414 A V$BVN  000334 A V$CAM  000353 A V$CKB
000411 A V$CKIT 000310 A V$CKPT 000301 A V$CPL  000076 A V$CRDM
000341 A V$CRDR 000354 A V$CRM  000302 A V$CRS  000360 A V$CTAD
000300 A V$CTL  000351 A V$CTMS 000070 A V$DATE 000355 A V$DSTB
000376 A V$ERFG 000347 A V$FGLB 000306 A V$FLRS 000350 A V$FREE
000320 A V$IM   000410 A V$IOA  000000 E V$IOC  000412 A V$JCB
000055 A V$JCFG 000077 A V$JCTM 000050 A V$JNAM 000377 A V$JOP
000054 A V$LCNT 000313 A V$LER  000356 A V$LIT  000317 A V$LLUP
000307 A V$LRSK 000312 A V$LSAL 000345 A V$LUNT 000316 A V$LUP
000400 A V$LUT1 000401 A V$LUT2 000402 A V$LUT3 000330 A V$MPM
000362 A V$NCTR 000413 A V$OCB  000346 A V$OPCF 000311 A V$OPCL
000363 A V$PIMN 000074 A V$PLCT 000305 A V$PTVB 000361 A V$SCTL
000352 A V$SCV  000375 A V$SLFG 000303 A V$TB   000342 A V$TBGT
000416 A V$TFC  000314 A V$TJCP 000344 A V$TMN  000343 A V$TMS
000304 A V$UTB  000001 A X      000420 A ZERO
  0 ERRORS ASSEMBLY COMPLETE

  305  APIM      315   316
  338  B         358   359   468   490   493   628   710   712   726
                 735
  249  BM17      773
  253  BM377     562   598
  216  BS15      461   491
  203  BS2       523
  205  BS4       766
  342  BTB0      346   348
  343  BTB1      347
  298  CLOCK     300   301
  459  DSDVDN    490   493
  450  EDATE     412   417   429
  240  FIVE      350
  239  FOUR      495
  124  LC        125   126   127   128   129   130   131   132   133
                 134   135   136   137   138   139   140   141   142
                 143   145   146   147   148   149   150   151   152
                 153   154   155   156   157   158   160   161   162
                 163   167   168   169   170   171   172   173   178
                 179   180   183   188   189   190
   99  LCJP      100   101   102   109   110   111   112   113   116
  234  LHW       587   664
  319  MP        320   321   322   323   324   325
  199  MT        200   201   202   203   204   205   206   207   208
                 209   210   211   212   213   214   215   216   217
                 218   219   220   221   222   223   224   225   226
                 227   228   229   230   231   232   233   234   235
                 236   237   238   239   240   241   242   243   244
                 245   246   247   248   249   250   251   252   253
                 254   255
  244  NINE      403
  688  OB2BLK    681
  689  OB2ZE     668   673
  687  OBBZ      666   679
  645  OBTA      374   379   671
  655  OBTC      651
  667  OBTD      674
  673  OBTE      665
  678  OBTF      685
  676  OBTG      663
  684  OBTI      677
  670  OBTZ      646   682
  580  OBYTA     578
  586  OBYTB     583   585
  596  OBYTC     582
  598  OBYTD     596
  600  OBYTF     568   595
  591  OBYTG     589
  604  OBYTX     563   564   581   588   592   594
  686  OBZERO    684
    0  OCOUNT    339
  439  ODAT1     407
  418  ODAT2     413
  434  ODAT3     426
  425  ODAT4     410
  432  ODAT5     414
  402  ODATE     348
  495  ODEV10    469
  497  ODEV12    477   484
  468  ODEV2     464
  482  ODEV4     479   486
  487  ODEV6     472
  499  ODEV99    462   471   492
  508  ODEVDN    346
  460  ODEVUP    347   510
  521  ODTB      538   782
  526  ODTBA     536
  537  ODTBB     522   532
  539  ODTBC     526   529   530   534
  567  OLDBA     603
  602  OLDBT     566   569   574   760
  236  ONE       416   724
  726  ONSR4     734
```

730 DNSR5 739
735 DNSR6 729
740 DNSR98 725 733 738
742 DNSR99 708 711 716 721 722 727 728 736
707 DNSRCH 468
752 DNUM 353 361 409 424 438 784
760 DNUMA 780
770 DNUME 351 356 363 404 415 430 433 767
772 DNUMF 769
766 DNUMG 763
779 DNUMH 765
783 DNUMX 753
785 DNUMZ 756 759 760 764 774 775 777 778
624 DPMSG 385
0 DSCLR 341 368 447 494 627
0 DSERR 340 496 498 771
561 DSTBT 565
386 DTDCB 383
388 DTDISP 377 382 386
371 DTDS1 362 364 366
381 DTDS2 376
369 DTDSPY 349
345 DTIME 344 786
626 DUTMSG 625
235 RHW 476 483 718
242 SEVEN 714
241 SIX 497
245 TEN 659 768
238 THREE 489
237 TWO 352 360 408 423 437 463 770
110 V$DATE 440 442 444 446
157 V$DSTB 487 723
170 V$LUT1 474
171 V$LUT2 478 482
183 V$DCB 357 372 405 465 709 757
0 V$DTIM 10
148 V$TMN 367 370
337 X 373 378 406 419 420 422 435 436 441
443 445 467 475 480 482

```
                1 *THIS IS A COPYRIGHTED PROGRAM.COPYRIGHT 1973 BY VARIAN DATA MACHINE     02 00001
                2 *                                                                        02 00002
                3 *     V.D.M.  PART NO.        92L0209-001B                               02 00003
                4 *                                                                        02 00004
                5 *                                          RELEASED    03/01/74          02 00005
                6 *                                                                        02 00006
                7 *                                                                        02 00007
                8 ************************************************************************02 00008
                9 *                                                                      * 02 00009
               10 *                                                                      * 02 00010
               11 *       VARIAN 73 MICRO UTILITY PROGRAM                                * 02 00011
               12 *       ******************************                                 * 02 00012
               13 *                                                                      * 02 00013
               14 *                                                                      * 02 00014
               15 *       OPERATING ENVIRONMENTS: VORTEX, MOS, OR STANDALONE             * 02 00015
               16 *                                                                      * 02 00016
               17 *                                                                      * 02 00017
               18 *       FEATURES: ROUTINE TO LOAD MICRO ASSEMBLER OUTPUT;              * 02 00018
               19 *                 ROUTINES TO DISPLAY/CHANGE SINGLE WCS WORDS;         * 02 00019
               20 *                 ROUTINES TO LIST SECTIONS OF WCS;                    * 02 00020
               21 *                 DEBUGGING ROUTINES FOR DUAL CPU CONFIGURATION;       * 02 00021
               22 *                                                                      * 02 00022
               23 *                                                                      * 02 00023
               24 *                                                                      * 02 00024
               25 ************************************************************************02 00025
               26 *                                                                        02 00026
               27 *                                                                        02 00027
               28 *  THIS IS A COPYRIGHTED PROGRAM                                         02 00028
               29 *  COPYRIGHT 1973 BY VARIAN DATA MACHINES                                02 00029
               30 *                                                                        02 00030
               31 *  V.D.M. PART NO.                                                       02 00031
               32 *                                                                        02 00032
               33          TITLE   MIUTIL                                                02 00033
               34          EJEC                                                          02 00034
000000  A      35 XTS      EQU     0                                                     02 00035
000001  A      36 XAF      EQU     1                                                     02 00036
000002  A      37 XMS      EQU     2                                                     02 00037
000003  A      38 XMT      EQU     3                                                     02 00038
000004  A      39 XFS      EQU     4                                                     02 00039
000005  A      40 XT       EQU     5                                                     02 00040
000006  A      41 XS       EQU     6                                                     02 00041
000007  A      42 XG       EQU     7                                                     02 00042
000010  A      43 XM       EQU     8                                                     02 00043
000011  A      44 XAB      EQU     9                                                     02 00044
000012  A      45 XIMC     EQU     10                                                    02 00045
000013  A      46 XLB      EQU     11                                                    02 00046
000014  A      47 XLA      EQU     12                                                    02 00047
000015  A      48 XR       EQU     13                                                    02 00048
000016  A      49 XF       EQU     14                                                    02 00049
000017  A      50 XMD      EQU     15                                                    02 00050
000020  A      51 XC       EQU     16                                                    02 00051
000021  A      52 XW       EQU     17                                                    02 00052
000022  A      53 XOS      EQU     18                                                    02 00053
000023  A      54 XV       EQU     19                                                    02 00054
000024  A      55 XY       EQU     20                                                    02 00055
000025  A      56 XX       EQU     21                                                    02 00056
000026  A      57 XTC      EQU     22                                                    02 00057
000027  A      58 XB       EQU     23                                                    02 00058
000030  A      59 XA       EQU     24                                                    02 00059
000001  A      60 X        EQU     1                                                     02 00060
000002  A      61 B        EQU     2                                                     02 00061
000002  A      62 SI       EQU     2               SYSTEM INPUT                          02 00062
000003  A      63 SO       EQU     3                                                     02 00063
000004  A      64 PI       EQU     4                                                     02 00064
000005  A      65 LO       EQU     5                                                     02 00065
               66          NAME    MIUTIL                                                00 00066
               67          EJEC                                                          00 00067
               68 *                                                                  C.1 02 00068
               69 *       CONDITIONAL ASSEMBLY FLAG                                  C.1 02 00069
               70 *       SET IT TO '1' FOR VORTEX OR VORTEX II                      C.1 02 00070
               71 *       SET IT TO '0' FOR MOS                                      C.1 02 00071
               72 *                                                                  C.1 02 00072
000001  A      73 VORTEX   EQU     1                                                     02 00073
               74          EJEC                                                          02 00074
               75 *                                                                  C.1 02 00075
               76 *       FOLLOWING ARE VORTEX MACRO'S NEEDED FOR ASSEMBLY           C.1 02 00076
               77 *       NOTE THAT M1,F, AND STAT  ARE MODIFIED TO GO THROUGH THE   C.1 02 00077
               78 *       I/O INTERFACE PROGRAM                                      C.1 02 00078
               79 *                                                                  C.1 02 00079
               80 *                                                                  C.1 02 00080
               81 READ     MAC                                                       C.1 02 00081
               82          M1      P(3),P(4),0,P(2),P(1)                             C.1 02 00082
               83          EMAC                                                      C.1 02 00083
               84 WRITE    MAC                                                       C.1 02 00084
               85          M1      P(3),P(4),1,P(2),P(1)                             C.1 02 00085
               86          EMAC                                                      C.1 02 00086
               87 FUNC     MAC                                                       C.1 02 00087
               88          M1      P(3),0,5,P(2),P(1)                                C.1 02 00088
               89          EMAC                                                      C.1 02 00089
               90 M1       MAC                                                           02 00090
               91          EXT     INTR                                                  02 00091
               92          JMPM    INTR                                                  02 00092
               93          DATA    0100000                                               02 00093
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                     94 F       FORM    1,3,4,8                                                    02 00094
                     95         F       P(1),P(2),P(3),P(4)                                        02 00095
                     96         DATA    P(5),0,0                                                   02 00096
                     97         EMAC                                                               02 00097
                     98 STAT    MAC                                                                02 00098
                     99         EXT     INTRST                                                     02 00099
                    100         JMPM    INTRST                                                     02 00100
                    101         DATA    P(1),P(2),P(3),P(4),P(5)                                   02 00101
                    102         EMAC                                                               02 00102
                    103         EJEC                                                               02 00103
                    104 ********************************************************************       02 00104
000000 001000 A     105         JMP     EXC10           THIS IS RE-ENTRY POINT AFTER MANUAL STOP   02 00105
000001 000673 R
                    106 ********************************************************************       02 00106
                    107         EJEC                                                               02 00107
                    108 *       THIS IS SOME INITIALIZATION NEEDED AFTER LOADING IN ORDER TO  *    02 00108
                    109 *       SET UP FCBS AND DCBS FOR THE LOGICAL UNITS ST,PI,LO,AND BI    *    02 00109
                    110 *       DEPENDING UPON WHETHER THEY ARE ON A RMD OR NON-RMD DEVICE.   *    02 00110
                    111 *                                                                     *    02 00111
                    112 *             IF ON A RMD THE GLOBAL FCB WILL BE USED                 *    02 00112
                    113 *             IF ON A NON-RMD A LOCAL DCB WILL BE USED                *    02 00113
                    114 *                                                                     *    02 00114
000002 002000 A     116 MIUTIL CALL    RMD,2           CHECK IF SI IS ON AN RMD                   02 00116
000003 004273 R
000004 000002 A
000005 001010 A     117         JAZ     SIRMD           YES                                        02 00117
000006 000030 R
000007 002000 A     118 SMPI    CALL    RMD,4           CHECK IF PI IS ON A RMD                    02 00118
000010 004273 R
000011 000004 A
000012 001010 A     119         JAZ     PIRMD           YES                                        02 00119
000013 000047 R
000014 002000 A     120 SMLO    CALL    RMD,5           CHECK IF LO IS ON A RMD                    02 00120
000015 004273 R
000016 000005 A
000017 001010 A     121         JAZ     LORMD           YES                                        02 00121
000020 000066 R
000021 002000 A     122 SMBI    CALL    RMD,6           CHECK IF BI IS ON A RMD                    02 00122
000022 004273 R
000023 000006 A
000024 001010 A     123         JAZ     BIRMD           YES                                        02 00123
000025 000105 R
000026 001000 A     124         JMP     EXC             BEGIN SIMULATOR EXEC                       02 00124
000027 000476 R
                    125         EJEC                                                               02 00125
                    126         EXT     SIFCB                                                      02 00126
                    127         EXT     PIFCB                                                      02 00127
                    128         EXT     LOFCB                                                      02 00128
                    129         EXT     BIFCB                                                      02 00129
                    130         EXT     $SYST                                                      02 00130
                    131 *                                                                          02 00131
                    132 SIRMD   OPEN    SIFCB,2,0,0                                                02 00132
000030 002000 A
000031 000000 E
000032 100000 A
000033 003002 A
000034 000000 E
000035 000000 A
000036 000000 A
000037 014070 A     133         LDA     FCBSI                                                      02 00133
000040 006057 A     134         STAE    SIIN1+4         STORE GLOBAL FCB IN READ REQUEST           02 00134
000041 004411 R
000042 005301 A     135         DECR    01                                                         02 00135
000043 006057 A     136         STAE    SIFLG           SET SI ON RMD FLAG                         02 00136
000044 004456 R
000045 001000 A     137         JMP     SMPI                                                       02 00137
000046 000007 R
                    138 PIRMD   OPEN    PIFCB,4,0,0                                                02 00138
000047 002000 A
000050 000031 E
000051 100000 A
000052 003004 A
000053 000000 E
000054 000000 A
000055 000000 A
000056 014052 A     139         LDA     FCBPI                                                      02 00139
000057 006057 A     140         STAE    PIIN2+4         STORE GLOBAL FCB IN READ REQUEST           02 00140
000060 004521 R
000061 005301 A     141         DECR    01                                                         02 00141
000062 006057 A     142         STAE    PIFLG           SET PI ON RMD FLAG                         02 00142
000063 004547 R
000064 001000 A     143         JMP     SMLO                                                       02 00143
000065 000014 R
                    144 LORMD   OPEN    LOFCB,5,0,0                                                02 00144
000066 002000 A
000067 000050 E
000070 100000 A
000071 003005 A
000072 000000 E
000073 000000 A
000074 000000 A
000075 014034 A     145         LDA     FCBLO                                                      02 00145
000076 006057 A     146         STAE    LO1+4           STORE GLOBAL FCB IN READ REQUEST           02 00146
```

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000077 004716 R
000100 005301 A   147          DECR    01                                                    02 00147
000101 006057 A   148          STAE    LOFLG          SET LO ON RMD FLAG                     02 00148
000102 004776 R
000103 001000 A   149          JMP     SMSI                                                  02 00149
000104 000021 R
                  150 BIRMD    OPEN    BIFCB,6,0,0                                           02 00150
000105 002000 A
000106 000067 E
000107 100000 A
000110 003068 A
000111 000000 E
000112 000000 A
000113 000000 A
000114 014016 R   151          LDA     FCBBI                                                 02 00151
000115 006057 A   152          STAE    LREAD+4        STORE GLOBAL FCB IN READ REQUEST       02 00152
000116 001037 R
000117 006010 A   153          LDAI    120                                                   02 00153
000120 000170 A
000121 006057 A   154          STAE    BIRLK+1        SET WORD COUNT TO 120                  02 00154
000122 001066 R
000123 005301 A   155          DECR    01                                                    02 00155
000124 006057 A   156          STAE    BIFLG          SET BI ON RMD FLAG                     02 00156
000125 004040 R
000126 001000 A   157          JMP     EXC            BEGIN STMULATOR EXEC                   02 00157
000127 000476 R
                  158 *                                                                        02 00158
000130 000034 E   159 FCBSI    DATA    SIFCB                                                 02 00159
000131 000053 C   160 FCBPI    DATA    PIFCB                                                 02 00160
000132 000072 E   161 FCBLO    DATA    LOFCB                                                 02 00161
000133 000111 E   162 FCBBI    DATA    BIFCB                                                 02 00162
000134 000000 E   163 SYST     DATA    $SYST                                                 02 00163
                  165          EJEC                                                          02 00165
                  166 *********************************************************************** 02 00166
                  167 *                                                                     *  02 00167
                  168 *       NAME:    COMMON DATA AREA                                     *  02 00168
                  169 *                                                                     *  02 00169
                  170 *       NOTE:    THE FOLLOWING ARE THE BUFFERS, TABLES AND FLAGS      *  02 00170
                  171 *                WHICH ARE SHARED BY THE COMPONENTS OF THIS PROGRAM    02 00171
                  172 *                                                                     *  02 00172
                  173 *                                                                     *  02 00173
                  174 *********************************************************************** 02 00174
000135            175 FIELDS   BSS     25             THE 25 MICRO FIELDS                    02 00175
                  176 *                                                                        02 00176
000166 000000 R   177 DEBUG    DATA    0              IF NON-NEGATIVE, DEBUG CONFIGURATION   02 00177
000167 000000 R   178 WORD     DATA    0              CONTAINS CURRENT CONTROL STORE WORD NO. 02 00178
000170 000000 A   179 WORD2    DATA    0                                                     02 00179
000171 000000 R   180 STORE    DATA    0              CONTAINS CURRENT CONTROL STORE SPEC,    02 00180
000172 000000 R   181 PAGE     DATA    0              CONTAINS CURRENT WCS PAGE NUMBER       02 00181
000173 000000 R   182 MBUF     DATA    0,0,0,0        BUFFER FOR WCS I/O                     02 00182
000174 000000 R
000175 000000 A
000176 000000 A
000177 177777 R   183 HLTADR   DATA    -1             HALT ADDR OR -1 IF NO HALT SET    C.1  02 00183
                  184 *                                                                        02 00184
                  185 *                                                                        02 00185
                  186 *       PRINT OUTPUT BUFFER                                              02 00186
120200 120240 A   187          DATA    0120240                                               02 00187
000201            188 OUFI     BSS     96             INPUT BUFFER                           02 00188
000245 120240 A   189 BUFR     DATA    0120240                                               02 00189
000246            190          BSS     120                                                   02 00190
                  191 *                                                                        02 00191
000436 000000 A   192 TRACE    DATA    0              DOING TRACE FLAG                       02 00192
                  193 *                                                                        02 00193
                  194 *       INPUT HEX DIGIT STRING                                           02 00194
000437 000000 A   195 V        DATA    0              DIGITS 1-4                             02 00195
000440 000000 A   196          DATA    0              DIGITS 5-8                             02 00196
000441 000000 A   197          DATA    0              DIGITS 9-12                            02 00197
000442 000000 A   198          DATA    0              DIGITS 13-16                           02 00198
                  199 *                                                                        02 00199
                  200 *                                                                        02 00200
                  201 *                                                                        02 00201
                  202          EJEC                                                          02 00202
                  203 *                                                                        02 00203
                  204 *       INPUT PROCESSING COMMAND TABLE                                   02 00204
                  205 *                                                                        02 00205
000443 000320 A   206 COMM     DATA    0320           X - EXECUTE MICROINSTRUCTIONS          02 00206
000444 000304 A   207          DATA    0304           D - DUMP WCS TO LO                     02 00207
000445 000305 A   208          DATA    0305           E - EXAMINE/CHANGE WCS WORD            02 00208
000446 000316 A   209          DATA    0316           N - ENABLE CONTROL STORE               02 00209
000447 000311 A   210          DATA    0311           I - INITIALIZE WCS                     02 00210
000450 000314 A               DATA    0314           L - LOAD CONTROL STORE                 02 00211
000451 000303 A               DATA    0303           M - EXECUTE INPUT MACRO                02 00212
000452 000322 A               DATA    0322           P - PAGE WCS                           02 00213
000453 000323 A               DATA    0323           R - RETURN TO OPERATING SYSTEM         02 00214
000454 000307 A               DATA    0307           S - SET MICRO EXECUTION ADDRESS        02 00215
000455 000324 A               DATA    0324           T - TRACE                              02 00216
000456 000310 A               DATA    0310           B - BRANCH TO WCS                      02 00217
000457 000317 A               DATA    0317           H - SET HALT ADDR                  C.1 02 00218
000460 177777 R               DATA    -1             END OF COMM BUFFER                     02 00219
                  220 *                                                                        02 00220
000461 003262 R   221 COMM1    DATA    C1X3           X - EXECUTE MICROINSTRUCTIONS          02 00221
000462 001111 R               DATA    E1X3           D - DUMP WCS TO LO                     02 00222
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000463 001436 R  223          DATA    EDRM          E - EXAMINE/CHANGE WCS WORD                          02 00223
000464 003512 R  224          DATA    ENABLE        N- ENABLE CONTROL STORE                              02 00224
000465 003426 R  225          DATA    INITW         I- INITIALIZE WCS COMMAND                            02 00225
000466 001006 R  226          DATA    LDRM          L  LOAD CONTROL STORE                                02 00226
000467 003143 R  227          DATA    CHME          M  SELECT INPUT MEDIA                                02 00227
000470 000745 R  228          DATA    PSEL          P  PAGE SELECT                                       02 00228
000471 002341 R  229          DATA    E170          R  RETURN TO OPERATING SYSTEM                        02 00229
000472 003171 R  230          DATA    E130          G - SET EXECUTION ADDRESS                            02 00230
000473 003446 R  231          DATA    E140          T  TRACE                                             02 00231
000474 003643 R  232          DATA    BRANCH        B - BRANCH TO WCS                                    02 00232
000475 003571 R  233          DATA    SETHLT        H- SET HALT ADDR                              C.1    02 00233
                 234          EJEC                                                                       02 00234
                 235 ********************************************************************************   02 00235
                 236 *                                                                              *   02 00236
                 237 *                                                                              *   02 00237
                 238 *       NAME:   INITIALIZATION COMPONENT                                       *   02 00238
                 239 *                                                                              *   02 00239
                 240 *                                                                              *   02 00240
                 241 ********************************************************************************   02 00241
000476           242 EXC     BSS     0                                                                  02 00242
000476 002000 A  243          CALL    TPFRM         TOP OF FORM                                          02 00243
000477 005052 R
000500 002000 A  244          CALL    SIOUT,13,EXC2M  OUTPUT PROGRAM IDENTIFICATION                      02 00244
000501 004553 R
000502 000015 A
000503 000542 R
000504 002000 A  245          CALL    SIOUT,2,SEM1  OUTPUT A CR/LF                                       02 00245
000505 004553 R
000506 000002 A
000507 000557 R
000510 002000 A  246          CALL    SIOUT,13,SEM3 ASK IF DEBUG CONFIG                                  02 00246
000511 004553 R
000512 000015 A
000513 000574 R
000514 002000 A  247          CALL    SIIN          INPUT THE RESPONSE                                   02 00247
000515 004341 R
000516 002000 A  248          CALL    FETCH         GET THE RESPONSE                                     02 00248
000517 005224 R
000520 006140 A  249          SUBI    'Y'                                                                02 00249
000521 000331 A
000522 006057 A  250          STAE    DEBUG         SAVE IT                                              02 00250
000523 000166 R
                 251          EJEC                                                                       02 00251
                 252 ********************************************************************************   02 00252
                 253 *                                                                              *   02 00253
                 254 *                                                                              *   02 00254
                 255 *       NAME:   SET WCS DEVICE ADDRESS                                         *   02 00255
                 256 *                                                                              *   02 00256
                 257 *       PURPOSE: 1.) INPUT THE WCS DEVICE ADDRESS FROM THE USER;               *   02 00257
                 258 *                2.) CHECK IT'S VALIDITY;                                      *   02 00258
                 259 *                 3) MODIFY THE UTILITY I/O SECTION FOR THE DEVICE             *   02 00259
                 260 *                    ADDRESS.                                                  *   02 00260
                 261 *                                                                              *   02 00261
                 262 *                                                                              *   02 00262
                 263 *                                                                              *   02 00263
                 264 *                                                                              *   02 00264
                 265 ********************************************************************************   02 00265
                 266 *                                                                                  02 00266
000524 002000 A  267 SE10    CALL    SIOUT,2,SEM1  OUTPUT A CR/LF                                       02 00267
000525 004553 R
000526 000002 A
000527 000557 R
                 268 *                                                                          C.1     02 00268
                 269 *       NOTE: THIS SECTION IS NOT USED UNDER VORTEX SINCE THE DEVICE      C.1     02 00269
                 270 *             ADDRESS IS SPECIFIED AT SYSGEN TIME.                       C.1     02 00270
                 271 *                                                                        C.1     02 00271
                 272          IFT     VORTEX                                                    C.1     02 00272
                 273          GOTO    SKP24,                                                    C.1     02 00273
                 317 SKP24    CONT                                                              C.1     02 00317
                 318          EJEC                                                                      02 00318
000530 006010 A  319          LDAI    1                                                                 02 00319
000531 000001 A
000532 006057 A  320          STAE    PAGE          DEFAULT TO PAGE 1                                   02 00320
000533 000172 R
000534 006010 A  321          LDAI    -1                                                                02 00321
000535 177777 A
000536 006057 A  322          STAE    TRACE         SET TRACE MODE                                      02 00322
000537 000436 R
000540 001000 A  323          JMP     EXC10         PROCESS OPERATOR INPUT                              02 00323
000541 000673 R
                 324          EJEC                                                                      02 00324
                 325 *                                                                                  02 00325
                 326 *       DATA AREA                                                                  02 00326
                 327 *                                                                                  02 00327
000542 120240 A  328 EXC2M   DATA    '  VARIAN 73 MICRO UTILITY '                                       02 00328
000543 153301 A
000544 151311 A
000545 140716 A
000546 120267 A
000547 131640 A
000550 146711 A
000551 141722 A
000552 147640 A
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000553 152724 A
000554 144714 A
000555 144724 A
000556 154640 A
000557 120240 A   329 SEM1    DATA    '    '                                  02 00329
000560 120240 A
000561 120240 A   330 SEM2    DATA    '  EVEN WCS DEV ADDR ? '                02 00330
000562 142726 A
000563 142716 A
000564 120327 A
000565 141723 A
000566 120304 A
000567 142726 A
000570 120301 A
000571 142304 A
000572 151240 A
000573 137640 A
000574 120240 A   331 SEM3    DATA    '  DEBUG CONFIG ? (Y OR N)'             02 00331
000575 142305 A
000576 141325 A
000577 143640 A
000600 141717 A
000601 147306 A
000602 144707 A
000603 120277 A
000604 120250 A
000605 154640 A
000606 147722 A
000607 120316 A
000610 124640 A
                  332         EJEC                                           02 00332
                  333 ********************************************************** 02 00333
                  334 *                                                        * 02 00334
                  335 *                                                        * 02 00335
                  336 *       NAME:    WCS I/O INTERFACE                       * 02 00336
                  337 *                                                        * 02 00337
                  338 *       PURPOSE: PROVIDES THE INTERFACE FOR ALL WCS I/O ACTIVITY * 02 00338
                  339 *                OF THE UTILITY. THIS ALLOWS REMOVAL OF  * 02 00339
                  340 *                I/O INSTRUCTIONS FROM THE REST OF THE PROGRAM. * 02 00340
                  341 *                SIMPLIFIES SUCH THINGS AS ADJUSTING FOR VAIABLE * 02 00341
                  342 *                DEVICE ADDRESSES.                       * 02 00342
                  343 *                                                        * 02 00343
                  344 *       CALL:    1) THE SINGLE WORD I/O INSTRUCTIONS ARE DIRECTLY * 02 00344
                  345 *                   EXECUTED BY AN 'XEC' COMMAND.        * 02 00345
                  346 *                                                        * 02 00346
                  347 *                2) THE DOUBLE WORD INSTRUCTIONS ARE EXECUTED * 02 00347
                  348 *                   INDIRECTLY BY CALLING THE APPROPRIATE SUBROUTINE; * 02 00348
                  349 *                   ON RETURN: A REG NEG = SENSE FALSE   * 02 00349
                  350 *                              A REG POS = SENSE TRUE    * 02 00350
                  351 *                                                      C.1 02 00351
                  352 *       NOTE: UNDER VORTEX AND VORTEX II, THESE I/O INSTRUCTIONS ARE C.1 02 00352
                  353 *             EXECUTED BY CALLING REENTRANT SUBROUTINE V$WCS C.1 02 00353
                  354 *                                                      C.1 02 00354
                  355 *                                                        * 02 00355
                  356 *                                                        * 02 00356
                  357 ********************************************************** 02 00357
                  358 *                                                          02 00358
000611 100070 A   359 EXC0    EXC     0070          INIT WCS                     02 00359
000612 100170 A   360 EXC1    EXC     0170          ENABLE RUN FREE              02 00360
000613 100270 A   361 EXC2    EXC     0270          STEP CCS                     02 00361
000614 100370 A   362 EXC3    EXC     0370          INIT FOR BIC LOAD            02 00362
000615 100470 A   363 EXC4    EXC     0470          UNUSED                       02 00363
000616 100570 A   364 EXC5    EXC     0570          UNUSED                       02 00364
000617 100670 A   365 EXC6    EXC     0670          UNUSED                       02 00365
000620 100770 A   366 EXC7    EXC     0770          RESET STACK                  02 00366
                  367 *                                                        02 00367
000621 102571 A   368 CIAY    CIA     071           INPUT DATA WORD FORM WCS     02 00368
000622 103170 A   369 OARX    OAR     070           OUTPUT FUNCTION WORD TO WCS  02 00369
000623 103171 A   370 OARY    OAR     071           OUTPUT DATA WORD TO WCS      02 00370
                  371 *                                                        02 00371
000624 000000 A   372 SEN0    DATA    0             SENSE WCS BUSY               02 00372
                  373         IFT     VORTEX                                 C.1 02 00373
                  374         GOTO    SKP20,                                 C.1 02 00374
                  380 SKP20   CONT                                           C.1 02 00380
                  381         IFF     VORTEX                                 C.1 02 00381
                  382         GOTO    SKP21,                                 C.1 02 00382
000625 006010 A   383         LDAI    05000         EXECUTE A NO-OP TO GET STATUS BACK C.1 02 00383
000626 005000 A
                  384         ALOC    V$WCS                                  C.1 02 00384
000627 006505 A
000630 000406 A
000631 000600 A
000632 000000 E
000633 001000 A   385         JMP*    SEN0          RETURN WCS BUSY STATUS   C.1 02 00385
000634 100624 R
                  386 SKP21   CONT                                           C.1 02 00386
                  387 *                                                        02 00387
000635 000000 A   388 SEN1    DATA    0             SENSE STACK EMPTY            02 00388
000636 006010 A   389         LDAI    -1            SET SENSE TO FALSE           02 00389
000637 177777 A
000640 101170 A   390         SEN     0170,*+4                                   02 00390
000641 000644 R
000642 001000 A   391         JMP*    SEN1          FALSE                        02 00391
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000643 100635 R
000644 005001 A  392          TZA                      TRUE                                                  02 00392
000645 001000 A  393          JMP*    SEN1                                                                   02 00393
000646 100635 R
                 394 *                                                                                       02 00394
000647 000000 A  395 SEN2     DATA    0                SENSE STACK FULL                                      02 00395
000650 006010 A  396          LDAI    -1               SET FALSE                                             02 00396
000651 177777 A
000652 101270 A  397          SEN     0270,*+4                                                               02 00397
000653 000656 R
000654 001000 A  398          JMP*    SEN2             IF FALSE                                              02 00398
000655 100647 R
000656 005001 A  399          TZA                      IF TRUE                                               02 00399
000657 001000 A  400          JMP*    SEN2                                                                   02 00400
000660 100647 R
                 401 *                                                                                       02 00401
000661 000000 A  402 SEN3     DATA    0                SENSE BIC LOAD ACTIVE                                 02 00402
                 403          IFT     VORTEX                                                          C.1    02 00403
                 404          GOTO    SKP22,                                                          C.1    02 00404
                 410 SKP22    CONT                                                                    C.1    02 00410
                 411          IFF     VORTEX                                                          C.1    02 00411
                 412          GOTO    SKP23,                                                          C.1    02 00412
000662 006010 A  413          LDAI    05000            EXECUTE A NO-OP TO GET WCS STATUS                     C.1 02 00413
000663 005000 A
                 414          ALOC    V$WCS                                                           C.1    02 00414
000664 006505 A
000665 000406 A
000666 000600 A
000667 000632 E
000670 005021 A  415          TBA                      RETURN BIC ACTIVE STATUS                              C.1 02 00415
000671 001000 A  416          JMP*    SEN3                                                                   C.1 02 00416
000672 100661 R
                 417 SKP23    CONT                                                                    C.1    02 00417
                 418          EJEC                                                                           02 00418
                 419 *        PROCESS OPERATOR INPUT                                                         02 00419
                 420 *                                                                                       02 00420
                 421 *                                                                                       02 00421
000673 002000 A  422 EXC10    CALL    SIOUT,3,EXC4M    OUTPUT PROMPT CHARACTERS                              02 00422
000674 004553 R
000675 000003 A
000676 000737 R
000677 002000 A  423          CALL    SIIN             INPUT EXECUTIVE COMMAND                               02 00423
000700 004341 R
000701 002000 A  424 EX10E    JMPM    FETCH            FETCH FIRST CHAR FROM INPUT BUFFER                    02 00424
000702 005224 R
000703 001010 A  425          JAZ     EXC90                                                                  02 00425
000704 000731 R
000705 054022 A  426          STA     EXC19            SAVE CHAR                                             02 00426
000706 024017 A  427          LDB     EXC17            ADDR OF INPUT CHAR LIST                               02 00427
000707 034017 A  428          LDX     EXC18            CORRESPONDING ROUTINE ADDRESSES                       02 00428
                 429 *                                                                                       02 00429
000710 016000 A  430 EXC12    LDA     0,2              LEGAL INPUT CHAR                                      02 00430
000711 001004 A  431          JAN     EXC90            JUMP IF AT END OF TABLE                               02 00431
000712 000731 R
000713 144014 A  432          SUB     EXC19            LESS INPUT CHAR                                       02 00432
000714 001010 A  433          JAZ     EXC14            JUMP IF FOUND INPUT                                   02 00433
000715 000722 R
000716 005144 A  434          IXR                                                                            02 00434
000717 005122 A  435          IBR                                                                            02 00435
000720 001000 A  436          JMP     EXC12            CHECK NEXT CHAR                                       02 00436
000721 000710 R
                 437 *                                                                                       02 00437
000722 015000 A  438 EXC14    LDA     0,1              ROUTINE ADDR                                          02 00438
000723 054001 A  439          STA     EXC16            SAVE FOR JUMP                                         02 00439
000724 001000 A  440          JMP     *                CALL ROUTINE                                          02 00440
000725 000724 R
000725           441 EXC16    BES     0                ROUTINE ADDR                                          02 00441
                 442 *                                                                                       02 00442
000726 000443 R  443 EXC17    DATA    COMM             ADDR OF LEGAL INPUT CHAR LIST                         02 00443
000727 000461 R  444 EXC18    DATA    COMM1            ROUTINE ADDRESSES                                     02 00444
000730 000000 A  445 EXC19    DATA    0                INPUT CHAR                                            02 00445
                 446 *                                                                                       02 00446
                 447 *        INVALID INPUT                                                                  02 00447
                 448 *                                                                                       02 00448
000731 002000 A  449 EXC90    CALL    SIOUT,3,EXC92    OUTPUT ERROR MESSAGE                                  02 00449
000732 004553 R
000733 000003 A
000734 000742 R
000735 001000 A  450          JMP     CHMR             RESET MEDIA BEFORE GET NEXT INPUT                     02 00450
000736 003164 R
                 451 *                                                                                       02 00451
000737 120240 A  452 EXC4M    DATA    '  MU**'         PROMPT MESSAGE                                        02 00452
000740 146725 A
000741 125252 A
000742 120240 A  453 EXC92    DATA    '  MU01'         ERROR MESSAGE : INVALID INPUT                         02 00453
000743 146725 A
000744 130261 A
                 454          EJEC                                                                           02 00454
                 455 *        THIS ROUTINE HANDLES THE PAGE SELECT COMMAND (P)                               02 00455
                 456 *                                                                                       02 00456
                 457 *                                                                                       02 00457
                 458 *                                                                                       02 00458
000745 002000 A  459 PSEL     JMPM    FETCHA           GET PAGE NUMBER                                       02 00459
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000746 005234 R
000747 001010 A  460          JAZ     EXC90                                                    02 00460
000750 000731 R
000751 002000 A  461          CALL    CONV        CONVERT HEX ASCII TO BINARY                  02 00461
000752 005357 R
000753 001004 A  462          JAN     PGNOK       ERROR EXIT                                   02 00462
000754 000774 R
                 463 *        PAGE NUMBER MUST BE LESS THAN 16 AND GREATER THAN ZERO           02 00463
000755 001010 A  464          JAZ     PGNOK       IF ZERO, NO GOOD                             02 00464
000756 000774 R
000757 005012 A  465          TAB                                                              02 00465
000760 006140 A  466          SUBI    16                                                       02 00466
000761 000020 A
000762 001002 A  467          JAP     PGNOK       IF MORE THAN 15, NO GOOD                     02 00467
000763 000774 R
000764 064015 A  468          STB     PAGS        SAVE PAGE SPEC TEMP.                         02 00468
000765 002000 A  469          CALL    ENDCOM      CHECK IF END OF COMMAND                      02 00469
000766 004173 R
000767 024012 A  470          LDB     PAGS        IF SO,RESET PAGE NUMBER                      02 00470
000770 006067 A  471          STBE    PAGE                                                     02 00471
000771 000172 R
000772 001000 A  472          JMP     EXC10                                                    02 00472
000773 000673 R
                 473 *                                                                         02 00473
                 474 *        FOLLOWING REPORTS ILLEGAL PAGE NUMBER                            02 00474
                 475 *                                                                         02 00475
000774 002000 A  476 PGNOK    CALL    SIOUT,3,PAG6                                             02 00476
000775 004553 R
000776 000003 A
000777 001003 R
001000 001000 A  477          JMP     EXC10                                                    02 00477
001001 000673 R
                 478 *                                                                         02 00478
                 479 *                                                                         02 00479
001002 000000 A  480 PAGS     DATA    0           TEMP STORAGE OF PAGE NUMBER                  02 00480
001003 120240 A  481 PAG6     DATA    '  MU04'    ERROR MESSAGE, ILLEGAL PAGE NUMBER           02 00481
001004 146725 A
001005 130264 A
                 482          EJEC                                                             02 00482
                 483 *                                                                         02 00483
                 484 *        LOAD CONTROL STORE                                               02 00484
                 485 *        ENTERED VIA THE L COMMAND                                        02 00485
                 486 *                                                                         02 00486
001006           487 LDRM     BSS     0                                                        02 00487
001006 002000 A  488          CALL    ICS         INTERPRET CS SPECIFICATION                   02 00488
001007 004027 R
001010 006017 A  489          LDAE    $SYST       SYSTEM FLAG                                  02 00489
001011 000134 E
001012 001004 A  490          JAN     LMOS        JUMP IF MOS                                  02 00490
001013 001031 R
001014 006017 A  491          LDAE    BIFLG                                                    02 00491
001015 004340 R
001016 001002 A  492          JAP     LMOS        JUMP IF ON NONE RMD                          02 00492
001017 001031 R
001020 006010 A  493          LDAI    120                                                      02 00493
001021 000170 A
001022 006057 A  494          STAE    BIFCB       PUT RECORD LENGTH IN GLOBAL FCB              02 00494
001023 000133 E
001024 006010 A  495          LDAI    BUFR+1      PUT BUFFER ADDRESS IN GLOBAL FCB             02 00495
001025 000246 R
001026 006030 A  496          LDXI    BIFCB                                                    02 00496
001027 001023 E
001030 055001 A  497          STA     1,1                                                      02 00497
001031 005001 A  498 LMOS     TZA                                                              02 00498
001032 054347 A  499          STA     RCN         ZERO RECORD NUMBER                           02 00499
                 500 *                                                                         02 00500
                 501 *        THE READ FCB/DCB AND WORD COUNT ARE SET AT INITIALIZATION        02 00501
                 502 *                                                                         02 00502
                 503 LREAD    READ    BIDCB,6,0,1     READ A RECORD                            02 00503
001033 002000 A
001034 000106 E
001035 100000 A
001036 010006 A
001037 001362 R
001040 000000 A
001041 000000 A
                 504          STAT    LREAD,ERR,EOF,SEOD,*                             C.1 02 00504
001042 002000 A
001043 000000 E
001044 001030 R
001045 001273 R
001046 001301 R
001047 001307 R
001050 001042 R
001051 005001 A  505 LREAD1   TZA                                                              02 00505
001052 054330 A  506          STA     WDCT        ZERO WORD COUNT                              02 00506
001053 054320 A  507          STA     CKSM        CLEAR CHECKSUM SUPPRESS FLAG                 02 00507
001054 054320 A  508          STA     FREC        CLEAR FIRST RECORD FLAG                      02 00508
001055 054322 A  509          STA     LREC        CLEAR LAST RECORD FLAG                       02 00509
001056 034310 A  510          LDX     BIBUF       ADDR OF BI INPUT BUFFER                      02 00510
001057 015000 A  511          LDA     0,1         GET WORD ZERO                                02 00511
001060 005012 A  512          TAB                                                              02 00512
001061 154310 A  513          ANA     BIT15       GET BIT 15                                   02 00513
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001062 001010 A  514          JAZ     *+3             JUMP IF NOT SET                                  02 00514
001063 001065 R
001064 044307 A  515          INR     CKSM            SET CHECKSUM SUPPRESS                            02 00515
001065 005021 A  516          TBA                                                                      02 00516
001066 154302 A  517          ANA     BIT12           GET BIT 12                                       02 00517
001067 001010 A  518          JAZ     *+4             JUMP IF NOT SET                                  02 00518
001070 001073 R
001071 001000 A  519          JMP     *+3                                                              02 00519
001072 001074 R
001073 044301 A  520          INR     FREC            SET FIRST RECORD FLAG                            02 00520
001074 005021 A  521          TBA                                                                      02 00521
001075 154272 A  522          ANA     BIT11           GET BIT 11                                       02 00522
001076 001010 A  523          JAZ     *+4             JUMP IF NOT SET                                  02 00523
001077 001102 R
001100 001000 A  524          JMP     *+3                                                              02 00524
001101 001103 R
001102 044275 A  525          INR     LREC            SET LAST RECORD FLAG                             02 00525
001103 005021 A  526          TBA                                                                      02 00526
001104 006150 A  527          ANAI    0377            GET RECORD NUMBER                                02 00527
001105 000377 A
001106 144273 A  528          SUB     RCN             SUB EXPECTED RECORD NUMBER                       02 00528
001107 001010 A  529          JAZ     *+4                                                              02 00529
001110 001113 R
001111 001000 A  530          JMP     SEQER           SEQUENCE ERROR                                   02 00530
001112 001315 R
001113 014260 A  531          LDA     CKSM            CHECKSUM SUPPRESS FLAG                           02 00531
001114 001010 A  532          JAZ     *+4             FLAG SET                                         02 00532
001115 001120 R
001116 001000 A  533          JMP     LDFR            YES-DO NOT DO CHECKSUM                           02 00533
001117 001122 R
001120 002000 A  534          CALL    CKSUM           PERFORM CHECKSUM                                 02 00534
001121 001333 R
001122 014252 A  535 LDFR     LDA     FREC            FIRST RECORD FLAG                                02 00535
001123 001010 A  536          JAZ     LDBP                                                             02 00536
001124 001133 R
001125 014241 A  537          LDA     BIBUF           BUFFER ADDR                                      02 00537
001126 006120 A  538          ADDI    11              PLUS 11                                          02 00538
001127 000013 A
001130 054242 A  539          STA     BUFPTR          MOVED PAST HEADER BLOCK                          02 00539
001131 001000 A  540          JMP     LDWD                                                             02 00540
001132 001137 R
001133 014233 A  541 LDBP     LDA     BIBUF                                                            02 00541
001134 006120 A  542          ADDI    2                                                                02 00542
001135 000002 A
001136 054234 A  543          STA     BUFPTR          SET BUFFER POINTER                               02 00543
001137 014233 A  544 LDWD     LDA     BUFPTR                                                           02 00544
001140 144226 A  545          SUB     BIBUF                                                            02 00545
001141 006140 A  546          SUBI    60                                                               02 00546
001142 000074 A
001143 001002 A  547          JAP     LDNR            RECORD COMPLETE ?                                02 00547
001144 001225 R
001145 034225 A  548          LDX     BUFPTR                                                           02 00548
001146 015000 A  549          LDA     0,1             GET WORD                                         02 00549
001147 005012 A  550          TAB                                                                      02 00550
001150 004355 A  551          LSRA    13              GET CODE                                         02 00551
001151 001010 A  552          JAZ     *+4                                                              02 00552
001152 001155 R
001153 001000 A  553          JMP     *+5                                                              02 00553
001154 001160 R
001155 044215 A  554          INR     BUFPTR          IGNORE THIS WORD                                 02 00554
001156 001000 A  555          JMP     LDWD                                                             02 00555
001157 001137 R
001160 005311 A  556          DAR                                                                      02 00556
001161 001010 A  557          JAZ     LDORG           SET ORG ADDRESS                                  02 00557
001162 001216 R
001163 005311 A  558          DAR                                                                      02 00558
001164 001010 A  559          JAZ     LDST                                                             02 00559
001165 001170 R
001166 001000 A  560          JMP     LDCDE           LOADER CODE ERROR                                02 00560
001167 001323 R
001170         561 LDST       BSS     0                                                                02 00561
001170 044202 A  562          INR     BUFPTR                                                           02 00562
001171 005021 A  563          TBA                                                                      02 00563
001172 154206 A  564          ANA     LSB13           GET 13 LSBS (INST COUNT)                         02 00564
001173 005111 A  565          IAR                     PLUS ONE AS COUNT IS ACTUAL MINUS ONE            02 00565
001174 004202 A  566          ASLA    2               TIMES 4 (FOUR 16 BIT WORDS PER MICRO)            02 00566
001175 054004 A  567          STA     NMIC+2          SET COUNT FOR MOVE                               02 00567
001176 014174 A  568          LDA     BUFPTR                                                           02 00568
001177 054003 A  569          STA     NMIC+3          SET FROM ADDRESS FOR MOVE                        02 00569
001200 002000 A  570 NMIC     CALL    MOVMW,4,0                                                        02 00570
001201 006451 R
001202 000004 A
001203 000000 A
001204 006017 A  571          LDAE    NMIC+2          COUNT                                            02 00571
001205 001202 R
001206 124164 A  572          ADD     BUFPTR                                                           02 00572
001207 054163 A  573          STA     BUFPTR          UPDATE  BUFFER POINTER                           02 00573
001210 006017 A  574          LDAE    NMIC+2                                                           02 00574
001211 001202 R
001212 124163 A  575          ADD     LDADR                                                            02 00575
001213 054162 A  576          STA     LDADR           UPDATE LOAD ADDRESS POINTER                      02 00576
001214 001000 A  577          JMP     LDWD                                                             02 00577
001215 001137 R
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                        578 *
001216 005021 A         579 LDORG   TBA                                                 02 00578
001217 154161 A         580         ANA     LSB13       GET ORG ADDR                    02 00579
001220 006057 A         581         STAE    WORD                                        02 00580
001221 000167 R                                                                         02 00581
001222 044150 A         582         INR     BUFPTR                                      02 00582
001223 001000 A         583         JMP     LDWD                                        02 00583
001224 001137 R
001225 006017 A         584 LDNR    LDAE    BIFLG       BI ON RMD FLAG                  02 00584
001226 004340 R
001227 001010 A         585         JAZ     LDRNS       JUMP IF NOT SET                 02 00585
001230 001261 R
001231 006027 A         586         LDBE    SYST        SYSTEM FLAG                     02 00586
001232 000134 R
001233 016000 A         587         LDA     0,2                                         02 00587
001234 001004 A         588         JAN     LDRNS       MOS SYSTEM                      02 00588
001235 001261 R
001236 014134 A         589         LDA     BUFPTR                                      02 00589
001237 144123 A         590         SUB     BIDCB+1     BUFFER ADDR                     02 00590
001240 006140 A         591         SUBI    120         RECORD LENGTH ON RMD            02 00591
001241 000170 A
001242 001002 A         592         JAP     LDRNR       JUMP IF 120 WORDS READ          02 00592
001243 001256 R
001244 014128 A         593         LDA     BIBUF                                       02 00593
001245 006120 A         594         ADDI    60                                          02 00594
001246 000074 A
001247 054117 A         595         STA     BIBUF       SET FOR NEXT 60 WORD BLOCK      02 00595
001250 044131 A         596         INR     RCN         ADVANCE RECORD NUMBER           02 00596
001251 014126 A         597         LDA     LREC        LAST RECORD FLAG                02 00597
001252 001010 A         598         JAZ     LREAD1      JUMP IF NOT LAST RECORD         02 00598
001253 001051 R
001254 001000 A         599         JMP     LCOM        LOAD COMPLETE                   02 00599
001255 001265 R
001256 014104 A         600 LDRNR   LDA     BIDCB+1     BUFFER ADDR                     02 00600
001257 054107 A         601         STA     BIBUF       RESET BUFFER ADDRESS            02 00601
001260 054112 A         602         STA     BUFPTR                                      02 00602
001261 044120 A         603 LDRNS   INR     RCN         ADVANCE RECORD NUMBER           02 00603
001262 014115 A         604         LDA     LREC        LAST RECORD FLAG                02 00604
001263 001010 A         605         JAZ     LREAD       JUMP IF NOT SET                 02 00605
001264 001033 R
001265 001265 R         606 LCOM    EQU     *                                           02 00606
001265 002000 A         607         CALL    SIOUT,8,LDCM    OUTPUT LOAD COMPLETE        02 00607
001266 004553 R
001267 000010 A
001270 001420 R
001271 001000 A         608         JMP     EXC10       RETURN                          02 00608
001272 000673 R
                        609 *                                                           02 00609
001273 002000 A         610 ERR     CALL    SIOUT,3,RDER    OUTPUT ERROR                02 00610
001274 004553 R
001275 000003 A
001276 001430 R
001277 001000 A         611         JMP     EXC10                                       02 00611
001300 000673 R
001301 002000 A         612 EOF     CALL    SIOUT,3,EOFE    OUTPUT ERROR                02 00612
001302 004553 R
001303 000003 A
001304 001407 R
001305 001000 A         613         JMP     EXC10                                       02 00613
001306 000673 R
001307 002000 A         614 BEOD    CALL    SIOUT,3,HOPE    OUTPUT ERROR                02 00614
001310 004553 R
001311 000003 A
001312 001412 R
001313 001000 A         615         JMP     EXC10                                       02 00615
001314 000673 R
001315 002000 A         616 SEQER   CALL    SIOUT,3,SEQE    OUTPUT ERROR                02 00616
001316 004553 R
001317 000003 A
001320 001433 R
001321 001000 A         617         JMP     EXC10                                       02 00617
001322 000673 R
001323 002000 A         618 LDCDE   CALL    SIOUT,3,LCDE    OUTPUT ERROR                02 00618
001324 004553 R
001325 000003 A
001326 001410 R
001327 001000 A         619         JMP     EXC10                                       02 00619
001330 000673 R
                        621 *                                                           02 00621
                        622 *       THIS ROUTINE PERFORMS A STANDARD CHECKSUM ON A RECORD  02 00622
                        623 *                                                           02 00623
                        624 *       CALLING SEQUENCE                                    02 00624
001331 002000 A         625         CALL    CKSUM                                       02 00625
001332 001333 R
                        626 *       RETURN  1) TO LOADER IF CHECKSUM OK 2) TO ERROR IF NOT OK  02 00626
                        627 *                                                           02 00627
001333 000000 A         628 CKSUM   ENTR                                                02 00628
001334 006010 A         629         LDAI    BUFP+1                                      02 00629
001335 000240 R
001336 124027 A         630         ADD     BIFLK+1         RECORD LENGTH               02 00630
001337 054006 A         631         STA     CKSU2                                       02 00631
001340 005002 A         632         TZR                                                 02 00632
001341 005021 A         633 CKSU1   TZR                                                 02 00633
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001342 135000 A   634          ERA     0,1                                          02 00634
001343 005012 A   635          TAB                    SAVE ACCUM VALUE              02 00635
001344 005145 A   636          INCR    045            A=X=X+1                       02 00636
001345 006140 A   637          SUBI    0                                            02 00637
001346 000000 R
001346            638 CKSU2    BES     0                                            02 00638
001347 001004 A   639          JAN     CKSU1          JUMP IF NOT AT END OF RECORD  02 00639
001350 001341 R
001351 005021 A   640          TBA                                                  02 00640
001352 001010 A   641          JAZ*    CKSUM          RETURN IF CHECKSUM OK         02 00641
001353 101333 R
001354 002000 A   642          CALL    SIOUT,3,CKSU   OUTPUT ERROR                  02 00642
001355 004553 R
001356 000003 A
001357 001404 R
001360 001000 A   643          JMP     EXC10          RETURN                        02 00643
001361 000673 R
                  644 *                                                             02 00644
                  645 *        DATA BLOCKS AND TEMPORARY STORAGE                    02 00645
                  646 *                                                             02 00646
                  647 BIDCB    DCB     60,BUFR+1,0    LOCAL DCB FOR BI              02 00647
001362 000074 A
001363 000246 R
001364 000000 A
                  648          EXT     BIFCB                                        02 00648
001365 001027 E   649 BIBLK    DATA    BIFCB          FCB/DCB ADDR, SET BY INITIALIZATION  02 00649
001366 000074 A   650          DATA    60             RECORD LENGTH, SET BY INITIALIZATION 02 00650
001367 000246 R   651 BIBUF    DATA    BUFR+1         POINTER TO BUFFER             02 00651
001370 004000 A   652 BIT11    DATA    04000          BIT 11 MASK                   02 00652
001371 010000 A   653 BIT12    DATA    010000         BIT 12 MASK                   02 00653
001372 100000 A   654 BIT15    DATA    0100000        BIT 15 MASK                   02 00654
001373 000246 R   655 BUFPTR   DATA    BUFR+1         BUFFER POINTER                02 00655
001374 000000 A   656 CKSM     DATA    0              CHECKSUM FLAG                 02 00656
001375 000000 A   657 FREC     DATA    0              FIRST RECORD FLAG             02 00657
001376 000000 A   658 LDADR    DATA    0              LOAD ADDR                     02 00658
001377 000000 A   659 LDPT     DATA    0              BASE ADDR                     02 00659
001400 000000 A   660 LREC     DATA    0              LAST RECORD FLAG              02 00660
001401 017777 A   661 LSB13    DATA    017777         ADDR BITS                     02 00661
001402 000000 A   662 RCN      DATA    0              CURRENT EXPECTED RECORD NUMBER 02 00662
001403 000000 A   663 WDCT     DATA    0              WORD COUNT                    02 00663
001404 120240 A   664 CKSU     DATA    '  MU12'       CHECKSUM ERROR                02 00664
001405 146725 A
001406 130662 A
001407 120240 A   665 EOFE     DATA    '  MU08'       EOF ENCOUNTERED               02 00665
001410 146725 A
001411 130270 A
001412 120240 A   666 HOPE     DATA    '  MU09'       END OF DEVICE                 02 00666
001413 146725 A
001414 130271 A
001415 120240 A   667 LCDE     DATA    '  MU11'       LOADER CODE                   02 00667
001416 146725 A
001417 130661 A
001420 120240 A   668 LDCM     DATA    '  LOAD COMPLETE '                           02 00668
001421 146317 A
001422 140704 A
001423 120303 A
001424 147715 A
001425 150314 A
001426 142724 A
001427 142640 A
001430 120240 A   669 RDER     DATA    '  MU07'       READ ERROR                    02 00669
001431 146725 A
001432 130267 A
001433 120240 A   670 SEQE     DATA    '  MU10'       SEQUENCE ERROR                02 00670
001434 146725 A
001435 130660 A
                  671          EJEC                                                 02 00671
                  672 *                                                             02 00672
                  673 *        FOLLOWING CHANGES/DISPLAYS WCS WORDS                 02 00673
                  674 *        CALLED BY AN 'E' COMMAND                             02 00674
                  675 *                                                             02 00675
001436            676 EDRM     BSS     0                                            02 00676
001436 002000 A   677          CALL    ICS            GET CS SPECIFICATION          02 00677
001437 004027 R
001440 002000 A   678 E110L    CALL    RWCS           READ THE WORD                 02 00678
001441 003674 R
001442 002000 A   679          JMPM    PBUF           SETUP PRINTER BUFFER          02 00679
001443 005007 R
001444 006027 A   680          LDBE    MBUF                                         02 00680
001445 000173 R
001446 006030 A   681          LDXI    BUFR+1                                       02 00681
001447 000246 R
001450 002000 A   682          JMPM    DH             CONVERT HEX TO ASCII          02 00682
001451 006235 R
001452 006017 A   683          LDAE    STORE                                        02 00683
001453 000171 R
001454 001004 A   684          JAN     E112                                         02 00684
001455 001500 A
                  685 *                                                             02 00685
001456 006027 A   686          LDBE    MBUF+1                                       02 00686
001457 000174 R
001460 002000 A   687          JMPM    DH             CONVERT DATA TO ASCII         02 00687
001461 006235 R
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                        688 *
001462 006027 A         689         LDBE    MBUF+2                                                  02 00688
001463 000175 R                                                                                     02 00689
001464 002000 A         690         JMPM    DH              CONVERT DATA TO ASCII                   02 00690
001465 006235 R
                        691 *                                                                       02 00691
001466 006027 A         692         LDBE    MBUF+3                                                  02 00692
001467 000176 R
001470 002000 A         693         JMPM    DH              CONVERT DATA TO ASCII                   02 00693
001471 006235 R
                        694 *                                                                       02 00694
001472 002000 A         695         CALL    SIOUT,11,BUFR   OUTPUT THE 64 BIT MICRO                 02 00695
001473 004553 R
001474 000013 A
001475 000245 R
001476 001000 A         696         JMP     E113                                                    02 00696
001477 001504 R
                        697 *                                                                       02 00697
001500 002000 A         698 E112    CALL    SIOUT,4,BUFR    OUTPUT THE 16 BIT MICRO                 02 00698
001501 004553 R
001502 000004 A
001503 000245 R
001504 002000 A         699 E113    CALL    INH             GET CHANGE VALUE                        02 00699
001505 005520 R
001506 001040 A         700         JXZ     EXC10                                                   02 00700
001507 000673 R
001510 074057 A         701         STX     E118            LAST INPUT CHAR                         02 00701
001511 001020 A         702         JBZ     E115            JUMP IF NO CHANGE VALUE INPUT           02 00702
001512 001532 R
001513 002000 A         703         CALL    MOVW            MOVE MICRO TO OUTPUT BUFFER             02 00703
001514 006367 R
001515 000004 A         704         DATA    4               WORD COUNT                              02 00704
001516 000437 R         705         DATA    V               FROM ADDR                               02 00705
001517 000173 R         706         DATA    MBUF            TO ADDR                                 02 00706
001520 006017 A         707         LDAE    STORE           16 BIT MICRO?                           02 00707
001521 000171 R
001522 001002 A         708         JAP     E114            NO                                      02 00708
001523 001530 R
001524 006017 A         709         LDAE    MBUF+3          SET FOR SHORT MICRO                     02 00709
001525 000176 R
001526 006057 A         710         STAE    MBUF                                                    02 00710
001527 000173 R
001530 002000 A         711 E114    CALL    WWCS            CHANGE THE MICRO                        02 00711
001531 004004 R
                        712 *                                                                       02 00712
001532 014035 A         713 E115    LDA     E118            LAST INPUT CHAR                         02 00713
001533 006140 A         714         SUBI    0254            COMMA                                   02 00714
001534 000254 A
001535 001010 A         715         JAZ     *+4             YES - DISPLAY NEXT WORD                 02 00715
001536 001541 R
001537 001000 A         716         JMP     EXC10           NO - RETURN TO EXEC                     02 00716
001540 000673 R
       001541 R         717 E114A   EQU     *                                                   F   *******
001541 006047 A         718         INRE    WORD            ON TO NEXT WORD                         02 00717
001542 000167 R
001543 006017 A         719         LDAE    WORD                                                    02 00718
001544 000167 R
001545 006147 A         720         SUBE    WORD2           ANY MORE?                               02 00719
001546 000170 R
001547 005311 A         721         DAR                                                             02 00720
001550 001002 A         722         JAP     EXC10           RETURN - AT END OF BUFFER               02 00721
001551 000673 R
001552 002000 A         723         JMPM    PBUF            INITIALIZE LO BUFFER                    02 00722
001553 005007 R
001554 006030 A         724         LDXI    BUFR+1          BUFFER ADDR                             02 00723
001555 000246 R
001556 006027 A         725         LDBE    WORD            GET ADDR                                02 00724
001557 000167 R
001560 002000 A         726         JMPM    DH              CONVERT TO ASCII                        02 00725
001561 006235 R
001562 002000 A         727         CALL    SIOUT,4,BUFR      OUTPUT TO SO                          02 00726
001563 004553 R
001564 000004 A
001565 000245 R
001566 001000 A         728         JMP     E110L           OUTPUT CONTENTS OF WORD                 02 00727
001567 001440 R
                        729 *                                                                       02 00728
001570 000000 A         730 E118    DATA    0                                                       02 00729
                        731         EJEC                                                            02 00730
                        732 *                                                                       02 00731
                        733 *       FOLLOWING DUMPS WCS TO LO DEVICE                                02 00732
                        734 *                                                                       02 00733
001571                  735 E150    BSS     0                                                       02 00734
001571 002000 A         736         CALL    ICS             GET CONTROL STORE SPEC                  02 00735
001572 004027 R
001573 006017 A         737         LDAE    STORE           DUMPING CCS?                            02 00736
001574 000171 R
001575 001004 A         738         JAN     E155            NO, SO 16 BIT MICROS                    02 00737
001576 002155 R
001577 002000 A         739 E152    CALL    TPFRM           TOP OF FORM                             02 00738
001600 005052 R
001601 006030 A         740 LIST1   LDXI    LISTC+6         LOC TO STORE ADDRESS                    02 00739
001602 002146 R
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001603 006027 A  741          LDBE    WORD            GET CURRENT WORD NUMBER                  02 00740
001604 000167 R
001605 002000 A  742          CALL    OH              CONVERT TO ASCII                         02 00741
001606 006235 R
001607 006027 A  743          LDBE    PAGE            GET PAGE NUMBER                          02 00742
001610 000172 R
001611 006030 A  744          LDXI    LISTC+11                                                 02 00743
001612 002153 R
001613 002000 A  745          CALL    OH              CONVERT TO HEX                           02 00744
001614 006235 R
001615 006010 A  746          LDAI    'E '                                                     02 00745
001616 142640 A
001617 054333 A  747          STA     LISTC+11        REPLACE TOP ZEROS                        02 00746
001620 002000 A  748          CALL    LOOUT,13,LISTC                                           02 00747
001621 004661 R
001622 000015 A
001623 002140 R
001624 002000 A  749          JMPM    SPAC            SPACE LD                                 02 00748
001625 005041 R
001626 002000 A  750          CALL    RWCS            READ THE CCS WORD                        02 00749
001627 003674 R
                 751 *                                                                         02 00750
                 752 *        FOLLOWING BREAKS THE CCS WORD JUST READ INTO ITS 25 FIELDS       02 00751
                 753 *                                                                         02 00752
001630           754 FELD     BSS     0                                                        02 00753
001630 006030 A  755          LDXI    FIELDS          PLACE TO PUT FIRST FIELD                 02 00754
001631 000135 R
001632 006027 A  756          LDBE    MBUF            GET FIRST 16 BITS                        02 00755
001633 000173 R
001634 005001 A  757          TZA                                                              02 00756
001635 004444 A  758          LLRL    4                                                        02 00757
001636 055000 A  759          STA     XTS,1           TS FIELD                                 02 00758
                 760 *                                                                         02 00759
001637 005001 A  761          TZA                                                              02 00760
001640 004445 A  762          LLRL    5                                                        02 00761
001641 055001 A  763          STA     XAF,1           AF FIELD                                 02 00762
                 764 *                                                                         02 00763
001642 005001 A  765          TZA                                                              02 00764
001643 004444 A  766          LLRL    4                                                        02 00765
001644 055002 A  767          STA     XMS,1           MS FIELD                                 02 00766
                 768 *                                                                         02 00767
001645 005001 A  769          TZA                                                              02 00768
001646 004441 A  770          LLRL    1                                                        02 00769
001647 055003 A  771          STA     XMT,1           MT FIELD                                 02 00770
                 772 *                                                                         02 00771
001650 005001 A  773          TZA                                                              02 00772
001651 004442 A  774          LLRL    2                                                        02 00773
                 775 *                                                                         02 00774
001652 006027 A  776          LDBE    MBUF+1          GET SECOND 16 BITS                       02 00775
001653 000174 R
                 777 *                                                                         02 00776
001654 004442 A  778          LLRL    2                                                        02 00777
001655 055004 A  779          STA     XFS,1           FS FIELD                                 02 00778
                 780 *                                                                         02 00779
001656 005001 A  781          TZA                                                              02 00780
001657 004442 A  782          LLRL    2                                                        02 00781
001660 055005 A  783          STA     XT,1            T - TEST CONTROL                         02 00782
                 784 *                                                                         02 00783
001661 005001 A  785          TZA                                                              02 00784
001662 004442 A  786          LLRL    2                                                        02 00785
001663 055006 A  787          STA     XS,1            S - SPECIAL CONTROL                      02 00786
                 788 *                                                                         02 00787
001664 005001 A  789          TZA                                                              02 00788
001665 004444 A  790          LLRL    4                                                        02 00789
001666 055007 A  791          STA     XG,1            G - GENERAL CONTROL                      02 00790
                 792 *                                                                         02 00791
001667 005001 A  793          TZA                                                              02 00792
001670 004441 A  794          LLRL    1                                                        02 00793
001671 055010 A  795          STA     XM,1            M - FILE ADDR EXTRACTOR MASK             02 00794
                 796 *                                                                         02 00795
001672 005001 A  797          TZA                                                              02 00796
001673 004442 A  798          LLRL    2                                                        02 00797
001674 055011 A  799          STA     XAB,1           AB - FILE ADDR LOAD CONTROL              02 00798
                 800 *                                                                         02 00799
001675 005001 A  801          TZA                                                              02 00800
001676 004443 A  802          LLRL    3                                                        02 00801
                 803 *                                                                         02 00802
001677 006027 A  804          LDBE    MBUF+2          GET THIRD  16 BITS                       02 00803
001700 000175 R
                 805 *                                                                         02 00804
001701 004441 A  806          LLRL    1                                                        02 00805
001702 055012 A  807          STA     XIMC,1          IMC - I/O AND MEMORY CONTROL             02 00806
                 808 *                                                                         02 00807
001703 005001 A  809          TZA                                                              02 00808
001704 004442 A  810          LLRL    2                                                        02 00809
001705 055013 A  811          STA     XLB,1           LB - LATCH B CONTROL                     02 00810
                 812 *                                                                         02 00811
001706 005001 A  813          TZA                                                              02 00812
001707 004442 A  814          LLRL    2                                                        02 00813
001710 055014 A  815          STA     XLA,1           LA - LATCH A CONTROL                     02 00814
                 816 *                                                                         02 00815
001711 005001 A  817          TZA                                                              02 00816
001712 004443 A  818          LLRL    3                                                        02 00817
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001713 055015 A   819          STA     XR,1        R - REGISTER CONTROL                    02 00818
                  820 *                                                                    02 00819
001714 005001 A   821          TZA                                                         02 00820
001715 004444 A   822          LLRL    4                                                   02 00821
001716 055016 A   823          STA     XF,1        F - ADDER FUNCTION                      02 00822
                  824 *                                                                    02 00823
001717 005001 A   825          TZA                                                         02 00824
001720 004441 A   826          LLRL    1                                                   02 00825
001721 055017 A   827          STA     XMD,1       MD - ARITHMETIC/LOGICAL                 02 00826
                  828 *                                                                    02 00827
001722 005001 A   829          TZA                                                         02 00828
001723 004442 A   830          LLRL    2                                                   02 00829
001724 055020 A   831          STA     XC,1        C - CARRY                               02 00830
                  832 *                                                                    02 00831
001725 005001 A   833          TZA                                                         02 00832
001726 004441 A   834          LLRL    1                                                   02 00833
001727 055021 A   835          STA     XW,1        W - WRITE FILE                          02 00834
                  836 *                                                                    02 00835
                  837 *                                                                    02 00836
001730 006027 A   838          LDBE    MBUF+3      GET LAST 16 BITS                        02 00837
001731 000176 R
                  839 *                                                                    02 00838
001732 005001 A   840          TZA                                                         02 00839
001733 004441 A   841          LLRL    1                                                   02 00840
001734 055022 A   842          STA     XOS,1       OP REG SHIFT CONTROL                    02 00841
                  843 *                                                                    02 00842
001735 005001 A   844          TZA                                                         02 00843
001736 004441 A   845          LLRL    1                                                   02 00844
001737 055023 A   846          STA     XV,1        OP REG SHIFT GATING CONTROL             02 00845
                  847 *                                                                    02 00846
001740 005001 A   848          TZA                                                         02 00847
001741 004441 A   849          LLRL    1                                                   02 00848
001742 055024 A   850          STA     XY,1        QS CONTROL BIT                          02 00849
                  851 *                                                                    02 00850
001743 005001 A   852          TZA                                                         02 00851
001744 004442 A   853          LLRL    2                                                   02 00852
001745 055025 A   854          STA     XX,1        OP REG LONG SHIFTING END-AROUND CONTROL 02 00853
                  855 *                                                                    02 00854
001746 005001 A   856          TZA                                                         02 00855
001747 004443 A   857          LLRL    3                                                   02 00856
001750 055026 A   858          STA     XTC,1       TC - TEST CONTROL                       02 00857
                  859 *                                                                    02 00858
001751 005001 A   860          TZA                                                         02 00859
001752 004444 A   861          LLRL    4                                                   02 00860
001753 055027 A   862          STA     XB,1        B FIELD                                 02 00861
                  863 *                                                                    02 00862
001754 005001 A   864          TZA                                                         02 00863
001755 004444 A   865          LLRL    4                                                   02 00864
001756 055030 A   866          STA     XA,1        AA FIELD                                02 00865
001757 002000 A   867          CALL    LODUT,27,LISTA  OUTPUT HEADER                       02 00866
001760 004661 R
001761 000033 A
001762 002054 R
001763 006010 A   868          LDAI    FIELDS      ADDR OF FIRST FIELD                     02 00867
001764 000135 R
001765 054065 A   869          STA     LIST9                                               02 00868
001766 006010 A   870          LDAI    12          FIELD CONVERSION COUNT                  02 00869
001767 000014 A
001770 054061 A   871          STA     LIST8                                               02 00870
001771 002000 A   872          JMPM    LIST3       OUTPUT DATA TO LO                       02 00871
001772 002024 R
                  873 *                                                                    02 00872
001773 002000 A   874          JMPM    SPAC        SPACE LO                                02 00873
001774 005041 R
001775 002000 A   875          CALL    LODUT,25,LISTB  OUTPUT HEADER                       02 00874
001776 004661 R
001777 000031 A
002000 002107 R
002001 006010 A   876          LDAI    11          FIELD COUNT                             02 00875
002002 000013 A
002003 054046 A   877          STA     LIST8                                               02 00876
002004 002000 A   878          JMPM    LIST3       OUTPUT DATA TO LO                       02 00877
002005 002024 R
002006 002000 A   879          CALL    SPAC        SPACE THE LO DEVICE                     02 00878
002007 005041 R
                  880 *                                                                    02 00879
                  881 *                                                                    02 00880
                  882 *    FOLLOWING CHECKS TO SEE IF ALL DUMPED                           02 00881
                  883 *                                                                    02 00882
002010 006017 A   884          LDAE    WORD                                                02 00883
002011 000167 R
002012 006147 A   885          SUBE    WORD2                                               02 00884
002013 000170 R
002014 001002 A   886          JAP     EXC10       IF NO MORE, RETURN TO EXEC              02 00885
002015 000673 R
002016 001400 A   887          JSS3    EXC10       IF SS3,ABORT DUMP                 C.1   02 00886
002017 000673 R
002020 006047 A   888          INRE    WORD        ELSE, DUMP NEXT ONE                     02 00887
002021 000167 R
002022 001000 A   889          JMP     LIST1                                               02 00888
002023 001601 R
                  890          EJEC                                                        02 00889
002024 000000 A   891 LIST3    ENTR                                                        02 00890
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002025 002000 A  892          JMPM    PRUF          SETUP LO BUFFER                          02 00891
002026 005007 R
002027 034021 A  893          LDX     LIST7         BUFFER ADDR                              02 00892
                 894 *                                                                       02 00893
002030 024022 A  895 LIST4    LDB     LIST9         ADDR OF NEXT ROM FIELD                   02 00894
002031 026000 A  896          LDB     0,2           NEXT ROM FIELD                           02 00895
002032 002000 A  897          JMPM    DHA           CONVERT TO ASCII                         02 00896
002033 006301 R
002034 005144 A  898          IXR                   SPACE AFTER DATA                         02 00897
002035 044015 A  899          INR     LIST9         STEP TO NEXT FIELD                       02 00898
002036 014013 A  900          LDA     LIST8         FIELD COUNT                              02 00899
002037 005311 A  901          DAR                                                            02 00900
002040 054011 A  902          STA     LIST8         DECREMENTED COUNT                        02 00901
002041 001002 A  903          JAP     LIST4         LOOP IF NOT COMPLETE                     02 00902
002042 002030 R
002043 002000 A  904          CALL    LOOUT,27,BUFR   OUTPUT DATA TO LO                      02 00903
002044 004661 R.
002045 000033 A
002046 000245 R
002047 001000 A  905          JMP*    LIST3         RETURN                                   02 00904
002050 102024 R
                 906 *                                                                       02 00905
002051 000247 R  907 LIST7    DATA    BUFR+2          OUTPUT BUFFER ADDRESS                  02 00906
002052 000000 A  908 LIST8    DATA    0               ROM FIELD CONVERSION COUNT             02 00907
002053 000000 A  909 LIST9    DATA    0               ADDR OF ROM FIELD TO CONVERT           02 00908
002054 120240 A  910 LISTA    DATA    '    TS  AF  MS  MT  FS  TF  SF'                       02 00909
002055 120240 A
002056 152323 A
002057 120240 A
002060 140706 A
002061 120240 A
002062 146723 A
002063 120240 A
002064 146724 A
002065 120240 A
002066 143323 A
002067 120240 A
002070 152306 A
002071 120240 A
002072 151706 A
002073 120240 A  911          DATA    '  GF  MR  AB  IM  LB  LA'                           02 00910
002074 143706 A
002075 120240 A
002076 146722 A
002077 120240 A
002100 140702 A
002101 120240 A
002102 144715 A
002103 120240 A
002104 146302 A
002105 120240 A
002106 146301 A
002107 120240 A  912 LISTB    DATA    '    RF  FF  MF  CF  WR  SC'                       02 00911
002110 120240 A
002111 151306 A
002112 120240 A
002113 143306 A
002114 120240 A
002115 146706 A
002116 120240 A
002117 141706 A
002120 120240 A
002121 153722 A
002122 120240 A
002123 151703 A
002124 120240 A  913          DATA    '  VF  WF  XF  SH  BB  AA'                           02 00912
002125 153306 A
002126 120240 A
002127 153706 A
002130 120240 A
002131 154306 A
002132 120240 A
002133 151710 A
002134 120240 A
002135 141302 A
002136 120240 A
002137 140701 A
002140 120240 A  914 LISTC    DATA    '  CCS LOC   DDDD   PAGE DD'                        02 00913
002141 141703 A
002142 151640 A
002143 146317 A
002144 141640 A
002145 120240 A
002146 142304 A
002147 142304 A
002150 120240 A
002151 120320 A
002152 140707 A
002153 142640 A
002154 142304 A
                 915          EJEC                                                         02 00914
002155 002000 A  916 E155     CALL    TPFRM         TOP OF FORM                            02 00915
002156 005052 R
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002157 006017 A  917        LDAE    STORE                                          02 00916
002160 000171 R
002161 004355 A  918        LSRA    13                                             02 00917
002162 006140 A  919        SUBI    7                                              02 00918
002163 000007 A
002164 006030 A  920        LDXI    IOHDR+7     CHOOSE I/O CS HEADER               02 00919
002165 002313 R
002166 001010 A  921        JAZ     *+9         IF O.K.  STICK WITH IT             02 00920
002167 002177 R
002170 005111 A  922        IAR                 ELSE, SEE IF DECODE A OR B         02 00921
002171 006030 A  923        LDXI    DBHDR+7                                        02 00922
002172 002335 R
002173 001010 A  924        JAZ     *+4                                            02 00923
002174 002177 R
002175 006030 A  925        LDXI    DAHDR+7                                        02 00924
002176 002324 R
002177 006027 A  926        LDBE    PAGE        GET PAGE NUMBER                    02 00925
002200 000172 R
002201 002000 A  927        CALL    OH          PUT IN HEADER MESSAGE              02 00926
002202 006235 R
002203 005041 A  928        TXA                                                    02 00927
002204 006140 A  929        SUBI    2                                              02 00928
002205 000002 A
002206 005014 A  930        TAX                                                    02 00929
002207 006020 A  931        LDBI    '  '        ONLY NEED TWO DIGITS               02 00930
002210 120240 A
002211 065000 A  932        STB     0,X                                            02 00931
002212 006140 A  933        SUBI    7                                              02 00932
002213 000007 A
002214 054003 A  934        STA     *+4                                            02 00933
002215 002000 A  935        CALL    LOOUT,9,0   OUTPUT THE HEADER                  02 00934
002216 004661 R
002217 000011 A
002220 000000 A
002221 002000 A  936        CALL    SPAC        SPACE THE LO                       02 00935
002222 005041 R
002223 002000 A  937 E156   CALL    PBUF        INITIALIZE THE OUTPUT BUFFER       02 00936
002224 005007 R
002225 006030 A  938        LDXI    BUFR+1      INIT BUFFER ADDRESS                02 00937
002226 000246 R
002227 006027 A  939        LDBE    WORD        GET ADDRESS                        02 00938
002230 000167 R
002231 002000 A  940        CALL    OH          CONVERT TO HEX                     02 00939
002232 006235 R
002233 005144 A  941        IXR                 SPACE BETWEEN SECTIONS             02 00940
002234 006010 A  942        LDAI    7                                              02 00941
002235 000007 A
002236 054100 A  943        STA     E155X                                          02 00942
002237 074100 A  944        STX     E155Y       SAVE BUFFER LOCATION               02 00943
002240 002000 A  945 E157   CALL    RWCS        READ NEXT WCS WORD                 02 00944
002241 003674 R
002242 034075 A  946        LDX     E155Y       RESTORE BUFFER POINTER             02 00945
002243 006027 A  947        LDBE    MBUF        GET MICRO                          02 00946
002244 000173 R
002245 002000 A  948        CALL    OH          PUT IN HEX                         02 00947
002246 006235 R
002247 005144 A  949        IXR                                                    02 00948
002250 074067 A  950        STX     E155Y       SAVE BUFFER LOCATION               02 00949
002251 006017 A  951        LDAE    WORD                                           02 00950
002252 000167 R
002253 006147 A  952        SUBE    WORD2       DUMPED ALL?                        02 00951
002254 000170 R
002255 001002 A  953        JAP     E158        YES                                02 00952
002256 002276 R
002257 006047 A  954        INRE    WORD        NO, SO ON TO DUMP NEXT WORD        02 00953
002260 000167 R
               955 *                                                               02 00954
002261 014055 A  956        LDA     E155X       TIME FOR NEW LINE?                 02 00955
002262 005311 A  957        DAR                                                    02 00956
002263 054053 A  958        STA     E155X                                          02 00957
002264 001002 A  959        JAP     E157        NO                                 02 00958
002265 002240 R
002266 002000 A  960        CALL    LOOUT,30,BUFR YES                              02 00959
002267 004661 R
002270 000036 A
002271 000245 R
002272 001400 A  961        JSS3    EXC10       IF SS3,ABORT DUMP            C.1   02 00960
002273 000673 R
002274 001000 A  962        JMP     E156                                           02 00961
002275 002223 R
               963 *                                                               02 00962
002276 002000 A  964 E158   CALL    LOOUT,30,BUFR OUTPUT WHAT REMAINS                02 00963
002277 004661 R
002300 000036 A
002301 000245 R
002302 001000 A  965        JMP     EXC10                                          02 00964
002303 000673 R
               966 *                                                               02 00965
002304 120240 A  967 IOHDR  DATA    '  I/O CS, PAGE    '                           02 00966
002305 144657 A
002306 147640 A
002307 141723 A
002310 126240 A
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002311 150301 A
002312 143705 A
002313 120240 A
002314 120240 A
002315 120240 A   968 DAHDR   DATA    *   DCS A , PAGE    *                                   02 00967
002316 142303 A
002317 151640 A
002320 140640 A
002321 126240 A
002322 150301 A
002323 143705 A
002324 120240 A
002325 120240 A
002326 120240 A   969 DBHDR   DATA    *   DCS B , PAGE    *                                   02 00968
002327 142303 A
002330 151640 A
002331 141240 A
002332 126240 A
002333 150301 A
002334 143705 A
002335 120240 A
002336 120240 A
002337 000000 A   970 E155X   DATA    0                                                       02 00969
002340 000000 A   971 E155Y   DATA    0                                                       02 00970
                  972         EJEC                                                          02 00971
                  973 *                                                                     02 00972
                  974 *       RETURN TO OPERATING SYSTEM                                    02 00973
                  975 *                                                                     02 00974
002341            976 E170    BSS     0                                                     02 00975
002341 002000 A   977         CALL    ENDCOM                                                02 00976
002342 004173 R
002343 006017 A   978 E175    LDAE    LOFLG           LO ON RMD?                            02 00977
002344 004776 R
002345 001002 A   979         JAP     E177            NO                                    02 00978
002346 002356 R
                  980         CLOSE   LOFCB,5,0,1     IF IT IS, CLOSE AND UPDATE            02 00979
002347 002000 A
002350 001034 E
002351 100000 A
002352 013405 A
002353 000132 E
002354 000000 A
002355 000000 A
002356            981 E177    BSS     0                                                     02 00980
                  982         IFF     VORTEX                                                02 00981
                  983         EXT     EXIT                                                  02 00982
                  984         IFF     VORTEX                                          C.1   02 00983
                  985         CALL    EXIT                                                  02 00984
                  986         IFF     VORTEX                                          C.1   02 00985
                  987         GOTO    SKP7,                                           C.1   02 00986
                  988 *                                                                     02 00987
                  989 *                                                                     02 00988
                  990 *       WCS SAVE ROUTINE                                              02 00989
                  991 *       ****************                                              02 00990
                  992 *                                                                     02 00991
                  993 *                                                                     02 00992
                  994 *       TRANSFERS CONTENTS OF WCS TO DISK FILE *WCSIMG* (WHICH RESIDES 02 00993
                  995 *       ON THE DM PARTITION)                                          02 00994
                  996 *                                                                     02 00995
                  997 *                                                                     02 00996
                  998         EXT     V$WCS           WCS REENTRANT SUBROUTINE ENTRY POINTS C.1 02 00997
                  999         EXT     V$WCSI                                          C.1   02 00998
                 1000         EXT     V$WCSO                                          C.1   02 00999
                 1001         EXT     V$WCSF                                          C.1   02 01000
                 1002         EXT     V$WCSE                                          C.1   02 01001
000001 A         1003 DC      EQU     1                                                     02 01002
000150 A         1004 DM      EQU     104                                                   02 01003
                 1005 *                                                                     02 01004
                 1006 *                                                                     02 01005
                 1007 *       FILE IS FIRST OPENED ; IF NOT FOUND, SAVE OPERATION           02 01006
                 1008 *       IS ABORTED                                                    02 01007
                 1009 *                                                                     02 01008
                 1010 IORQ1   OPEN    IMGFCB,DM,1,0   OPEN AND REWIND FILE WCSIMG           02 01009
002356 002000 A
002357 002350 E
002360 100000 A
002361 103150 A
002362 003063 R
002363 000000 A
002364 000000 A
                 1011         STAT    IORQ1,OPNERR,*+7,*+7,*   LOOP TILL DONE               02 01010
002365 002000 A
002366 001043 E
002367 002356 R
002370 002551 R
002371 002374 R
002372 002374 R
002373 002365 R
002374           1012 WCSS10  BSS     0                                                     02 01011
                 1013 *                                                                     02 01012
                 1014 *       INITIALIZE WCS IN PREPARATION FOR DATA TRANSFER               02 01013
                 1015 *                                                                     02 01014
002374 006017 A  1016         LDAE    =XC0            INSTR TO INIT WCS                     02 01015
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002375 000611 R
                    1017          ALOC    V$WCSE          EXECUTE IT                                  02 01016
002376 006505 A
002377 000406 A
002400 000600 A
002401 000000 E
                    1018 *                                                                            02 01017
                    1019 *        INITIALIZE WCS PAGE NUMBER TO ONE                                   02 01018
                    1020 *                                                                            02 01019
002402 006010 A     1021          LDAI    01000                                                       02 01020
002403 001000 A
002404 054265 A     1022          STA     WCSPAG                                                      02 01021
002405 006010 A     1023          LDAI    120                                                         02 01022
002406 000170 A
002407 054263 A     1024          STA     BUFCNT          INIT CNT OF FREE WORDS IN THE BUFFR         02 01023
                    1025 *                                                                            02 01024
                    1026 *        FOLLOWING SECTION SAVES ONE WCS PAGE, ASSUMED TO CONSIST            02 01025
                    1027 *        OF 512 WORDS CENTRAL CS, 16 WORDS DCSA, 16 WORDS DCSB, AND          02 01026
                    1028 *        256 WORDS I/O CS. FOR WCS PAGES WITHOUT ALL THESE CONTROL           02 01027
                    1029 *        STORES, DATA SAVED WILL SIMPLY BE ZEROES OR ONES.                   02 01028
                    1030 *                                                                            02 01029
002410              1031 WCSR20   BSS     0                                                           02 01030
002410 006010 A     1032          LDAI    0060000         CHOOSE CCS FOR DATA TRANSFER                02 01031
002411 060000 A
002412 114257 A     1033          ORA     WCSPAG          ON THIS PAGE                                02 01032
                    1034          ALOC    V$WCSF          OUTPUT ADDRESS SELECTING FUNC WORD TO WCS   02 01033
002413 006505 A
002414 000406 A
002415 000600 A
002416 000000 E
002417 006010 A     1035          LDAI    512*4           TRANSFER 512 64 BIT WORDS                   02 01034
002420 004000 A
002421 054252 A     1036          STA     TRNCNT                                                      02 01035
002422 002000 A     1037          CALL    WSAVE                                                       02 01036
002423 002610 R
                    1038 *                                                                            02 01037
                    1039 *        SELECT DCSA FOR DATA TRANSFER                                       02 01038
                    1040 *                                                                            02 01039
002424 006010 A     1041          LDAI    0120000         COMPUTE FUNC WORD                           02 01040
002425 120000 A
002426 114243 A     1042          ORA     WCSPAG                                                      02 01041
                    1043          ALOC    V$WCSF          OUTPUT ADDRESS SELECTING FUNC WORD TO WCS   02 01042
002427 006505 A
002430 000406 A
002431 000600 A
002432 002416 E
                    1044 *                                                                            02 01043
                    1045 *        TRANSFER DATA                                                       02 01044
                    1046 *                                                                            02 01045
002433 006010 A     1047          LDAI    16              TRANSFER 16 WORDS                           02 01046
002434 000020 A
002435 054236 A     1048          STA     TRNCNT                                                      02 01047
002436 002000 A     1049          CALL    WSAVE                                                       02 01048
002437 002610 R
                    1050 *                                                                            02 01049
                    1051 *        SELECT DCSB FOR DATA TRANSFER                                       02 01050
                    1052 *                                                                            02 01051
002440 006010 A     1053          LDAI    0140000         GET FUNC WORD                               02 01052
002441 140000 A
002442 114227 A     1054          ORA     WCSPAG                                                      02 01053
                    1055          ALOC    V$WCSF          OUTPUT ADDRESS SELECTING FUNC WORD TO WCS   02 01054
002443 006505 A
002444 000406 A
002445 000600 A
002446 002432 E
                    1056 *                                                                            02 01055
                    1057 *        TRANSFER DATA                                                       02 01056
                    1058 *                                                                            02 01057
002447 006010 A     1059          LDAI    16              TRANSFER 16 WORDS                           02 01058
002450 000020 A
002451 054222 A     1060          STA     TRNCNT                                                      02 01059
002452 002000 A     1061          CALL    WSAVE                                                       02 01060
002453 002610 R
                    1062 *                                                                            02 01061
                    1063 *        SELECT I/O CS FOR DATA TRANSFER                                     02 01062
                    1064 *                                                                            02 01063
002454 006010 A     1065          LDAI    0160000         GET FUNC WORD                               02 01064
002455 160000 A
002456 114213 A     1066          ORA     WCSPAG                                                      02 01065
                    1067          ALOC    V$WCSF          OUTPUT ADDRESS SELECTING FUNC WORD TO WCS   02 01066
002457 006505 A
002460 000406 A
002461 000600 A
002462 002446 E
                    1068 *                                                                            02 01067
                    1069 *        TRANSFER DATA                                                       02 01068
                    1070 *                                                                            02 01069
002463 006010 A     1071          LDAI    256             TRANSFER 256 WORDS                          02 01070
002464 000400 A
002465 054206 A     1072          STA     TRNCNT                                                      02 01071
002466 002000 A     1073          CALL    WSAVE                                                       02 01072
002467 002610 R
                    1074 *                                                                            02 01073
```

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                    1075 IORQ2  WRITE   IMGFCB,OM,1,0 WRITE LAST RECORD OF THE PAGE                02 01074
002470 002000 A
002471 002357 E
002472 100000 A
002473 100550 A
002474 003065 R
002475 000000 A
002476 000000 A
                    1076        STAT    IORQ2,ABORT,*+7,ABORT,*       LOOP TILL DONE            02 01075
002477 002000 A
002500 002366 E
002501 002470 R
002502 002567 R
002503 002506 R
002504 002567 R
002505 002477 R
                    1077 *                                                                          02 01076
                    1078 *      TOTAL PAGE TRANSFERED SO INCREMENT PAGE#                            02 01077
                    1079 *                                                                          02 01078
002506 014163 A     1080        LDA     WCSPAG                                                      02 01079
002507 006120 A     1081        ADDI    01000                                                       02 01080
002510 001000 A
002511 054160 A     1082        STA     WCSPAG                                                      02 01081
                    1083 *                                                                          02 01082
                    1084 *      IF END OF DISK FILE, ALL DONE.                                      02 01083
                    1085 *      OTHERWISE, ANOTHER PAGE TO TRANSFER                                 02 01084
                    1086 *                                                                          02 01085
002512 006030 A     1087        LDXI    IMGFCB                                                      02 01086
002513 003065 R
002514 015003 A     1088        LDA     3,X           GET CURRENT RECORD # IN FILE                  02 01087
002515 125005 A     1089        ADD     5,X           ADD BEGIN FILE ADDR                           02 01088
002516 145006 A     1090        SUB     6,X           SUBTRACT  END ADDR PLUS ONE                   02 01089
002517 001004 A     1091        JAN     WCSR20        IF NOT AT END OF FILE, BACK TO LOAD           02 01090
002520 002410 R
                    1092 *                                                                          02 01091
                    1093 *      WHEN ALL DONE,   SUCCESS MESSAGE OUTPUT AND FILE CLOSED             02 01092
                    1094 *                                                                          02 01093
                    1095        WRITE   M3DCB,OC,0,1  OUTPUT OPERATION COMPLETE                     02 01094
002521 002000 A
002522 002471 E
002523 100000 A
002524 010401 A
002525 003105 R
002526 000000 A
002527 000000 A
                    1096        WRITE   M3DCB,LO,0,1                                                02 01095
002530 002000 A
002531 002522 E
002532 100000 A
002533 010405 A
002534 003105 R
002535 000000 A
002536 000000 A
                    1097 *                                                                          02 01096
                    1098        CLOSE   IMGFCB,OM,0,0   CLOSE THE FILE                              02 01097
002537 002000 A
002540 002531 E
002541 100000 A
002542 003550 A
002543 003065 R
002544 000000 A
002545 000000 A
                    1099        EXIT                                                                02 01098
002546 006505 A
002547 000406 A
002550 000200 A
                    1100        EJEC                                                                02 01099
                    1101 *                                                                          02 01100
                    1102 *      IF OPEN ON FILE WCSIMG FAILS, FOLLOWING REPORTS IT                  02 01101
                    1103 *                                                                          02 01102
002551              1104 OPNERR BSS     0                                                           02 01103
                    1105        WRITE   M2DCB,OC,0,1  TELL OPERATOR FILE NOT FOUND                  02 01104
002551 002000 A
002552 002540 E
002553 100000 A
002554 010401 A
002555 003102 R
002556 000000 A
002557 000000 A
                    1106        WRITE   M2DCB,LO,0,1  LIST ON LO ALSO                               02 01105
002560 002000 A
002561 002552 E
002562 100000 A
002563 010405 A
002564 003102 R
002565 000000 A
002566 000000 A
002567              1107 ABORT  BSS     0                                                           02 01106
                    1108 IORQ3  WRITE   M1DCB,OC,0,1  LET OPERATOR KNOW OPERATION ABORTED           02 01107
002567 002000 A
002570 002561 E
002571 100000 A
002572 010401 A
```

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002573 003077 R
002574 000080 A
002575 000000 A
                1109          WRITE   MIDCB,LD,0,1  LIST IT ON LD ALSO                    02 01108
002576 002000 A
002577 002570 E
002600 100000 A
002601 010405 A
002602 003077 R
002603 000000 A
002604 000000 A
                1110          EXIT                  ALL DONE                              02 01109
002605 006505 A
002606 000406 A
002607 000200 A
                1111 *                                                                    02 01110
                1112 *        FOLLOWING SUBROUTINE TRANSFERS BLOCK  OF WORDS FROM       02 01111
                1113 *        WCS TO DISK FILE                                          02 01112
                1114 *                                                                    02 01113
002610 000000 A 1115 WSAVE    DATA    0                                                   02 01114
002611 014061 A 1116          LDA     BUFCNT        SEE IF ANY WORDS LEFT IN BUFFER       02 01115
002612 001016 A 1117          JANZ    W10           IF SO, SKIP READING ANOTHER RECORD    02 01116
002613 002635 R
                1118 IORQ4    WRITE   IMGFCB,DM,1,0 OTHERWISE, DUMP BUFFER TO DISK        02 01117
002614 002000 A
002615 002577 E
002616 100000 A
002617 100550 A
002620 003065 R
002621 000000 A
002622 000000 A
                1119          STAT    IORQ4,ABORT,*+7,ABORT,*    LOOP TILL DONE         02 01118
002623 002000 A
002624 002500 E
002625 002614 R
002626 002567 R
002627 002632 R
002630 002567 R
002631 002623 R
002632 006010 A 1120          LDAI    120                                               02 01119
002633 000170 A
002634 054036 A 1121          STA     BUFCNT        INIT DATA WORD COUNT                02 01120
                1122 *                                                                    02 01121
002635 144036 A 1123 W10      SUB     TRNCNT        ENOUGH IN BUFFER TO COMPLETE TRANSFER?? 02 01122
002636 001002 A 1124          JAP     W50           IF SO, TRANSFER LAST THEN DONE        02 01123
002637 002655 R
002640 024032 A 1125          LDB     BUFCNT        IF NOT, TRANSFER WHATS THERE          02 01124
002641 006010 A 1126          LDAI    IMGBUF+120    GET ADDR OF DATA IN BUFFER            02 01125
002642 003065 R
002643 144027 A 1127          SUB     BUFCNT                                            02 01126
                1128          ALOC    V$WCSI        TRANSFER DATA FROM WCS TO BUFFER      02 01127
002644 006505 A
002645 000406 A
002646 000600 A
002647 000000 E
002650 014023 A 1129          LDA     TRNCNT        UPDATE COUNT OF WORDS TO TRANSFER     02 01128
002651 144021 A 1130          SUB     BUFCNT                                            02 01129
002652 054021 A 1131          STA     TRNCNT                                            02 01130
002653 001000 A 1132          JMP     IORQ4         LOOP BACK TO REFILL BUFFER            02 01131
002654 002614 R
                1133 *                                                                    02 01132
                1134 *        NEXT COMPLETES TRANSFERS BY INPUTTING REMAINING DATA      02 01133
                1135 *        NEEDED TO FILL THE BUFFER                                 02 01134
                1136 *                                                                    02 01135
002655 024016 A 1137 W50      LDB     TRNCNT        TRANSFER REMAINING NUMBER OF WORDS    02 01136
002656 006010 A 1138          LDAI    IMGBUF+120    GET ADDR OF DATA IN BUFFER            02 01137
002657 003065 R
002660 144012 A 1139          SUB     BUFCNT                                            02 01138
                1140          ALOC    V$WCSI        TRANSFER DATA FROM WCS TO BUFFER      02 01139
002661 006505 A
002662 000406 A
002663 000600 A
002664 002647 E
002665 014005 A 1141          LDA     BUFCNT        UPDATE COUNT OF BUFFER WORDS          02 01140
002666 144005 A 1142          SUB     TRNCNT                                            02 01141
002667 054003 A 1143          STA     BUFCNT                                            02 01142
002670 001000 A 1144          JMP*    WSAVE                                             02 01143
002671 102610 R
                1145          EJEC                                                      02 01144
002672 000000 A 1146 WCSPAG   DATA    0             WCS PAGE #                          02 01145
002673 000000 A 1147 BUFCNT   DATA    0             # OF WORDS LEFT IN DISK BUFFER       02 01146
002674 000000 A 1148 TRNCNT   DATA    0             # OF WORDS TO BE TRANSFERED TO/FROM WCS 02 01147
002675                1149 IMGBUF   BSS     120                                       02 01148
                1150 IMGFCB   FCB     120,IMGBUF,3,'D','WC','SI','MG'                   02 01149
003065 000170 A
003066 002675 R
003067 001784 A
003070 000000 A
003071 000000 A
003072 000000 A
003073 000000 A
003074 153703 A
003075 151711 A
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003076 146707 A
                    1151 M1DCB   DCB     9,M1                                    02 01150
003077 000011 A
003100 003110 R
003101 000000 A
                    1152 M2DCB   DCB     12,M2                                   02 01151
003102 000014 A
003103 003121 R
003104 000000 A
                    1153 M3DCB   DCB     6,M3                                    02 01152
003105 000006 A
003106 003135 R
003107 000000 A
003110 120240 A     1154 M1      DATA    '  WCS SAVE ABORTED' '                  02 01153
003111 153703 A
003112 151640 A
003113 151701 A
003114 153305 A
003115 120301 A
003116 141317 A
003117 151324 A
003120 142704 A
003121 120240 A     1155 M2      DATA    '  FILE WCSIMG NOT FOUND'               02 01154
003122 143311 A
003123 146305 A
003124 120327 A
003125 141723 A
003126 144715 A
003127 143640 A
003130 147317 A
003131 152240 A
003132 143317 A
003133 152716 A
003134 142240 A
003135 120240 A     1156 M3      DATA    '  WCS SAVED' '                         02 01155
003136 153703 A
003137 151640 A
003140 151701 A
003141 153305 A
003142 142240 A
                    1157         EJEC                                            02 01156
                    1158 SKP7    CONT                                    C.1     02 01157
                    1159         EJEC                                            02 01158
                    1160 *       THIS ROUTINE HANDLES THE SELECT INPUT MEDIA COMMAND (M)  02 01159
                    1161 *                                                       02 01160
                    1162 *       'MR' SELECTS SI TO BE THE INPUT MEDIA           02 01161
                    1163 *       'MS' SELECTS PI TO BE THE INPUT MEDIA           02 01162
                    1164 *                                                       02 01163
                    1165 *       CALLING SEQUENCE                                02 01164
                    1166 *                                                       02 01165
                    1167 *       JMP     CHME                                    02 01166
                    1168 *       RETURN  DESIRED INPUT MEDIA SELECTED            02 01167
                    1169 *                                                       02 01160
003143 002000 A     1170 CHME    JMPM    FETCHA          GET SELECTOR INDICATOR  02 01169
003144 005234 R
003145 001010 A     1171         JAZ     EXC90                                   02 01170
003146 000731 R
003147 006140 A     1172         SUBI    0322            R ?                     02 01171
003150 000322 A
003151 001010 A     1173         JAZ     CHMR                                    02 01172
003152 003164 R
003153 005311 A     1174         DAR                     S ?                     02 01173
003154 001010 A     1175         JAZ     CHMS                                    02 01174
003155 003160 R
003156 001000 A     1176         JMP     EXC90           INVALID INPUT           02 01175
003157 000731 R
003160 005301 A     1177 CHMS    DECR    01                                      02 01176
003161 054006 A     1178         STA     MEDIA           SET TO PI INPUT         02 01177
003162 001000 A     1179         JMP     EXC10                                   02 01178
003163 000673 R
003164 005001 A     1180 CHMR    TZA                                             02 01179
003165 054002 A     1181         STA     MEDIA           SET TO SI INPUT         02 01180
003166 001000 A     1182         JMP     EXC10                                   02 01181
003167 000673 R
003170 000000 A     1183 MEDIA   DATA    0                                       02 01182
                    1184         EJEC                                            02 01183
                    1185 *                                                       02 01184
                    1186 *                                                       02 01185
                    1187 *       FOLLOWING SETS MICRO EXECUTION ADDR             02 01186
                    1188 *                                                       02 01187
                    1189 *                                                       02 01188
003171              1190 E130    BSS     0                                       02 01189
003171 006017 A     1191         LDAE    DEBUG           IN DEBUG CONFIGURATION? 02 01190
003172 000166 R
003173 001010 A     1192         JAZ     *+4             YES                     02 01191
003174 003177 R
003175 001000 A     1193         JMP     EXC90           NO                      02 01192
003176 000731 R
003177 002000 A     1194         CALL    INA,'N'         GET THE ADDRESS         02 01193
003200 005417 R
003201 147240 A
003202 054056 A     1195         STA     E130X           SAVE IT                 02 01194
003203 006140 A     1196         SUBI    512             TOO BIG?                02 01195
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003204 001000 A                                                                                    02 01196
003205 001002 A 1197          JAP     EXC90           YES                                          02 01196
003206 000731 R
003207 002000 A 1198          CALL    SEN3            BIC LOAD ACTIVE ?                            02 01197
003210 000661 R
003211 001004 A 1199          JAN     E130B           IF NOT, CONTINUE                             02 01198
003212 003221 R
003213 002000 A 1200          CALL    SIOUT,3,WBM2    ELSE, REPORT PROBLEM                         02 01199
003214 004553 R
003215 000003 A
003216 004001 R
003217 001000 A 1201          JMP     EXC10           ABORT BACK TO EXECUTIVE                      02 01200
003220 000673 R
                1202          IFT     VORTEX                                                 C.1   02 01201
                1203          GOTO    SKP1,                                                  C.1   02 01202
                1215 SKP1     CONT                                                           C.1   02 01214
                1216          IFF     VORTEX                                                 C.1   02 01215
                1217          GOTO    SKP2,                                                  C.1   02 01216
003221          1218 E130B    BSS     0                                                      C.1   02 01217
003221 006017 A 1219          LDAE    EXC2            GET 'STEP WCS' I/O INSTR               C.1   02 01218
003222 000613 R
                1220          ALOC    V$WCSE          EXECUTE IT                             C.1   02 01219
003223 006505 A
003224 000406 A
003225 000600 A
003226 002401 E
003227 006010 A 1221          LDAI    0100000         GET FUNC WORD TO SELECT WCS ADDR        C.1   02 01220
003230 100000 A
                1222          ALOC    V$WCSF          OUTPUT IT TO WCS                       C.1   02 01221
003231 006505 A
003232 000406 A
003233 000600 A
003234 002462 E
003235 006017 A 1223          LDAE    PAGE            GET EFFECTIVE ADDRESS                  C.1   02 01222
003236 000172 R
003237 004251 A 1224          LRLA    9               PAGE                                   C.1   02 01223
003240 114020 A 1225          ORA     E130X           WORD                                   C.1   02 01224
                1226          ALOC    V$WCSF          OUTPUT IT TO WCS TO SELECT ADDR        C.1   02 01225
003241 006505 A
003242 000406 A
003243 000600 A
003244 003234 E
003245 006017 A 1227          LDAE    EXC2                                                   C.1   02 01226
003246 000613 R
                1228          ALOC    V$WCSE          EXECUTE IT                             C.1   02 01227
003247 006505 A
003250 000406 A
003251 000600 A
003252 003226 E
                1229 SKP2     CONT                                                           C.1   02 01228
                1230 *                                                                       C.1   02 01229
003253 006017 A 1231          LDAE    TRACE           TRACE ON?                                    02 01230
003254 000436 R
003255 002002 A 1232          JAPM    TMAD            IF SO, OUTPUT NEXT ADDR                      02 01231
003256 004206 R
003257 001000 A 1233          JMP     EXC10           DONE                                         02 01232
003260 000673 R
                1234 *                                                                             02 01233
003261 000000 A 1235 E130X    DATA    0               TEMP STORAGE FOR EXECUTION ADDR              02 01234
                1236          EJEC                                                               02 01235
                1237 *                                                                             02 01236
                1238 *                                                                             02 01237
                1239 *        FOLLOWING HANDLES THE EXECUTION OF MICROS                            02 01238
                1240 *                                                                             02 01239
                1241 *                                                                             02 01240
003262          1242 S100     BSS     0                                                            02 01241
003262 006017 A 1243          LDAE    DEBUG           IN DEBUG CONFIGURATION?                      02 01242
003263 000166 R
003264 001010 A 1244          JAZ     *+4             YES                                          02 01243
003265 003270 R
003266 001000 A 1245          JMP     EXC90           NO                                           02 01244
003267 000731 R
003270 002000 A 1246          CALL    FETCHA          MORE CHARACTERS ?                            02 01245
003271 005234 R
003272 001010 A 1247          JAZ     S100A           NO                                           02 01246
003273 003332 R
003274 006140 A 1248          SUBI    ' '                                                          02 01247
003275 000240 A
003276 001010 A 1249          JAZ     S100A           NO                                           02 01248
003277 003332 R
003300 002000 A 1250          CALL    FETCH           YES, SO RESET BACK TO BEGINING               02 01249
003301 005224 R
                1251 *                                                                             02 01250
003302 002000 A 1252          CALL    INA,'N'         GET THE EXECUTION COUNT                      02 01251
003303 005417 R
003304 147240 A
003305 054060 A 1253          STA     S100X           SAVE IT                                      02 01252
003306 001010 A 1254          JAZ     *+4             IF FREE RUN, HANDLE SPECIAL                  02 01253
003307 003312 R
003310 001000 A 1255          JMP     S100B           ELSE, STEP THE APPROPRIATE NO. OF TIMES      02 01254
003311 003333 R
                1256 *                                                                             02 01255
003312 006017 A 1257          LDAE    TRACE           TRACE ON?                                    02 01256
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003313 000436 R
003314 001002 A 1258          JAP     S100B   IF SO, DO INDEFINITE SINGLE STEPS          02 01257
003315 003335 R
003316 006017 A 1259          LDAE    HLTADR  HALT SET?                          C.1 02 01258
003317 000177 R
003320 001002 A 1260          JAP     S100B   IF SO, SINGLE STEP TO HALT          C.1 02 01259
003321 003335 R
                1261          IFF     VORTEX                                      C.1 02 01260
                1262          XEC     EXC1    OTHERWISE, FREE RUN                     02 01261
                1263          IFF     VORTEX                                      C.1 02 01262
                1264          GOTO    SKP3,                                       C.1 02 01263
003322 006017 A 1265          LDAE    EXC1    GET 'ENABLE FREE RUN' EXC INSTR     C.1 02 01264
003323 000612 R
                1266          ALOC    V$WCSE  EXECUTE IT                          C.1 02 01265
003324 006505 A
003325 000406 A
003326 000600 A
003327 003252 E
                1267 SKP3     CONT                                                C.1 02 01266
003330 001000 A 1268          JMP     EXC10   BACK FOR NEXT DIRECTIVE                 02 01267
003331 000673 R
                1269 *                                                                02 01268
                1270 *                                                                02 01269
003332 006010 A 1271 S100A    LDAI    1       SET DEFAULT EXECUTION COUNT TO 1        02 01270
003333 000001 A
003334 054031 A 1272          STA     S100X                                         02 01271
                1273 *                                                                02 01272
                1274          IFF     VORTEX                                      C.1 02 01273
                1275 S100B    XEC     EXC2    STEP THE CCS                            02 01274
                1276          IFF     VORTEX                                      C.1 02 01275
                1277          GOTO    SKP4,                                       C.1 02 01276
003335        1278 S100B      BSS     0                                           C.1 02 01277
003335 006017 A 1279          LDAE    EXC2    GET 'STEP WCS' EXC INSTR            C.1 02 01278
003336 000613 R
                1280          ALOC    V$WCSE  EXECUTE IT                          C.1 02 01279
003337 006505 A
003340 000406 A
003341 000600 A
003342 003327 E
                1281 SKP4     CONT                                                C.1 02 01280
                1282 *                                                            C.1 02 01281
003343 006017 A 1283          LDAE    TRACE   TRACE ON ?                              02 01282
003344 000436 R
003345 002002 A 1284          JAPM    TMAD    IF SO, TRACE THE ADDRESS                02 01283
003346 004206 R
003347 006017 A 1285          LDAE    HLTADR  HALT SET?                           C.1 02 01284
003350 000177 R
003351 002002 A 1286          JAPM    HLTCHK  IF SO, WATCH FOR IT                 C.1 02 01285
003352 003367 R
003353 001400 A 1287          JSS3    EXC10   IF SS3, ABORT SINGLE STEP            C.1 02 01286
003354 000673 R
003355 014010 A 1288          LDA     S100X   FREE RUN?                               02 01287
003356 001010 A 1289          JAZ     S100B   IF SO, KEEP STEPING                    02 01288
003357 003335 R
003360 005311 A 1290          DAR             ELSE, CHECK IF EXECUTED ENOUGH          02 01289
003361 001010 A 1291          JAZ     EXC10   IF SO, ALL DONE                         02 01290
003362 000673 R
003363 054002 A 1292          STA     S100X   ELSE, STEP AGAIN                       02 01291
003364 001000 A 1293          JMP     S100B                                           02 01292
003365 003335 R
                1294 *                                                                02 01293
003366 000000 A 1295 S100X    DATA    0       SAVES EXECUTION COUNT                   02 01294
                1296          EJEC                                                    02 01295
                1297 *                                                            C.1 02 01296
                1298 *        FOLLOWING CHECKS TO SEE IF HALT ADDRESS REACHED     C.1 02 01297
                1299 *        IF NOT, RETURNS TO CALLER                           C.1 02 01298
                1300 *        IF REACHED, OUTPUTS HALT MESSAGE AND RETURNS TO     C.1 02 01299
                1301 *        DIRECTIVE INPUT STAGE                               C.1 02 01300
                1302 *                                                            C.1 02 01301
003367 000000 A 1303 HLTCHK   DATA    0                                           C.1 02 01302
003370 006010 A 1304          LDAI    0100000 SELECT WCS ADDRESS REG              C.1 02 01303
003371 100000 A
                1305          IFT     VORTEX                                      C.1 02 01304
                1306          GOTO    SKP25,                                      C.1 02 01305
                1310 SKP25    CONT                                                    02 01309
                1311          IFF     VORTEX                                      C.1 02 01310
                1312          GOTO    SKP26,                                      C.1 02 01311
                1313          ALOC    V$WCSF  OUTPUT FUNC WORD TO WCS TO DO IT    C.1 02 01312
003372 006505 A
003373 000406 A
003374 000600 A
003375 003244 E
003376 006010 A 1314          LDAI    TEMP    PREPARE TO INPUT WCS ADDR               02 01313
003377 003425 R
003400 006020 A 1315          LDBI    1       ONE WORD DATA TRANSFER                  02 01314
003401 000001 A
                1316          ALOC    V$WCSI  INPUT IT TO BUFFER 'TEMP'           C.1 02 01315
003402 006505 A
003403 000406 A
003404 000600 A
003405 002664 E
003406 014016 A 1317          LDA     TEMP    GET IT                              C.1 02 01316
                1318 SKP26    CONT                                                C.1 02 01317
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003407 006147 A 1319          SUBE    HLTADR          AT HALT ??                                C.1 02 01318
003410 000177 R
003411 001010 A 1320          JAZ     *+4             IF SO, OUT MESSAGE                        C.1 02 01319
003412 003415 R
003413 001000 A 1321          JMP*    HLTCHK          ELSE, RETURN TO CALLER                    C.1 02 01320
003414 103367 R
                    1322 *                                                                      C.1 02 01321
                    1323 *                                                                      C.1 02 01322
003415 006017 A 1324          LDAE    TRACE           MESSAGE ALREADY OUTPUT BY TRACE ??        C.1 02 01323
003416 000436 R
003417 001002 A 1325          JAP     EXC10           IF SO, ALL DONE                           C.1 02 01324
003420 000673 R
003421 002000 A 1326          JMPM    TMAD            OTHERWISE, OUTPUT MESSAGE                 C.1 02 01325
003422 004206 R
003423 001000 A 1327          JMP     EXC10           BACK FOR DIRECTIVE INPUT                  C.1 02 01326
003424 000673 R
                    1328 *                                                                          02 01327
003425 000000 A 1329 TEMP     DATA    0                                                               02 01328
                    1330      EJEC                                                              C.1 02 01329
                    1331 *                                                                          02 01330
                    1332 *                                                                          02 01331
                    1333 *      FOLLOWING HANDLES THE INITIALIZE WCS COMMAND                        02 01332
                    1334 *                                                                          02 01333
                    1335 *                                                                          02 01334
003426              1336 INITW  BSS     0                                                           02 01335
003426 006017 A 1337          LDAE    DEBUG           IN DEBUG CONFIGURATION?                     02 01336
003427 000166 R
003430 001010 A 1338          JAZ     *+4             YES                                         02 01337
003431 003434 R
003432 001000 A 1339          JMP     EXC90           NO                                          02 01338
003433 000731 R
003434 002000 A 1340          CALL    ENDCOM          VERIFY NO MORE CHARACTERS                   02 01339
003435 004173 R
                    1341      IFF     VORTEX                                                C.1 02 01340
                    1342      XEC     EXC0            INITIALIZE WCS                            02 01341
                    1343      IFF     VORTEX                                                C.1 02 01342
                    1344      GOTO    SKP5,                                                 C.1 02 01343
003436 006017 A 1345          LDAE    EXC0            GET 'INIT WCS' EXC INSTR                  C.1 02 01344
003437 000611 R
                    1346      ALOC    V$WCSE          EXECUTE IT                                C.1 02 01345
003440 006505 A
003441 000406 A
003442 000600 A
003443 003342 E
                    1347 SKP5 CONT                                                          C.1 02 01346
003444 001000 A 1348          JMP     EXC10                                                     02 01347
003445 000673 R
                    1349      EJEC                                                              02 01348
                    1350 *                                                                      02 01349
                    1351 *                                                                      02 01350
                    1352 *      FOLLOWING HANDLES SETTING AND RESETTING OF TRACE MODE           02 01351
                    1353 *                                                                      02 01352
                    1354 *                                                                      02 01353
003446              1355 E140   BSS     0                                                       02 01354
003446 006017 A 1356          LDAE    DEBUG           IN DEBUG CONFIGURATION?                   02 01355
003447 000166 R
003450 001010 A 1357          JAZ     *+4             YES                                       02 01356
003451 003454 R
003452 001000 A 1358          JMP     EXC90           NO                                        02 01357
003453 000731 R
003454 002000 A 1359          CALL    FETCHA          GET NEXT CHAR                             02 01358
003455 005234 R
003456 054003 A 1360          STA     E140X+1         SAVE IT                                   02 01359
003457 002000 A 1361          CALL    ENDCOM          CONFIRM END OF COMMAND                    02 01360
003460 004173 R
003461 006010 A 1362 E140X    LDAI    0               RESTORE THE CHAR                          02 01361
003462 000000 A
003463 005012 A 1363          TAB                                                               02 01362
003464 006140 A 1364          SUBI    'R'             AN 'R' ?                                  02 01363
003465 000322 A
003466 001010 A 1365          JAZ     E140R           YES                                       02 01364
003467 003477 R
003470 005021 A 1366          TBA                                                               02 01365
003471 006140 A 1367          SUBI    'S'             AN 'S' ?                                  02 01366
003472 000323 A
003473 001010 A 1368          JAZ     E140S           YES                                       02 01367
003474 003505 R
003475 001000 A 1369          JMP     EXC90           NO, SO ILLEGAL                            02 01368
003476 000731 R
                    1370 *                                                                      02 01369
003477 006010 A 1371 E140R    LDAI    -1                                                        02 01370
003500 177777 A
003501 006057 A 1372          STAE    TRACE           RESET TRACE                               02 01371
003502 000436 R
003503 001000 A 1373          JMP     EXC10                                                     02 01372
003504 000673 R
                    1374 *                                                                      02 01373
003505 005001 A 1375 E140S    TZA                                                               02 01374
003506 006057 A 1376          STAE    TRACE           SET TRACE                                 02 01375
003507 000436 R
003510 001000 A 1377          JMP     EXC10                                                     02 01376
003511 000673 R
                    1378      EJEC                                                              02 01377
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                    1379 *                                                                                  02 01378
                    1380 *                                                                                  02 01379
                    1381 *       FOLLOWING HANDLES THE ENABLE CONTROL STORE COMMAND                          02 01380
                    1382 *                                                                                  02 01381
                    1383 *                                                                                  02 01382
003512              1384 ENABLE  BSS     0                                                                  02 01383
003512 006017 A     1385         LDAE    DEBUG          IN DEBUG CONFIGURATION?                             02 01384
003513 000166 R
003514 001010 A     1386         JAZ     *+4            YES                                                 02 01385
003515 003520 R
003516 001000 A     1387         JMP     EXC90          NO                                                  02 01386
003517 000731 R
003520 002000 A     1388         CALL    FETCHA         GET CS SPEC                                         02 01387
003521 005234 R
003522 054003 A     1389         STA     ENXX+1         SAVE IT                                             02 01388
003523 002000 A     1390         CALL    ENDCOM         VERIFY END OF COMMAND                               02 01389
003524 004173 R
003525 006010 A     1391 ENXX    LDAI    0              RESTORE THE CS SPEC                                 02 01390
003526 000000 A
003527 005012 A     1392         TAB                                                                        02 01391
003530 006140 A     1393         SUBI    'D'            DECODE ?                                            02 01392
003531 000304 A
003532 001010 A     1394         JAZ     ENDEC          YES                                                 02 01393
003533 003543 R
003534 005021 A     1395         TBA                                                                        02 01394
003535 006140 A     1396         SUBI    'I'            I/O ?                                               02 01395
003536 000311 A
003537 001010 A     1397         JAZ     ENIO           YES                                                 02 01396
003540 003556 R
003541 001000 A     1398         JMP     EXC90          ELSE ILLEGAL                                        02 01397
003542 000731 R
                    1399 *                                                                                  02 01398
                    1400 *                                                                                  02 01399
003543 006017 A     1401 ENDEC   LDAE    PAGE           ENABLE DCS ON THIS PAGE                             02 01400
003544 000172 R
003545 004251 A     1402         LRLA    9                                                                  02 01401
003546 006110 A     1403         ORAI    020000                                                             02 01402
003547 020000 A
                    1404         IFT     VORTEX                                                     C.1     02 01403
                    1405         GOTO    SKP6,                                                      C.1     02 01404
                    1408 $KP6    CONT                                                               C.1     02 01407
                    1409         IFT     VORTEX                                                     C.1     02 01408
                    1410         ALOC    V$WCSF         OUTPUT THE FUNC WORD TO WCS                 C.1     02 01409
003550 006505 A
003551 000406 A
003552 000600 A
003553 003375 E
003554 001000 A     1411         JMP     EXC10          ALL DONE                                            02 01410
003555 000673 R
                    1412 *                                                                                  02 01411
                    1413 *                                                                                  02 01412
003556 006017 A     1414 ENIO    LDAE    PAGE           ENABLE I/O CS ON THIS PAGE                          02 01413
003557 000172 R
003560 004251 A     1415         LRLA    9                                                                  02 01414
003561 006110 A     1416         ORAI    020200                                                             02 01415
003562 020200 A
                    1417         IFT     VORTEX                                                     C.1     02 01416
                    1418         GOTO    SKP8,                                                      C.1     02 01417
                    1421 SKP8    CONT                                                               C.1     02 01420
                    1422         IFT     VORTEX                                                     C.1     02 01421
                    1423         ALOC    V$WCSF         OUTPUT THE FUNC WORD TO WCS                 C.1     02 01422
003563 006505 A
003564 000406 A
003565 000600 A
003566 003553 E
003567 001000 A     1424         JMP     EXC10          ALL DONE                                            02 01423
003570 000673 R
                    1425         EJEC                                                                       02 01424
                    1426 *                                                                          C.1     02 01425
                    1427 *       FOLLOWING HANDLES THE 'H' DIRECTIVE                                C.1     02 01426
                    1428 *       SETS OR REMOVES HALT ADDRESS                                       C.1     02 01427
                    1429 *                                                                          C.1     02 01428
003571              1430 SETHLT  BSS     0                                                          C.1     02 01429
003571 006017 A     1431         LDAE    DEBUG          DEBUG CONFIG ?                              C.1     02 01430
003572 000166 R
003573 001010 A     1432         JAZ     *+4            IF SO, PROCESS DIRECTIVE                    C.1     02 01431
003574 003577 R
003575 001000 A     1433         JMP     EXC90          IF NOT, REPORT AN ERROR                     C.1     02 01432
003576 000731 R
                    1434 *                                                                          C.1     02 01433
                    1435 *                                                                          C.1     02 01434
003577 002000 A     1436         CALL    FETCHA         ANY MORE CHARACTERS ??                      C.1     02 01435
003600 005234 R
003601 001010 A     1437         JAZ     SETH1          IF NOT, REMOVE HALT ADDR                    C.1     02 01436
003602 003635 R
003603 006140 A     1438         SUBI    ' '                                                        C.1     02 01437
003604 000240 A
003605 001010 A     1439         JAZ     SETH1          IF BLANK, REMOVE HALT ALSO                  C.1     02 01438
003606 003635 R
003607 002000 A     1440         CALL    FETCH          ELSE, RESET POINTER                         C.1     02 01439
003610 005224 R
003611 002000 A     1441         CALL    INA,'N'        GET THE HALT ADDRESS                        C.1     02 01440
003612 005417 R
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003613 147240 A                                                                                C.1 02 01440
003614 006057 A 1442          STAE    S100X       SAVE IT                                      C.1 02 01441
003615 003366 R
003616 006140 A 1443          SUBI    512         TOO BIG ??                                   C.1 02 01442
003617 001000 A
003620 001004 A 1444          JAN     *+4         NO                                           C.1 02 01443
003621 003624 R
003622 001000 A 1445          JMP     EXC90       YES, REPORT IT                               C.1 02 01444
003623 000731 R
                1446 *                                                                         C.1 02 01445
                1447 *                                                                         C.1 02 01446
003624 006017 A 1448          LDAE    PAGE        GET THE PAGE NUMBER                          C.1 02 01447
003625 000172 R
003626 004251 A 1449          LRLA    9           GET INTO POSITION                            C.1 02 01448
003627 006117 A 1450          ORAE    S100X       ADD WORD NUMBER                              C.1 02 01449
003630 003366 R
003631 006057 A 1451          STAE    HLTADR      SAVE AS HALT ADDRESS                         C.1 02 01450
003632 000177 R
003633 001000 A 1452          JMP     EXC10       DONE                                         C.1 02 01451
003634 000673 R
                1453 *                                                                         C.1 02 01452
                1454 *        FOLLOWING RESETS HALT ADDRESS                                    C.1 02 01453
                1455 *                                                                         C.1 02 01454
003635 006010 A 1456 SETH1    LDAI    -1                                                       C.1 02 01455
003636 177777 A
003637 006057 A 1457          STAE    HLTADR      RESET HALT ADDR                              C.1 02 01456
003640 000177 R
003641 001000 A 1458          JMP     EXC10                                                    C.1 02 01457
003642 000673 R
                1459          EJEC                                                             C.1 02 01458
                1460 *                                                                           02 01459
                1461 *                                                                           02 01460
                1462 *        FOLLOWING HANDLES 'B' COMMAND                                      02 01461
                1463 *        IF PARAMETERS IN ORDER, DOES AN I/O BRANCH TO WCS                  02 01462
                1464 *                                                                           02 01463
                1465 *                                                                           02 01464
003643          1466 BRANCH   BSS     0                                                          02 01465
003643 006017 A 1467          LDAE    DEBUG       DEBUG CONFIG ?                               02 01466
003644 000166 R
003645 001010 A 1468          JAZ     *+4         YES                                          02 01467
003646 003651 R
003647 001000 A 1469          JMP     EXC90       NO, SO REPORT AN ERROR                       02 01468
003650 000731 R
003651 002000 A 1470          CALL    INA,'N'     GET THE TARGET ADDR                          02 01469
003652 005417 R
003653 147240 A
003654 054010 A 1471          STA     BT111+1     SAVE IT                                      02 01470
003655 006140 A 1472          SUBI    512         TOO BIG ?                                    02 01471
003656 001000 A
003657 001002 A 1473          JAP     EXC90       YES                                          02 01472
003660 000731 R
003661 006017 A 1474          LDAE    PAGE        GET EFFECTIVE ADDR                           02 01473
003662 000172 R
003663 004251 A 1475          LRLA    9           PAGE                                         02 01474
003664 006110 A 1476 BT111    ORAI    0           WORD                                         02 01475
003665 000000 A
                1477          IFT     VORTEX                                                   C.1 02 01476
                1478          GOTO    SKP10,                                                   C.1 02 01477
                1481 SKP10    CONT                                                             C.1 02 01480
                1482          IFT     VORTEX                                                   C.1 02 01481
                1483          ALOC    V$WCSF      OUTPUT THE FUNC WORD TO WCS                  C.1 02 01482
003666 006505 A
003667 000406 A
003670 000600 A
003671 003566 E
003672 001000 A 1484          JMP     EXC10       DONE HERE                                      02 01483
003673 000673 R
                1485          EJEC                                                               02 01484
                1486 ********************************************************************       02 01485
                1487 *                                                                  *         02 01486
                1488 *                                                                  *         02 01487
                1489 *        NAME:    READ A WCS WORD                                 *         02 01488
                1490 *                                                                  *         02 01489
                1491 *        PURPOSE: TO TRANSFER A WORD FROM WCS TO THE INPUT BUFFER *         02 01490
                1492 *                                                                  *         02 01491
                1493 *        TABLES: PAGE, STORE, AND WORD SPECIFY THE CONTROL STORE ADDRESS;  02 01492
                1494 *                                                                  *         02 01493
                1495 *                MBUF - RECEIVES MICRO BEING READ                  *         02 01494
                1496 *                                                                  *         02 01495
                1497 *        CALL:    JMPM   RWCS                                     *         02 01496
                1498 *                                                                  *         02 01497
                1499 *                                                                  *         02 01498
                1500 *                                                                  *         02 01499
                1501 *                                                                  *         02 01500
                1502 ********************************************************************       02 01501
                1503 *                                                                           02 01502
003674 000000 A 1504 RWCS     DATA    0                                                          02 01503
003675 002000 A 1505          CALL    RW50        SELECT EFFECTIVE WCS ADDR                      02 01504
003676 003717 R
                1506          IFT     VORTEX                                                   C.1 02 01505
                1507          GOTO    SKP12,                                                   C.1 02 01506
                1518 SKP12    CONT                                                             C.1 02 01517
                1519          IFF     VORTEX                                                   C.1 02 01518
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                    1520           GOTO    SKP13,                                                    C.1 02 01519
003677 006020 A     1521           LDBI    1          SET TRANSFER COUNT TO  1                       C.1 02 01520
003700 000001 A
003701 006017 A     1522           LDAE    STORE                                                     C.1 02 01521
003702 000171 R
003703 001004 A     1523           JAN     *+4        IF 64 BIT MICROWORD,                           C.1 02 01522
003704 003707 R
003705 006020 A     1524           LDBI    4          CHANGE IT TO 4                                 C.1 02 01523
003706 000004 A
003707 006010 A     1525           LDAI    MBUF       BUFFER ADDR                                        02 01524
003710 000173 R
                    1526           ALOC    V$WCSI     FILL BUFFER WITH DATA FROM WCS                 C.1 02 01525
003711 006505 A
003712 000406 A
003713 000600 A
003714 003405 E
                    1527 SKP13     CONT                                                              C.1 02 01526
003715 001000 A     1528           JMP*    RWCS       ALL DONE                                           02 01527
003716 103674 R
                    1529 *                                                                               02 01528
                    1530 *                                                                               02 01529
                    1531 *                                                                               02 01530
003717 000000 A     1532 RW50      DATA    0          THIS IS COMMON SUBR TO SELECT WCS ADDR              02 01531
003720 002000 A     1533           CALL    SEN3       BIC ACTIVE ?                                       02 01532
003721 000661 R
003722 001002 A     1534           JAP     RW55       IF SO, CHECK IT OUT                                02 01533
003723 003743 R
003724 006017 A     1535 RW52      LDAE    PAGE       GET THE EFFECTIVE ADDR                             02 01534
003725 000172 R
003726 004251 A     1536           LRLA    9          GET PAGE NUMBER                                    02 01535
003727 006117 A     1537           ORAE    STORE      ADD CONTROL STORE SPEC                             02 01536
003730 000171 R
003731 006117 A     1538           ORAE    WORD       ADD WORD NUMBER                                    02 01537
003732 000167 R
                    1539           IFT     VORTEX                                                C.1 02 01538
                    1540           GOTO    SKP14,                                                C.1 02 01539
                    1544 SKP14     CONT                                                          C.1 02 01543
                    1545           IFT     VORTEX                                                     02 01544
                    1546           ALOC    V$WCSF     OUTPUT FUNC WORD AND CHECK STATUS          C.1 02 01545
003733 006505 A
003734 000406 A
003735 000600 A
003736 003671 E
003737 001002 A     1547           JAP     RW57       IF SO, REPORT ERROR                                02 01546
003740 003756 R
003741 001000 A     1548           JMP*    RW50       ELSE, DONE HERE                                    02 01547
003742 103717 R
                    1549 *                                                                               02 01548
                    1550 *                                                                               02 01549
003743 006030 A     1551 RW55      LDXI    01000      DO TIME DELAY TO WAIT ON BUSY                      02 01550
003744 001000 A
003745 005344 A     1552           DXR                DO A TIME DELAY                                    02 01551
003746 001040 A     1553           JXZ     *+4                                                           02 01552
003747 003752 R
003750 001000 A     1554           JMP     *-3                                                           02 01553
003751 003745 R
003752 002000 A     1555           CALL    SEN3       BIC STILL ACTIVE?                                  02 01554
003753 000661 R
003754 001004 A     1556           JAN     RW52       IF NOT BUSY, GO SELECT EFFEC. ADDR.                02 01555
003755 003724 R
                    1557 *                                                                               02 01556
                    1558 *         OTHERWISE, REPORT ERROR                                               02 01557
                    1559 *                                                                               02 01558
003756 002000 A     1560 RW57      CALL    SEN3       BIC ACTIVE?                                        02 01559
003757 000661 R
003760 001002 A     1561           JAP     RW59       IF SO, SPECIAL MESSAGE                             02 01560
003761 003770 R
003762 002000 A     1562           CALL    SIOUT,3,WBM1  OUTPUT ERROR MESSAGE                            02 01561
003763 004553 R
003764 000003 A
003765 003776 R
003766 001000 A     1563           JMP     EXC10      BACK TO EXEC                                       02 01562
003767 000673 R
                    1564 *                                                                               02 01563
003770              1565 RW59      BSS     0          REPORT BIC BUSY                                    02 01564
003770 002000 A     1566           CALL    SIOUT,3,WBM2  OUTPUT ERROR MESSAGE                            02 01565
003771 004553 R
003772 000003 A
003773 004001 R
003774 001000 A     1567           JMP     EXC10      BACK TO EXEC                                       02 01566
003775 000673 R
                    1568 *                                                                               02 01567
003776 120240 A     1569 WBM1      DATA    '  MU05'   REPORT WCS BUSY                                    02 01568
003777 146725 A
004000 130265 A
004001 120240 A     1570 WBM2      DATA    '  MU06'   REPORT BIC LOAD ACTIVE                             02 01569
004002 146725 A
004003 130266 A
                    1571           EJEC                                                                  02 01570
                    1572 ********************************************************************************* 02 01571
                    1573 *                                                                               * 02 01572
                    1574 *                                                                               * 02 01573
                    1575 *         NAME:  WRITE A WORD INTO WCS                                          * 02 01574
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                    1576 *                                                                                  *   02 01575
                    1577 *       PURPOSE: TO TRANSFER THE CONTENTS OF THE OUTPUT BUFFER TO                  *   02 01576
                    1578 *                THE SPECIFIED LOCATION IN WCS                                     *   02 01577
                    1579 *                                                                                  *   02 01578
                    1580 *       TABLES: PAGE, STORE, AND WORD SPECIFY THE CONTROL STORE ADDRESS;           02 01579
                    1581 *                                                                                  *   02 01580
                    1582 *               MBUF - CONTAINS MICRO TO BE OUTPUT                                 *   02 01581
                    1583 *                                                                                  *   02 01582
                    1584 *       CALL:   JMPM  WWCS                                                         *   02 01583
                    1585 *                                                                                  *   02 01584
                    1586 *                                                                                  *   02 01585
                    1587 *                                                                                  *   02 01586
                    1588 *                                                                                  *   02 01587
                    1589 ************************************************************************************   02 01588
                    1590 *                                                                                        02 01589
004004 000000 A     1591 WWCS   DATA    0                                                                      02 01590
004005 002000 A     1592        CALL    RW50            SELECT EFFECTIVE WCS ADDR                              02 01591
004006 003717 R
                    1593        IFT     VORTEX                                                          C.1    02 01592
                    1594        GOTO    SKP16,                                                          C.1    02 01593
                    1605 SKP16  CONT                                                                    C.1    02 01604
                    1606        IFF     VORTEX                                                          C.1    02 01605
                    1607        GOTO    SKP17,                                                          C.1    02 01606
004007 006020 A     1608        LDBI    1               SET WORD COUNT TO 1                             C.1    02 01607
004010 000001 A
004011 006017 A     1609        LDAE    STORE                                                           C.1    02 01608
004012 000171 R
004013 001004 A     1610        JAN     *+4                                                             C.1    02 01609
004014 004017 R
004015 006020 A     1611        LDBI    4               IF 64 BIT MICRO, CHANGE IT TO 4                 C.1    02 01610
004016 000004 A
004017 006010 A     1612        LDAI    MBUF            BUFFER ADDR                                     C.1    02 01611
004020 000173 R
                    1613        ALOC    V$WCSO          DUMP BUFFER TO WCS                              C.1    02 01612
004021 006505 A
004022 000406 A
004023 000600 A
004024 000000 E
                    1614 SKP17  CONT                                                                    C.1    02 01613
004025 001000 A     1615        JMP*    WWCS            ALL DONE                                               02 01614
004026 104004 R
                    1616        EJEC                                                                           02 01615
                    1617 *                                                                                     02 01616
                    1618 *                                                                                     02 01617
                    1619 *       FOLLOWING INTERPRETS CS SPECIFICATION                                         02 01618
                    1620 *                                                                                     02 01619
                    1621 *                                                                                     02 01620
004027 000000 A     1622 ICS    DATA    0                                                                      02 01621
004030 002000 A     1623        CALL    FETCHA          GET FIRST CHAR                                         02 01622
004031 005234 R
004032 005012 A     1624        TAB                                                                            02 01623
004033 006140 A     1625        SUBI    'C'             CENTRAL?                                               02 01624
004034 000303 A
004035 001010 A     1626        JAZ     ICSC            YES                                                    02 01625
004036 004071 R
004037 005021 A     1627        TBA                                                                            02 01626
004040 006140 A     1628        SUBI    'I'             I/O CS ?                                               02 01627
004041 000311 A
004042 001010 A     1629        JAZ     ICSIO           YES                                                    02 01628
004043 004103 R
004044 005021 A     1630        TBA                                                                            02 01629
004045 006140 A     1631        SUBI    'D'             DECODE?                                                02 01630
004046 000304 A
004047 001010 A     1632        JAZ     *+4             YES                                                    02 01631
004050 004053 R
004051 001000 A     1633        JMP     EXC90           IF NOT, ILLEGAL                                        02 01632
004052 000731 R
004053 002000 A     1634        CALL    FETCHA          GET NEXT CHAR                                          02 01633
004054 005234 R
004055 005012 A     1635        TAB                                                                            02 01634
004056 006140 A     1636        SUBI    'A'             DC$A ?                                                 02 01635
004057 000301 A
004060 001010 A     1637        JAZ     ICSDA           YES                                                    02 01636
004061 004115 R
004062 005021 A     1638        TBA                                                                            02 01637
004063 006140 A     1639        SUBI    'B'             DCSB?                                                  02 01638
004064 000302 A
004065 001010 A     1640        JAZ     ICSDB           YES                                                    02 01639
004066 004123 R
004067 001000 A     1641        JMP     EXC90           IF NOT, ILLEGAL                                        02 01640
004070 000731 R
                    1642 *                                                                                     02 01641
                    1643 *                                                                                     02 01642
004071 006010 A     1644 ICSC   LDAI    060000          SET FOR CENTRAL CONTROL STORE                          02 01643
004072 060000 A
004073 006057 A     1645        STAE    STORE                                                                  02 01644
004074 000171 R
004075 006010 A     1646        LDAI    511                                                                    02 01645
004076 000777 A
004077 006057 A     1647        STAE    WORD2           SET LAST ADDR                                          02 01646
004100 000170 R
004101 001000 A     1648        JMP     ICS110                                                                 02 01647
004102 004135 R
```

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                    1649 *                                                                                  02 01648
004103 006010 A     1650 ICSIO  LDAI    0160000     SET FOR I/O CS                                          02 01649
004104 160000 A
004105 006057 A     1651        STAE    STORE                                                               02 01650
004106 000171 R
004107 006010 A     1652        LDAI    255                                                                 02 01651
004110 000377 A
004111 006057 A     1653        STAE    WORD2       SET LAST ADDR                                           02 01652
004112 000170 R
004113 001000 A     1654        JMP     ICS110                                                              02 01653
004114 004135 R
004115 006010 A     1655 ICSDA  LDAI    0120000     CHOOSE DCSA                                             02 01654
004116 120000 A
004117 006057 A     1656        STAE    STORE                                                               02 01655
004120 000171 R
004121 001000 A     1657        JMP     ICSDB1                                                              02 01656
004122 004127 R.
                    1658 *                                                                                  02 01657
                    1659 *                                                                                  02 01658
004123 006010 A     1660 ICSDB  LDAI    0140000     CHOOSE DCSB                                             02 01659
004124 140000 A
004125 006057 A     1661        STAE    STORE                                                               02 01660
004126 000171 R
004127 006010 A     1662 ICSDB1 LDAI    15                                                                  02 01661
004130 000017 A
004131 006057 A     1663        STAE    WORD2       SET LAST ADDR                                           02 01662
004132 000170 R
004133 001000 A     1664        JMP     ICS110                                                              02 01663
004134 004135 R
                    1665 *                                                                                  02 01664
                    1666 *                                                                                  02 01665
004135 002000 A     1667 ICS110 CALL    INA,'N'     GET FIRST NUMBER                                        02 01666
004136 005417 R
004137 147240 A
004140 006057 A     1668        STAE    WORD        SAVE IT                                                 02 01667
004141 000167 R
004142 006147 A     1669        SUBE    WORD2       LEGAL CONSIDERING CS SIZE?                              02 01668
004143 000170 R
004144 005311 A     1670        DAR                                                                         02 01669
004145 001002 A     1671        JAP     EXC90       NO                                                      02 01670
004146 000731 R
004147 002000 A     1672        CALL    INA,'N'     YES, SO GET SECOND NUMBER                               02 01671
004150 005417 R
004151 147240 A
004152 001010 A     1673        JAZ*    ICS         IF ZERO, TAKE DEFAULT FOR SECOND WORD                   02 01672
004153 104027 R
004154 005012 A     1674        TAB                                                                         02 01673
004155 006147 A     1675        SUBE    WORD2       LEGAL CONSIDERING CS?                                   02 01674
004156 000170 R
004157 005311 A     1676        DAR                                                                         02 01675
004160 001002 A     1677        JAP     EXC90       NO                                                      02 01676
004161 000731 R
004162 005021 A     1678        TBA                                                                         02 01677
004163 006147 A     1679        SUBE    WORD        LEGAL CONSIDERING FIRST NUMBER?                         02 01678
004164 000167 R
004165 001004 A     1680        JAN     EXC90       NO                                                      02 01679
004166 000731 R
004167 006067 A     1681        STBE    WORD2       LEGAL, SO SAVE IT                                       02 01680
004170 000170 R
004171 001000 A     1682        JMP*    ICS                                                                 02 01681
004172 104027 R
                    1683        EJEC                                                                        02 01682
                    1684 *                                                                                  02 01683
                    1685 *                                                                                  02 01684
                    1686 *      FOLLOWING CHECKS FOR END OF A COMMAND                                       02 01685
                    1687 *      NEXT CHARACTER MUST BE A BLANK OR ZERO FOR NORMAL EXIT;                     02 01686
                    1688 *      OTHERWISE, ERROR EXIT TAKEN                                                 02 01687
                    1689 *                                                                                  02 01688
                    1690 *                                                                                  02 01689
004173 000000 A     1691 ENDCOM DATA    0                                                                   02 01690
004174 002000 A     1692        CALL    FETCHA      GET NEXT CHAR                                           02 01691
004175 005234 R
004176 001010 A     1693        JAZ*    ENDCOM                                                              02 01692
004177 104173 R
004200 006140 A     1694        SUBI    ' '         A BLANK?                                                02 01693
004201 000240 A
004202 001010 A     1695        JAZ*    ENDCOM      YES                                                     02 01694
004203 104173 R
004204 001000 A     1696        JMP     EXC90       NO                                                      02 01695
004205 000731 R
                    1697        EJEC                                                                        02 01696
                    1698 *                                                                                  02 01697
                    1699 *                                                                                  02 01698
                    1700 *      FOLLOWING TRACES MICRO EXECUTION                                            02 01699
                    1701 *      OUTPUTS THE ADDRESS OF NEXT MICRO TO BE EXECUTED                            02 01700
                    1702 *                                                                                  02 01701
                    1703 *                                                                                  02 01702
004206 000000 A     1704 TMAD   DATA    0                                                                   02 01703
004207 006010 A     1705        LDAI    0100000     SELECT WCS ADDR REG                                     02 01704
004210 100000 A
                    1706        IFT     VORTEX                                                      C.1     02 01705
                    1707        GOTO    SKP18,                                                              02 01706
                    1713 SKP18  CONT                                                                C.1     02 01712
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                    1714          IFF     VORTEX                                                  C.1 02 01713
                    1715          GOTO    SKP19,                                                      02 01714
                    1716          ALOC    V$WCSF      OUTPUT FUNC WORD TO WCS                         02 01715
004211 006505 A
004212 000406 A
004213 000600 A
004214 003736 E
004215 006020 A 1717          LDBI    1           INPUT WCS ADDR (1 WORD)                         C.1 02 01716
004216 000001 A
004217 006010 A 1718          LDAI    TMADX       BUFFER ADDR                                     C.1 02 01717
004220 004266 R
                    1719          ALOC    V$WCSI      INPUT THE WCS ADDR TO THE BUFFER                C.1 02 01718
004221 006505 A
004222 000406 A
004223 000600 A
004224 003714 E
004225 006017 A 1720          LDAE    TMADX                                                       C.1 02 01719
004226 004266 R
                    1721 SKP19    CONT                                                            C.1 02 01720
004227 006150 A 1722          ANAI    017000      GET PAGE #                                          02 01721
004230 017000 A
004231 001110 A 1723          JIF     0110,TMAD   IF PAGE=0, AND SS1 SET, SUPPRESS TRACE          C.1 02 01722
004232 004206 R
004233 004243 A 1724          LRLA    3                                                               02 01723
004234 005012 A 1725          TAB                                                                     02 01724
004235 002000 A 1726          CALL    DH2           IN HEX                                            02 01725
004236 006262 R
004237 006110 A 1727          DRAI    0120000       PUT A BLANK ON ITS LEFT                           02 01726
004240 120000 A
004241 054025 A 1728          STA     TMADY         SAVE IT                                           02 01727
004242 014023 A 1729          LDA     TMADX         GET WORD NUMBER                                   02 01728
004243 006150 A 1730          ANAI    0777                                                            02 01729
004244 000777 A
004245 005012 A 1731          TAB                                                                     02 01730
004246 006030 A 1732          LDXI    TMADY+1                                                         02 01731
004247 004270 R
004250 002000 A 1733          CALL    DH            PUT IN HEX                                        02 01732
004251 006235 R
004252 014015 A 1734          LDA     TMADY+1                                                         02 01733
004253 006150 A 1735          ANAI    0377          PUT IN A DASH AS A SEPERATOR                      02 01734
004254 000377 A
004255 006110 A 1736          DRAI    0126400                                                         02 01735
004256 126400 A
004257 054010 A 1737          STA     TMADY+1                                                         02 01736
                    1738 *                                                                            02 01737
004260 002000 A 1739          CALL    SIOUT,3,TMADY OUTPUT THE ADDR SPEC                              02 01738
004261 004553 R
004262 000003 A
004263 004267 R
004264 001000 A 1740          JMP*    TMAD          DONE HERE                                         02 01739
004265 104206 R
                    1741 *                                                                            02 01740
004266 000000 A 1742 TMADX    DATA    0             TEMP STORAGE OF ADDR                              02 01741
                    1743 *                                                                            02 01742
004267 000000 A 1744 TMADY    DATA    0,0,0,0                                                         02 01743
004270 000000 A
004271 000000 A
004272 000000 A
                    1745          EJEC                                                            02 01744
                    1746 *                                                                            02 01745
                    1747 *        THIS ROUTINE DETERMINES IF THE LOGICAL UNIT IS ON A RMD AND       02 01746
                    1748 *        VORTEX IS THE OPERATING SYSTEM                                    02 01747
                    1749 *                                                                            02 01748
                    1750 *        CALLING SEQUENCE                                                  02 01749
                    1751 *        CALL    RMD,X         X = LUN                                     02 01750
                    1752 *        RETURN                A REG ZERO IF ON RMD AND IN VORTEX          02 01751
                    1753 *                                                                          02 01752
004273 000000 A 1754 RMD      ENTR                                                                  02 01753
004274 006027 A 1755          LDBE    RMD                                                           02 01754
004275 004273 R
004276 016000 A 1756          LDA     0,2           LUN PARAM OF CALL                               02 01755
004277 054012 A 1757          STA     RMD1                                                          02 01756
004300 006047 A 1758          INRE    RMD           UPDATE RETURN ADDRESS                           02 01757
004301 004273 R
004302 006027 A 1759          LDBE    SYST                                                          02 01758
004303 000134 R
004304 016000 A 1760          LDA     0,2           SYSTEM FLAG                                     02 01759
004305 001004 A 1761          JAN*    RMD           RETURN IF MOS SYSTEM                            02 01760
004306 104273 R
004307 024025 A 1762          LDB     V$LUT1                                                        02 01761
004310 016000 A 1763          LDA     0,2                                                           02 01762
004311 006120 A 1764          ADDI    0                                                             02 01763
004312 000000 A
004312              1765 RMD1 BES     0             LUN                                             02 01764
004313 005014 A 1766          TAX                                                                   02 01765
004314 015000 A 1767          LDA     0,1           LUN ENTRY                                       02 01766
004315 154750 A 1768          ANA     RHLF                                                          02 01767
004316 005311 A 1769          DAR                                                                   02 01768
004317 054017 A 1770          STA     RMDT                                                          02 01769
004320 004201 A 1771          ASLA    1                                                             02 01770
004321 124015 A 1772          ADD     RMDT                                                          02 01771
004322 054014 A 1773          STA     RMDT                                                          02 01772
004323 024012 A 1774          LDB     V$DSTB                                                        02 01773
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004324 016000 A 1775          LDA     0,2                                                    02 01774
004325 124011 A 1776          ADD     RMDT                                                   02 01775
004326 005012 A 1777          TAB                                                            02 01776
004327 016001 A 1778          LDA     1,2             FIRST WORD OF DST                      02 01777
004330 004350 A 1779          LSRA    8               LEFT CHAR                              02 01778
004331 006140 A 1780          SUBI    0304            D ?                                    02 01779
004332 000304 A
004333 001000 A 1781          JMP*    RMD             A REG ZERO IF ON RMD                   02 01780
004334 104273 R
004335 000400 A 1782 V$LUT1   DATA    0400            LUT POINTER                            02 01781
004336 000355 A 1783 V$DSTB   DATA    0355            DST POINTER                            02 01782
004337 000000 A 1784 RMDT     DATA    0               TEMP STORE                             02 01783
004340 000000 A 1785 BIFLG    DATA    0               BI ON RMD FLAG, POS=NO, NEG=YES        02 01784
                 1786         EJEC                                                           02 01785
                 1787 *                                                                      02 01786
                 1788 *       THIS IS A SUBROUTINE TO READ AN RECORD FROM THE SI DEVICE       02 01787
                 1789 *                                                                      02 01788
                 1790 *       CALLING SEQUENCE                                               02 01789
                 1791 *       CALL    SIIN                                                   02 01790
                 1792 *       RETURN  A,B,X REGISTERS RESTORED                               02 01791
                 1793 *                                                                      02 01792
004341 000000 A 1794 SIIN     ENTR                                                           02 01793
004342 006017 A 1795          LDAE    MEDIA                                                  02 01794
004343 003170 R
004344 001010 A 1796          JAZ     SIIN2           JUMP IF MEDIA = SI                     02 01795
004345 004356 R
004346 006017 A 1797          LDAE    SIIN                                                   02 01796
004347 004341 R
004350 054111 A 1798          STA     PIIN            SET UP RETURN ADDRESS                  02 01797
004351 001000 A 1799          JMP     PIIN+1          GO TO READ FROM PI                     02 01798
004352 004463 R
004353 054103 A 1800          STA     SIINA                                                  02 01799
004354 064103 A 1801          STB     SIINB                                                  02 01800
004355 074103 A 1802          STX     SIINX                                                  02 01801
004356 006027 A 1803 SIIN2    LDBE    SYST            SYSTEM FLAG ADDR                       02 01802
004357 000134 R
004360 016000 A 1804          LDA     0,2                                                    02 01803
004361 001004 A 1805          JAN     SIIN3           JUMP IF MDS                            02 01804
004362 004377 R
004363 014072 A 1806          LDA     SIFLG                                                  02 01805
004364 001002 A 1807          JAP     SIIN3           JUMP IF NON-RMD                        02 01806
004365 004377 R
004366 006010 A 1808          LDAI    36                                                     02 01807
004367 000044 A
004370 006057 A 1809          STAE    SIFCB           PUT IN RECORD LENGTH                   02 01808
004371 000130 E
004372 006010 A 1810          LDAI    BUFI                                                   02 01809
004373 000201 R
004374 006030 A 1811          LDXI    SIFCB           PUT IN BUFFER ADDR                     02 01810
004375 004371 E
004376 055001 A 1812          STA     1,X                                                    02 01811
004377 006010 A 1813 SIIN3    LDAI    0120240         BLANK-BLANK                            02 01812
004400 120240 A
004401 002000 A 1814          JMPM    SAR             INITIALIZE INPUT BUFFER TO BLANKS      02 01813
004402 005036 R
004403 000044 A 1815          DATA    36                                                     02 01814
004404 000200 R 1816          DATA    BUFI-1                                                 02 01815
                 1817 SIIN1   READ    INDCB,SI,0,1    READ INPUT                             02 01816
004405 002000 A
004406 002615 E
004407 100000 A
004410 010002 A
004411 004453 R
004412 000000 A
004413 000000 A
                 1818         STAT    SIIN1,*+7,SIEOF,*+7,*                                  02 01817
004414 002000 A
004415 002624 E
004416 004405 R
004417 004423 R
004420 004442 R
004421 004423 R
004422 004414 R
004423 002000 A 1819          JMPM    SOELO           SO EQUALS LO?                          02 01818
004424 004640 R
004425 001010 A 1820          JAZ     SIEXX           IF SO, NO LOOUT CALL                   02 01819
004426 004435 R
004427 014023 A 1821          LDA     INDCB           REQUESTED WORD COUNT                   02 01820
004430 054002 A 1822          STA     SILO+2          OVERLAY WC OF STANDARD CALL            02 01821
004431 002000 A 1823 SILO     CALL    LOOUT,36,BUFI-1   ECHO TO LO FOR RECORD                 02 01822
004432 004661 R
004433 000044 A
004434 000200 R
004435 014021 A 1824 SIEXX    LDA     SIINA                                                  02 01823
004436 024021 A 1825          LDB     SIINB                                                  02 01824
004437 034021 A 1826          LDX     SIINX                                                  02 01825
004440 001000 A 1827          RETU*   SIIN            RETURN                                 02 01826
004441 104341 R
                 1828 *                                                                      02 01827
004442 002000 A 1829 SIEOF    CALL    SIOUT,3,SIEOFM      REPORT EOF ON SI                   02 01828
004443 004553 R
004444 000003 A
004445 004450 R
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004446 001000 A 1830          JMP     E175          RETURN TO OPERATING SYSTEM                    02 01829
004447 002343 R
004450 120240 A 1831 SIEOFM   DATA    '  MU03'      EOF ON SI ERROR MESSAGE                       02 01830
004451 146725 A
004452 130263 A
               1832 INDCB     DCB     36,BUFI,0                                                  02 01831
004453 000044 A
004454 000201 R
004455 000000 A
004456 000000 A 1833 SIFLG    DATA    0             SI ON RMD FLAG                                02 01832
004457 000000 A 1834 SIINA    DATA    0             A REG                                         02 01833
004460 000000 A 1835 SIINB    DATA    0             B REG                                         02 01834
004461 000000 A 1836 SIINX    DATA    0             X REG                                         02 01835
                1837          EJEC                                                               02 01836
                1838 *                                                                           02 01837
                1839 *        THIS IS A SUBROUTINE TO READ A RECORD FROM THE PI DEVICE          02 01838
                1840 *                                                                           02 01839
                1841 *        CALLING SEQUENCE                                                   02 01840
                1842 *        CALL    PIIN          NOTE: RECORDS MAY NOT BE BLOCKED ON RMD      02 01841
                1843 *                                                                           02 01842
                1844 *        RETURN: A,B,X REGISTERS RESTORED                                   02 01843
                1845 *                                                                           02 01844
004462 000000 A 1846 PIIN     ENTR                                                               02 01845
004463 054064 A 1847          STA     PIINA                                                      02 01846
004464 064064 A 1848          STB     PIINB                                                      02 01847
004465 074064 A 1849          STX     PIINX                                                      02 01848
004466 006027 A 1850          LDBE    SYST          SYSTEM FLAG ADDR                             02 01849
004467 000134 R
004470 016000 A 1851          LDA     0,2                                                        02 01850
004471 001004 A 1852          JAN     PIIN1         JUMP IF MOS                                  02 01851
004472 004507 R
004473 014053 A 1853          LDA     PIFLG                                                      02 01852
004474 001002 A 1854          JAP     PIIN1         JUMP IF ON NON RMD                           02 01853
004475 004507 R
004476 006010 A 1855          LDAI    36                                                         02 01854
004477 000044 A
004500 006057 A 1856          STAE    PIFCB         PUT RECORD LENGTH IN GLOBAL FCB              02 01855
004501 000131 E
004502 006010 A 1857          LDAI    BUFI                                                       02 01856
004503 000201 R
004504 006030 A 1858          LDXI    PIFCB         PUT BUFFER ADDR IN                           02 01857
004505 004501 E
004506 055001 A 1859          STA     1,1                                                        02 01858
004507 006010 A 1860 PIIN1    LDAI    0120240       BLANK-BLANK                                  02 01859
004510 120240 A
004511 002000 A 1861          JMPM    SAR           INITIALIZE INPUT BUFFER                      02 01860
004512 005036 R
004513 000044 A 1862          DATA    36                                                         02 01861
004514 000200 R 1863          DATA    BUFI-1                                                     02 01862
                1864 PIIN2    READ    PIDCB,4,0,1   READ INPUT                                   02 01863
004515 002000 A
004516 004406 E
004517 100000 A
004520 010004 A
004521 004544 R
004522 000000 A
004523 000000 A
                1865          STAT    PIIN2,*+7,*+7,*+7,*                                        02 01864
004524 002000 A
004525 004415 E
004526 004515 R
004527 004533 R
004530 004533 R
004531 004533 R
004532 004524 R
004533 002000 A 1866          CALL    LOOUT,36,BUFI-1     ECHO TO LO FOR RECORD                  02 01865
004534 004661 R
004535 000044 A
004536 000200 R
004537 014010 A 1867          LDA     PIINA                                                      02 01866
004540 024010 A 1868          LDB     PIINB                                                      02 01867
004541 034010 A 1869          LDX     PIINX                                                      02 01868
004542 001000 A 1870          RETU*   PIIN          RETURN                                       02 01869
004543 104462 R
                1871 *                                                                           02 01870
                1872 PIDCB    DCB     36,BUFI,0                                                  02 01871
004544 000044 A
004545 000201 R
004546 000000 A
004547 000000 A 1873 PIFLG    DATA    0             PI ON RMD FLAG, POS=NO, NEG=YES              02 01872
004550 000000 A 1874 PIINA    DATA    0                                                          02 01873
004551 000000 A 1875 PIINB    DATA    0                                                          02 01874
004552 000000 A 1876 PIINX    DATA    0                                                          02 01875
                1877          EJEC                                                               02 01876
                1878 *                                                                           02 01877
                1879 *        THIS IS A SUBROUTINE TO WRITE A RECORD TO THE SO DEVICE           02 01878
                1880 *                                                                           02 01879
                1881 *        CALLING SEQUENCE                                                   02 01880
                1882 *        CALL    SIOUT,A,B                                                  02 01881
                1883 *                WHERE:                                                     02 01882
                1884 *                A=NUMBER OF WORDS                                          02 01883
                1885 *                B=BUFFER ADDRESS                                           02 01884
                1886 *                                                                           02 01885
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                    2000 *      THIS ROUTINE WILL INITIALIZE THE LO OUTPUT BUFFER                    02 01999
                    2001 *                                                                           02 02000
                    2002 *      CALLING SEQUENCE                                                     02 02001
                    2003 *      JMPM    PBUF                                                         02 02002
                    2004 *                                                                           02 02003
                    2005 *      RETURN                                                               02 02004
                    2006 *                                                                           02 02005
005007 000000 A     2007 PBUF   ENTR                                                                 02 02006
005010 006010 A     2008        LDAI    0120240     ASCII SPACES                                     02 02007
005011 120240 A
005012 002000 A     2009        JMPM    SAR         INITIALIZE BUFFER                                02 02008
005013 005036 R
005014 000044 A     2010        DATA    36          WORD COUNT                                       02 02009
005015 000245 R     2011        DATA    BUFR        BUFFER ADDR                                      02 02010
005016 001000 A     2012        JMP*    PBUF        RETURN                                           02 02011
005017 105007 R
                    2013        EJEC                                                                 02 02012
                    2014 *                                                                           02 02013
                    2015 *      THIS IS A SUBROUTINE TO STORE THE A-REGISTER REPEATEDLY              02 02014
                    2016 *      CALLING SEQUENCE                                                     02 02015
                    2017 *      JMPM    SAR                                                          02 02016
                    2018 *      DATA    COUNT                                                        02 02017
                    2019 *      DATA    DATA-ADDRESS                                                 02 02018
                    2020 *      RETURN                                                               02 02019
                    2021 *                                                                           02 02020
005020 034015 A     2022 SAR1   LDX     SAR         GET ADDRESS OF CALL                              02 02021
005021 005012 A     2023        TAB                 PUT A-REG. INTO B-REG.                           02 02022
005022 015000 A     2024        LDA     0,X         GET COUNT                                        02 02023
005023 035001 A     2025        LDX     1,X         GET DATA ADDRESS                                 02 02024
005024 005311 A     2026 SAR2   DAR                 DECREMENT COUNT                                  02 02025
005025 001004 A     2027        JAN     SAR3        JUMP IF END OF COUNT                             02 02026
005026 005033 R
005027 065000 A     2028        STB     0,X         STORE 'A-REGISTER'                               02 02027
005030 005144 A     2029        IXR                 INCREMENT DATA ADDRESS                           02 02028
005031 001000 A     2030        JMP     SAR2        KEEP TRYING                                      02 02029
005032 005024 R
                    2031 *                                                                           02 02030
005033 044002 A     2032 SAR3   INR     SAR         ADJUST                                           02 02031
005034 044001 A     2033        INR     SAR         RETURN ADDRESS                                   02 02032
005035 001000 A     2034        JMP     0           RETURN                                           02 02033
005036 000000 A
                    2035 *                                                                           02 02034
                    2036 *      ENTRY POINT                                                          02 02035
                    2037 *                                                                           02 02036
005036              2038 SAR    BES     0           ENTRY                                            02 02037
005037 001000 A     2039        JMP     SAR1                                                         02 02038
005040 005020 R
                    2040        EJEC                                                                 02 02039
                    2041 *                                                                           02 02040
                    2042 *      THIS ROUTINE WILL SPACE THE LO                                       02 02041
                    2043 *                                                                           02 02042
                    2044 *      CALLING SEQUENCE                                                     02 02043
                    2045 *      JMPM    SPAC                                                         02 02044
                    2046 *                                                                           02 02045
                    2047 *      RETURN                                                               02 02046
                    2048 *                                                                           02 02047
005041 000000 A     2049 SPAC   ENTR                                                                 02 02048
005042 002000 A     2050        CALL    PBUF        CLEAR OUTPUT BUFFER                              02 02049
005043 005007 R
005044 002000 A     2051        CALL    LOOUT,36,BUFR   SPACE LO                                     02 02050
005045 004661 R
005046 000044 A
005047 000245 R
005050 001000 A     2052        JMP*    SPAC        RETURN                                           02 02051
005051 105041 R
                    2053 *                                                                           02 02052
                    2054        EJEC                                                                 02 02053
                    2055 *                                                                           02 02054
                    2056 *      THIS ROUTINE HANDLES TOP OF FORM AND STANDARD HEADER OUTPUT           02 02055
                    2057 *                                                                           02 02056
                    2058 *      CALLING SEQUENCE                                                     02 02057
                    2059 *      CALL    TPFRM                                                        02 02058
                    2060 *      RETURN                                                               02 02059
                    2061 *                                                                           02 02060
005052 000000 A     2062 TPFRM  ENTR                                                                 02 02061
                    2063        FUNC    LODCB,LO,0                                                   02 02062
005053 002000 A
005054 004713 E
005055 100000 A
005056 002405 A
005057 004773 R
005060 000000 A
005061 000000 A
005062 014123 A     2064        LDA     PGNO        PAGE NUMBER                                      02 02063
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005074 002000 A 2072          JMPM    TPST            STORE                                   02 02071
005075 005211 R
005076 024111 A 2073          LDB     JOB                                                     02 02072
005077 026000 A 2074          LDB     0,2                                                     02 02073
005100 036000 A 2075          LDX     0,2                                                     02 02074
005101 006020 A 2076          LDBI    HDR+12          HEADER AREA                             02 02075
005102 005161 R
005103 002000 A 2077          JMPM    TPST            STORE                                   02 02076
005104 005211 R
005105 006027 A 2078          LDBE    SYST                                                    02 02077
005106 000134 R
005107 016000 A 2079          LDA     0,2             SYSTEM FLAG                             02 02078
005110 001010 A 2080          JAZ     *+6             VORTEX                                  02 02079
005111 005116 R
005112 006030 A 2081          LDXI    TPMOS           MOS                                     02 02080
005113 005176 R
005114 001000 A 2082          JMP     *+4                                                     02 02081
005115 005120 R
005116 006030 A 2083          LDXI    TPVOR           VORTEX                                  02 02082
005117 005202 R
005120 006020 A 2084          LDBI    HDR+17          HEADER AREA                             02 02083
005121 005166 R
005122 002000 A 2085          JMPM    TPST            STORE                                   02 02084
005123 005211 R
005124 006010 A 2086          LDAI    1                                                       02 02085
005125 000001 A
005126 006057 A 2087          STAE    LDLINE          RESET LINE NUMBER                       02 02086
005127 005006 R
005130 002000 A 2088          CALL    LDOUT,25,HDR    OUTPUT HEADER                           02 02087
005131 004661 R
005132 000031 A
005133 005145 R
005134 002000 A 2089          JMPM    PBUF            CLEAR OUTPUT BUFFER                     02 02089
005135 005007 R
005136 002000 A 2090          CALL    LDOUT,1,BUFR    SPACE LO                                02 02089
005137 004661 R
005140 000001 A
005141 000245 R
005142 044043 A 2091          INR     PGNO            INCR PAGE NUMBER                        02 02090
005143 001000 A 2092          RETU*   TPFRM                                                   02 02091
005144 105052 R
                2093 *                                                                        02 02092
005145 120240 A 2094 HDR      DATA    '  PAGE  DDDD  MM/DD/YY  JOBNAME    SYSTEM   MIUTIL'   02 02093
005146 150301 A
005147 143705 A
005150 120240 A
005151 142304 A
005152 142304 A
005153 120240 A
005154 146715 A
005155 127704 A
005156 142257 A
005157 154731 A
005160 120240 A
005161 145317 A
005162 141316 A
005163 140715 A
005164 142640 A
005165 120240 A
005166 120323 A
005167 154723 A
005170 152305 A
005171 146640 A
005172 120240 A
005173 146711 A
005174 152724 A
005175 144714 A
005176 120240 A 2095 TPMOS   DATA    '  MOS   '                                               02 02094
005177 146717 A
005200 151640 A
005201 120240 A
005202 120326 A 2096 TPVOR    DATA    ' VORTEX '                                              02 02095
005203 147722 A
005204 152305 A
005205 154240 A
005206 000000 A 2097 PGNO     DATA    0               CURRENT PAGE NUMBER                     02 02096
                2098          EXT     $DATE                                                   02 02097
                2099          EXT     $JOB                                                    02 02098
005207 100000 E 2100 DATE     DATA    ($DATE)*                                                02 02099
005210 100000 E 2101 JOB      DATA    ($JOB)*                                                 02 02100
                2102 *                                                                        02 02101
005211 000000 A 2103 TPST     ENTR                                                            02 02102
005212 015000 A 2104          LDA     0,1             CHAR 1-2                                02 02103
005213 056000 A 2105          STA     0,2                                                     02 02104
005214 015001 A 2106          LDA     1,1             CHAR 3-4                                02 02105
005215 056001 A 2107          STA     1,2                                                     02 02106
005216 015002 A 2108          LDA     2,1             CHAR 5-6                                02 02107
005217 056002 A 2109          STA     2,2                                                     02 02108
005220 015003 A 2110          LDA     3,1             CHAR 7-8                                02 02109
005221 056003 A 2111          STA     3,2                                                     02 02110
005222 001000 A 2112          JMP*    TPST                                                    02 02111
005223 105211 R
                2113          EJFC                                                            02 02112
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                    2114 ********************************************************************** 02 02113
                    2115 *                                                                      02 02114
                    2116 *                 FETCH                                                02 02115
                    2117 *                                                                      02 02116
                    2118 *                                                                      02 02117
                    2119 *       THIS IS A SUBROUTINE TO FETCH A CHAR FROM THE INPUT BUFFER      02 02118
                    2120 *                                                                      02 02119
                    2121 *       CALLING SEQUENCE                                               02 02120
                    2122 *       JMPM    FETCH          GET FIRST CHAR                          02 02121
                    2123 *                 OR                                                   02 02122
                    2124 *       JMPM    FETCHA         GET CHAR THERE AFTER                    02 02123
                    2125 *       RETURN:                                                        02 02124
                    2126 *       CHAR IN A REG, B REG DESTROYED, X REG SAME                     02 02125
                    2127 *                                                                      02 02126
                    2128 ********************************************************************** 02 02127
                    2129 *                                                                      02 02128
005224 000000 A     2130 FETCH  ENTR                                                           02 02129
005225 006017 A     2131        LDAE    FETCH                                                  02 02130
005226 005224 R
005227 054004 A     2132        STA     FETCHA         SET UP RETURN ADDRESS                   02 02131
005230 005002 A     2133        TZB                                                            02 02132
005231 064031 A     2134        STB     CHAR           ZERO CHARS FETCHED                      02 02133
005232 001000 A     2135        JMP     FETCHA+1                                               02 02134
005233 005235 R
005234 000000 A     2136 FETCHA ENTR                                                           02 02135
005235 014025 A     2137        LDA     CHAR           CHARACTER COUNT                         02 02136
005236 004341 A     2138        LSRA    1              GET WORD COUNT                          02 02137
005237 054024 A     2139        STA     FWORD                                                  02 02138
005240 006010 A     2140        LDAI    BUFI           GET BUFFER ADDRESS                      02 02139
005241 000201 R
005242 124021 A     2141        ADD     FWORD          INDEX INTO BUFFER                       02 02140
005243 005012 A     2142        TAB                                                            02 02141
005244 026000 A     2143        LDB     0,2            FETCH WORD                              02 02142
005245 014015 A     2144        LDA     CHAR                                                   02 02143
005246 154016 A     2145        ANA     BIT0           TEST WHICH HALF OF WORD                 02 02144
005247 001010 A     2146        JAZ     FETCHB         LEFT                                    02 02145
005250 005256 R
005251 005021 A     2147        TBA                    RIGHT                                   02 02146
005252 154013 A     2148        ANA     RHLF           MASK OFF                                02 02147
005253 044007 A     2149        INR     CHAR           NEXT CHAR                               02 02148
005254 001000 A     2150        JMP*    FETCHA         RETURN                                  02 02149
005255 105234 R
005256 005021 A     2151 FETCHB TBA                                                            02 02150
005257 004350 A     2152        LSRA    8              SHIFT DOWN                              02 02151
005260 044002 A     2153        INR     CHAR           NEXT HCAR                               02 02152
005261 001000 A     2154        JMP*    FETCHA         RETURN                                  02 02153
005262 105234 R
005263 000000 A     2155 CHAR   DATA    0                                                      02 02154
005264 000000 A     2156 FWORD  DATA    0                                                      02 02155
005265 000001 A     2157 BIT0   DATA    01                                                     02 02156
005266 000377 A     2158 RHLF   DATA    0377                                                   02 02157
                    2159        EJEC                                                           02 02158
                    2160 *                                                                     02 02159
                    2161 *       CONVERT CONTENTS OF A REG TO ASCII DEVIMAL                     02 02160
                    2162 *                                                                     02 02161
                    2163 *       CALLING SEQUENCE                                              02 02162
                    2164 *       LDA     BINARY                                                02 02163
                    2165 *       CALL    BNASC                                                 02 02164
                    2166 *       RETURN RESULTS IN A AND B                                     02 02165
                    2167 *                                                                     02 02166
005267 000000 A     2168 BNASC  ENTR                                                           02 02167
005270 006030 A     2169        LDXI    TABL+8         INITIALIZE POINTER                      02 02168
005271 005354 R
005272 054052 A     2170        STA     PUT                                                    02 02169
005273 005002 A     2171        TZB                    ZERO ACCUM                              02 02170
005274 014050 A     2172        LDA     PUT            GET REMAINDER                           02 02171
005275 145000 A     2173 GET    SUB     0,1            DIVIDE BY SUB                           02 02172
005276 001004 A     2174        JAN     GET2           EXIT IF NEG                             02 02173
005277 005303 R
005300 005122 A     2175        IBR                    INCR RESULT                             02 02174
005301 001000 A     2176        JMP     GET                                                    02 02175
005302 005275 R
005303 125000 A     2177 GET2   ADD     0,1            ADD BACK DIVISOR                        02 02176
005304 054040 A     2178        STA     PUT            SAVE REMAINDER                          02 02177
005305 005021 A     2179        TBA                    CONVERT RESULT TO ASCII                 02 02178
005306 124047 A     2180        ADD     ZEROB                                                  02 02179
005307 055001 A     2181        STA     1,1                                                    02 02180
005310 005344 A     2182        DXR                                                            02 02181
005311 005344 A     2183        DXR                    ARE WE THRU                             02 02182
005312 005041 A     2184        TXA                                                            02 02183
005313 006140 A     2185        SUBI    TABL                                                   02 02184
005314 005344 R
005315 001010 A     2186        JAZ     *+4            YES                                     02 02185
005316 005321 R
005317 001000 A     2187        JMP     GET-2          NO                                      02 02186
005320 005273 R
005321 014023 A     2188        LDA     PUT            CONVERT UNITS TO ASCII                  02 02187
005322 124033 A     2189        ADD     ZEROB                                                  02 02188
005323 054021 A     2190        STA     PUT                                                    02 02189
005324 006030 A     2191        LDXI    PUT            ASSEMBLE 4 ASCII CHAR                   02 02190
005325 005343 R
005326 007401 A     2192        SOF                                                            02 02191
005327 015002 A     2193 PUTLP  LDA     2,1                                                    02 02192
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005330 004250 A 2194          LRLA    8                                                    02 02193
005331 115000 A 2195          ORA     0,1                                                  02 02194
005332 001001 A 2196          JOF     *+4             MORE ?                               02 02195
005333 005336 R
005334 001000 A 2197          RETU*   BNASC           NO-RETURN                            02 02196
005335 105267 R
005336 005012 A 2198          TAB                                                          02 02197
005337 007400 A 2199          ROF                                                          02 02198
005340 006030 A 2200          LDXI    PUT+4                                                02 02199
005341 005351 R
005342 001000 A 2201          JMP     PUTLP           DO AGAIN                             02 02200
005343 005327 R
005344 000001 A 2202 TABL     DATA    1                                                    02 02201
005345 000000 A 2203 PUT      DATA    0               STORAGE                              02 02202
005346 000012 A 2204          DATA    10,0,100,0,1000,0,10000,0                            02 02203
005347 000000 A
005350 000144 A
005351 000000 A
005352 001750 A
005353 000000 A
005354 023420 A
005355 000000 A
005356 000260 A 2205 ZEROB    DATA    0260            ASCII ZERO                           02 02204
                2206          EJEC                                                         02 02205
                2207 *                                                                     02 02206
                2208 *        CONVERT ASCII CHAR TO HEX DIGIT                              02 02207
                2209 *                                                                     02 02208
                2210 *        CALLING SEQUENCE                                             02 02209
                2211 *        LDA     ASCII CHAR TO BE CONVERTED                           02 02210
                2212 *        JMPM    CONV                                                 02 02211
                2213 *                                                                     02 02212
                2214 *        RETURN  A CONTAINS HEX DIGIT IF LEGAL                        02 02213
                2215 *                A SET NEGATIVE IF NOT                                02 02214
                2216 *                                                                     02 02215
005357 000000 A 2217 CONV     ENTR                                                         02 02216
005360 054031 A 2218          STA     CONV3           SAVE CHAR                            02 02217
005361 006140 A 2219          SUBI    0260            ASCII 0                              02 02218
005362 000260 A
005363 054026 A 2220          STA     CONV3           SAVE VALUE                           02 02219
005364 001004 A 2221          JAN*    CONV            RETURN IF ILLEGAL                    02 02220
005365 105357 R
005366 006140 A 2222          SUBI    012             0272                                 02 02221
005367 000012 A
005370 001004 A 2223          JAN     CONV1           JUMP IF 0-9                          02 02222
005371 005405 R
005372 006140 A 2224          SUBI    07              ASCII A  0301                        02 02223
005373 000007 A
005374 001004 A 2225          JAN*    CONV            RETURN IF ILLEGAL                    02 02224
005375 105357 R
005376 006140 A 2226          SUBI    06              ASCII G  0307                        02 02225
005377 000006 A
005400 001002 A 2227          JAP     CONV2           JUMP IF ILLEGAL                      02 02226
005401 005407 R
005402 006120 A 2228          ADDI    820             A-F                                  02 02227
005403 000020 A
005404 001006 A 2229          DATA    01006           SKIP NEXT INSTRUCTION                02 02228
005405 014004 A 2230 CONV1    LDA     CONV3           0-9                                  02 02229
005406 001006 A 2231          DATA    01006           SKIP NEXT INSTRUCTION                02 02230
005407 005301 A 2232 CONV2    DECR    01              SET A NEGATIVE                       02 02231
005410 001000 A 2233          JMP*    CONV            RETURN                               02 02232
005411 105357 R
                2234 *                                                                     02 02233
005412 000000 A 2235 CONV3    DATA    0               TEMP STORAGE                         02 02234
                2236          EJEC                                                         02 02235
                2237 *        THIS IS A SUBROUTINE TO INPUT A HEXADECIMAL ADDRESS CONSTANT 02 02236
                2238 *        MAX 4 DIGITS                                                 02 02237
                2239 *                                                                     02 02238
                2240 *        CALLING SEQUENCE                                             02 02239
                2241 *        JMPM    INA                                                  02 02240
                2242 *        DATA    'R' OR 'N'      R FOR READ, N FOR NO READ            02 02241
                2243 *                                                                     02 02242
                2244 *        RETURN                  A REGISTER CONTAINS THE ADDRESS VALUE 02 02243
                2245 *                                B REGISTER CONTAINS THE NUMBER OF DIGITS 02 02244
                2246 *                                X CONTAINS THE LAST INPUT CHAR       02 02245
                2247 *                                                                     02 02246
005413 014073 A 2248 INA5     LDA     INAV            GET VALUE                            02 02247
005414 024071 A 2249          LDB     INAN            GET NUMBER OF DIGITS                 02 02248
005415 034067 A 2250          LDX     INAA            LAST INPUT CHAR                      02 02249
005416 001000 A 2251          JMP     0               RETURN                               02 02250
005417 000000 A
                2252 *                                                                     02 02251
                2253 *        ENTRY POINT                                                  02 02252
                2254 *                                                                     02 02253
005417                2255 INA      BES     0               ENTRY                        02 02254
005420 005001 A 2256          TZA                     INITIATE                             02 02255
005421 054063 A 2257          STA     INAA                                                 02 02256
005422 054063 A 2258          STA     INAN            COUNT                                02 02257
005423 054063 A 2259          STA     INAV            VALUE                                02 02258
005424 006027 A 2260          LDPE    INA             PARAM AREA                           02 02259
005425 005417 R
005426 016000 A 2261          LDA     0,B             GET PARAM                            02 02260
005427 006047 A 2262          INRE    INA             RESET RETURN ADDR                    02 02261
005430 005417 R
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005431 004350 A 2263          LSRA    8           MOVE CHARACTER DONE INTO LOWER BYTE          02 02262
005432 006140 A 2264          SUBI    0316        N                                            02 02263
005433 000316 A
005434 001010 A 2265          JAZ     INA3        NO READ REQUESTED                            02 02264
005435 005444 R
005436 002000 A 2266          CALL    SIIN        INPUT VALUE                                  02 02265
005437 004341 R
005440 002000 A 2267          CALL    FETCH       GET THE FIRST CHAR                           02 02266
005441 005224 R
005442 001000 A 2268          JMP     INA3+2                                                   02 02267
005443 005446 R
                2269 *                                                                         02 02268
005444 002000 A 2270 INA3     JMPM    FETCHA      GET CHARACTER                                02 02269
005445 005234 R
005446 001010 A 2271          JAZ     INA5                                                     02 02270
005447 005413 R
005450 054034 A 2272          STA     INAA        SAVE CHAR                                    02 02271
005451 006140 A 2273          SUBI    0240        BLANK                                        02 02272
005452 000240 A
005453 001010 A 2274          JAZ     INA5        GET OUT                                      02 02273
005454 005413 R
005455 006140 A 2275          SUBI    014         0254                                         02 02274
005456 000014 A
005457 001010 A 2276          JAZ     INA5        COMMA                                        02 02275
005460 005413 R
005461 014023 A 2277          LDA     INAA        INPUT CHAR                                   02 02276
005462 002000 A 2278          JMPM    CONV        CONVERT CHAR TO HEX                          02 02277
005463 005357 R
005464 001004 A 2279          JAN     INA8        JUMP IF NOT A HEX CHAR                       02 02278
005465 005503 R
005466 005014 A 2280          TAX                                                              02 02279
005467 014017 A 2281          LDA     INAV        ACCUMULATED VALUE                            02 02280
005470 005002 A 2282          TZB                                                              02 02281
005471 004444 A 2283          LLRL    4                                                        02 02282
005472 001020 A 2284          JBZ     *+4         JUMP IF NO OVERFLOW                          02 02283
005473 005476 R
005474 001000 A 2285          JMP     INA8        REJECT CHAR                                  02 02284
005475 005503 R
005476 005051 A 2286          MERG    051         ADD NEW CHAR                                 02 02285
005477 054007 A 2287          STA     INAV        SAVE VALUE                                   02 02286
005500 044005 A 2288          INR     INAN        INCREMENT NUMBER OF DIGITS                   02 02287
005501 001000 A 2289          JMP     INA3        KEEP TRYING                                  02 02288
005502 005444 R
                2290 *                                                                         02 02289
                2291 *                                                                         02 02290
005503 001000 A 2292 INA8     JMP     INH8        INPUT ERROR                                  02 02291
005504 005640 R
005505 000000 A 2293 INAA     DATA    0           LAST INPUT CHAR                              02 02292
005506 000000 A 2294 INAN     DATA    0           NO OF CHARS INPUT                            02 02293
005507 000000 A 2295 INAV     DATA    0           ACCUMULATED INPUT VALUE                      02 02294
                2296 *                                                                         02 02295
                2297          EJEC                                                             02 02296
                2298 *                                                                         02 02297
                2299 *        THIS IS A SUBROUTINE TO INPUT A HEXIDECIMAL CONSTANT             02 02298
                2300 *                                                                         02 02299
                2301 *        CALLING SEQUENCE                                                 02 02300
                2302 *        JMPM    INH                                                      02 02301
                2303 *                                                                         02 02302
                2304 *        RETURN  B CONTAINS THE NUMBER OF DIGITS INPUT                    02 02303
                2305 *                X CONTAINS LAST INPUT CHAR                               02 02304
                2306 *                VALUE IS IN V,V+1,V+2,V+3                                02 02305
                2307 *                                                                         02 02306
005510 002000 A 2308 INH5     JMPM    MOVW        MOVE INPUT TO V,V+1,V+2,V+3                  02 02307
005511 006367 R
005512 000004 A 2309          DATA    4           WORD COUNT                                   02 02308
005513 005654 R 2310          DATA    INHT        START LOCATION                               02 02309
005514 000437 R 2311          DATA    V           END LOCATION                                 02 02310
                2312 *                                                                         02 02311
005515 024135 A 2313          LDB     INHN        GET DIGIT COUNT                              02 02312
005516 034132 A 2314          LDX     INHA        LAST INPUT CHAR                              02 02313
005517 001000 A 2315          JMP     0           RETURN                                       02 02314
005520 000000 A
                2316 *                                                                         02 02315
                2317 *        ENTRY POINT                                                      02 02316
                2318 *                                                                         02 02317
005520          2319 INH      BES     0           ENTRY                                        02 02318
005521 005001 A 2320          TZA                 INITIATE                                     02 02319
005522 054130 A 2321          STA     INHN        DIGIT COUNT                                  02 02320
005523 054130 A 2322          STA     INHT        CLEAR INPUT DATA STRING                      02 02321
005524 054130 A 2323          STA     INHT+1                                                   02 02322
005525 054130 A 2324          STA     INHT+2                                                   02 02323
005526 054130 A 2325          STA     INHT+3                                                   02 02324
                2326 *                                                                         02 02325
005527 002000 A 2327          CALL    SIIN        INPUT VALUE                                  02 02326
005530 004341 R
005531 002000 A 2328          JMPM    FETCH       GET FIRST CHAR                               02 02327
005532 005224 R
005533 054115 A 2329          STA     INHA                                              F  ********
005534 006140 A 2330          SUBI    '='                                               F  ********
005535 000275 A
005536 001010 A 2331          JAZ     INH6        IF ZERO BEFORE STORE FIELD VALUE      F  ********
005537 005627 R
005540 006140 A 2332          SUBI    '+'-'='                                           F  ********
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005541 177756 A
005542 001010 A 2333          JAZ     INH7        IF DO NOT ZERO BEFORE STORE FIELD VALUE F  ********
005543 005636 R
005544 014104 A 2334          LDA     INHA                                                F  ********
005545 001000 A 2335          JMP     INH4        CONTINUE PROCESSING                     F  ********
005546 005554 R
005547 002000 A 2336 INH3     JMPM    FETCHA                                                 02 02329
005550 005234 R
005551 054077 A 2337          STA     INHA        SAVE CHAR                                  02 02330
005552 001010 A 2338          JAZ     INH5        CARRIAGE RETURN--RETURN TO EXEC            02 02331
005553 005510 R
       005554 R 2339 INH4     EQU     *                                                   F  ********
005554 006140 A 2340          SUBI    0240        BLANK                                      02 02332
005555 000240 A
005556 001010 A 2341          JAZ     INH5        JUMP IF BLANK                              02 02333
005557 005510 R
005560 006140 A 2342          SUBI    014         0254                                       02 02334
005561 000014 A
005562 001010 A 2343          JAZ     INH5        JUMP IF COMMA                              02 02335
005563 005510 R
005564 014064 A 2344          LDA     INHA        GET LAST CHAR                              02 02336
005565 002000 A 2345          JMPM    CONV        CONVERT CHAR TO HEX                        02 02337
005566 005357 R
005567 001004 A 2346          JAN     INH8        JUMP IF ILLEGAL                            02 02338
005570 005640 R
005571 005014 A 2347          TAX                                                            02 02339
                2348 *                                                                       02 02340
                2349 *        ADD CHAR TO DATA STRING                                        02 02341
                2350 *                                                                       02 02342
005572 024060 A 2351 INH2     LDB     INHN        GET COUNT                                  02 02343
005573 074056 A 2352          STX     INHC        SAVE DIGIT                                 02 02344
005574 014057 A 2353          LDA     INHT        CHARS 1-4                                  02 02345
005575 005002 A 2354          TZB                                                            02 02346
005576 004444 A 2355          LLRL    4           SHIFT OUT MS CHAR                          02 02347
005577 001020 A 2356          JBZ     *+4         JUMP IF NO OVERFLOW                        02 02348
005600 005603 R
005601 001000 A 2357          JMP     INH8        16 CHARS ALREADY INPUT                     02 02349
005602 005640 R
005603 014050 A 2358          LDA     INHT        CHARS 1-4                                  02 02350
005604 024050 A 2359          LDB     INHT+1      CHARS 5-8                                  02 02351
005605 004444 A 2360          LLRL    4                                                      02 02352
005606 054045 A 2361          STA     INHT        NEW CHARS 1-4                              02 02353
005607 005001 A 2362          TZA                                                            02 02354
005610 004454 A 2363          LLRL    12                                                     02 02355
005611 024044 A 2364          LDB     INHT+2      CHARS 9-12                                 02 02356
005612 004444 A 2365          LLRL    4                                                      02 02357
005613 054041 A 2366          STA     INHT+1      NEW CHARS 5-8                              02 02358
005614 005001 A 2367          TZA                                                            02 02359
005615 004454 A 2368          LLRL    12                                                     02 02360
005616 024040 A 2369          LDB     INHT+3      CHARS 13-16                                02 02361
005617 004444 A 2370          LLRL    4                                                      02 02362
005620 054035 A 2371          STA     INHT+2      CHARS 9-12                                 02 02363
005621 014030 A 2372          LDA     INHC        INPUT DIGIT                                02 02364
005622 005031 A 2373          MERG    031         ADD NEW DIGIT                              02 02365
005623 054033 A 2374          STA     INHT+3      CHARS 13-16                                02 02366
                2375 *                                                                       02 02367
005624 044026 A 2376          INR     INHN        INCREMENT COUNT                            02 02368
005625 001000 A 2377          JMP     INH3        KEEP TRYING                                02 02369
005626 005547 R
005627 006020 A 2378 INH6     LDBI    MBUF        ROM WORD ADDR                           F  ********
005630 000173 R
005631 005001 A 2379          TZA                                                         F  ********
005632 056000 A 2380          STA     0,2         ZERO                                    F  ********
005633 056001 A 2381          STA     1,2         ENTIRE                                  F  ********
005634 056002 A 2382          STA     2,2         ROM                                     F  ********
005635 056003 A 2383          STA     3,2         WORD                                    F  ********
005636 001000 A 2384 INH7     JMP     FLDCG       PROCESS FIELD CHANGE DIRECTIVE          F  ********
005637 005660 R
                2385 *                                                                       02 02370
005640 002000 A 2386 INH8     CALL    SIOUT,3,INER    OUTPUT ERROR                           02 02371
005641 004553 R
005642 000003 A
005643 005646 R
005644 001000 A 2387          JMP     EXC10       TRY AGAIN                                  02 02372
005645 000673 R
                2388 *                                                                       02 02373
005646 120240 A 2389 INER     DATA    '  MU02'    ILLEGAL HEX INPUT                          02 02374
005647 146725 A
005650 130262 A
                2390 *                                                                       02 02375
005651 000000 A 2391 INHA     DATA    0           LAST INPUT CHAR                            02 02376
005652 000000 A 2392 INHC     DATA    0           LAST INPUT DIGIT                           02 02377
005653 000000 A 2393 INHN     DATA    0                                                      02 02378
005654          2394 INHT     BSS     4           INPUT STRING                               02 02379
                2395          EJEC                                                    F  ********
                2396 *        THIS IS A SUBROUTINE TO HANDLE THE CHANGE CENTRAL CONTROL F  ********
                2397 *        STORE BY FIELD SPECIFICATION                            F  ********
                2398 *                                                                F  ********
                2399 *        CALLING SEQUENCE                                        F  ********
                2400 *        JMP     FLDCG                                           F  ********
                2401 *                                                                F  ********
                2402 *        RETURNS TO SIMULATOR EXEC FOR PROCESSING OF NEXT DIRECTIVE F  ********
                2403 *                                                                F  ********
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                005660 R 2404 FLDCG   EQU     *                                                       F  ********
005660 002000 A 2405          JMPM    FETCHA                                                          F  ********
005661 005234 R
005662 004250 A 2406 FLD05    LRLA    8                                                               F  ********
005663 054177 A 2407          STA     FLD90           SAVE LEFT BYTE                                  F  ********
005664 002000 A 2408          JMPM    FETCHA                                                          F  ********
005665 005234 R
005666 134174 A 2409          ERA     FLD90           FORM 2 CHAR NAME                                F  ********
005667 054173 A 2410          STA     FLD90                                                           F  ********
005670 006030 A 2411          LDXI    FLNAM           FIELD NAME TABLE                                F  ********
005671 006113 R
005672 015000 A 2412 FLD10    LDA     0,1             FIELD NAME                                      F  ********
005673 001010 A 2413          JAZ     FLD60           IF END OF TABLE                                 F  ********
005674 006071 R
005675 134165 A 2414          ERA     FLD90                                                           F  ********
005676 001010 A 2415          JAZ     FLD20           IF MATCH FOUND                                  F  ********
005677 005705 R
005700 005144 A 2416          IXR                                                                     F  ********
005701 005144 A 2417          IXR                                                                     F  ********
005702 005144 A 2418          IXR                                                                     F  ********
005703 001000 A 2419          JMP     FLD10           CONTINUE SCAN THROUGH TABLE                     F  ********
005704 005672 R
                005705 R 2420 FLD20   EQU     *                                                       F  ********
005705 074157 A 2421          STX     FLD92           SAVE TABLE PTR                                  F  ********
005706 002000 A 2422          JMPM    INA             FETCH CHANGE VALUE                              F  ********
005707 005417 R
005710 147240 A 2423          DATA    'N'                                                             F  ********
005711 074154 A 2424          STX     FLD93           SAVE TERM CHAR                                  F  ********
005712 054151 A 2425          STA     FLD91           SAVE VALUE                                      F  ********
005713 034151 A 2426          LDX     FLD92           FIELD TABLE PTR                                 F  ********
005714 025001 A 2427          LDB     1,X             FIELD SIZE                                      F  ********
005715 014005 A 2428          LDA     FLD25                                                           F  ********
005716 006150 A 2429          ANAI    07740                                                           F  ********
005717 007740 A
005720 005031 A 2430          MERGE   031             FORM RIGHT SHIFT                                F  ********
005721 054001 A 2431          STA     FLD25                                                           F  ********
005722 014141 A 2432          LDA     FLD91           VALUE                                           F  ********
005723 004340 A 2433 FLD25    LSRA    0                                                               F  ********
005724 001010 A 2434          JAZ     FLD30           IF VALUE WITHIN BOUNDS                          F  ********
005725 005730 R
005726 001000 A 2435          JMP     FLD65           RANGE ERROR                                     F  ********
005727 006077 R
005730 015002 A 2436 FLD30    LDA     2,X             LOW ORDER BIT POSITION                          F  ********
005731 004344 A 2437          LSRA    4                                                               F  ********
005732 005211 A 2438          CPA                                                                     F  ********
005733 006150 A 2439          ANAI    3                                                               F  ********
005734 000003 A
005735 006120 A 2440          ADDI    MBUF            FETCH 16 BIT WORD ADDR                          F  ********
005736 000173 R
005737 054130 A 2441          STA     FLD95                                                           F  ********
005740 015002 A 2442          LDA     2,X                                                             F  ********
005741 005012 A 2443          TAB                                                                     F  ********
005742 006140 A 2444          SUBI    31              CHECK IF IM FIELD                               F  ********
005743 000037 A
005744 001010 A 2445          JAZ     FLD50           YES, SPECIAL PROCESSING                         F  ********
005745 006030 R
005746 006140 A 2446          SUBI    15              CHECK IF FS FIELD                               F  ********
005747 000017 A
005750 001010 A 2447          JAZ     FLD50A          YES, SPECIAL PROCESSING                         F  ********
005751 006024 R
005752 005021 A 2448          TBA                     NEITHER IM NOR FD, RESTORE VALUE                F  ********
005753 006150 A 2449          ANAI    017             WORD DISPLACEMENT                               F  ********
005754 000017 A
005755 005012 A 2450          TAB                                                                     F  ********
005756 014007 A 2451          LDA     FLD35                                                           F  ********
005757 006150 A 2452          ANAI    07740                                                           F  ********
005760 007740 A
005761 005031 A 2453          MERGE   031                                                             F  ********
005762 054003 A 2454          STA     FLD35           FORM LEFT ROTATE                                F  ********
005763 025001 A 2455          LDB     1,X             FIELD SIZE                                      F  ********
005764 006016 A 2456          LDAE    FLMSK,B         BIT MASK FOR FIELD SIZE                         F  ********
005765 006227 R
005766 004240 A 2457 FLD35    LRLA    0               MOVE MASK INTO POSITION                         F  ********
005767 005211 A 2458          CPA                                                                     F  ********
005770 024077 A 2459          LDB     FLD95                                                           F  ********
005771 156000 A 2460          ANA     0,B             MASK OFF BITS FROM WORD                         F  ********
005772 005012 A 2461          TAB                                                                     F  ********
005773 014070 A 2462          LDA     FLD91           NEW FIELD VALUE                                 F  ********
005774 003000 A 2463          XEC     FLD35           MOVE VALUE INTO POSITION                        F  ********
005775 005766 R
005776 005031 A 2464          MERGE   031             UPDATE WORD                                     F  ********
005777 024070 A 2465          LDB     FLD95           ROM WORD ADDR                                   F  ********
006000 056000 A 2466          STA     0,B                                                             F  ********
                006001 R 2467 FLD39   EQU     *                                                       F  ********
006001 002000 A 2468          CALL    WWCS            OUTPUT WORD TO WCS                              F  ********
006002 004004 R
006003 014062 A 2469          LDA     FLD93           TERMINATING CHAR                                F  ********
006004 006140 A 2470          SUBI    ','                                                             F  ********
006005 000254 A
006006 001010 A 2471          JAZ     FLD40           IF MORE CHARS IN RECORD                         F  ********
006007 006012 R
006010 001000 A 2472          JMP     EXC10           GET NEW DIRECTIVE                               F  ********
006011 000673 R
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                006012  R 2473 FLD40   EQU     *                                                F  ********
006012  002000  A 2474         JMPM    FETCHA          FETCH NEXT CHAR                          F  ********
006013  005234  R
006014  005012  A 2475         TAB                                                              F  ********
006015  006140  A 2476         SUBI    . .                                                      F  ********
006016  000240  A
006017  001010  A 2477         JAZ     E114A           IF DISPLAY NEXT WORD                     F  ********
006020  001541  R
006021  005021  A 2478         TBA                                                              F  ********
006022  001000  A 2479         JMP     FLD05           CONTINUE DIRECTIVE PROCESSING            F  ********
006023  005662  R
                006024  R 2480 FLD50A  EQU     *       SPECIAL PROCESSING FOR FS FIELD          F  ********
006024  006020  A 2481         LDBI    2               SET FOR FS FIELD ROTATE                  F  ********
006025  000002  A
006026  001000  A 2482         JMP     FLD50B                                                   F  ********
006027  006031  R
                006030  R 2483 FLD50   EQU     *       SPECIAL PROCESSING FOR IM FIELD          F  ********
006030  005102  A 2484         INCR    02              SET FOR IM FIELD ROTATE                  F  ********
                006031  R 2485 FLD50B  EQU     *                                                F  ********
006031  064010  A 2486         STB     FLD51           FIELD FLAG                               F  ********
006032  005021  A 2487         TBA                                                              F  ********
006033  006120  A 2488         ADDI    16              SET UP LLRL INST                         F  ********
006034  000020  A
006035  124024  A 2489         ADD     FLLRL                                                    F  ********
006036  054012  A 2490         STA     FLD56           ROTATE INTO A REG LSBS                   F  ********
006037  006010  A 2491         LDAI    16                                                       F  ********
006040  000020  A
006041  006140  A 2492         SUBI    0               SET UP RESTORE ROTATE                    F  ********
006042  000000  A
006042          2493 FLD51     BES     0                                                        F  ********
006043  124016  A 2494         ADD     FLLRL           LLRL INST                                F  ********
006044  054010  A 2495         STA     FLD57                                                    F  ********
006045  034022  A 2496         LDX     FLD95           CCS WORD SUB ADDR                        F  ********
006046  015000  A 2497         LDA     0,X             LSB PORTION                              F  ********
006047  005344  A 2498         DXR                     POINT TO NEXT HIGH ORDER BITS            F  ********
006050  025000  A 2499         LDB     0,X             MSB PORTION                              F  ********
006051  004440  A 2500 FLD56   LLRL    0               POSITION FIELD INTO A REG LSBS           F  ********
006052  006150  A 2501         ANAI    0177760         MASK OUT FIELD                           F  ********
006053  177760  A
006054  124007  A 2502         ADD     FLD91           CHANGE VALUE                             F  ********
006055  004440  A 2503 FLD57   LLRL    0               RETURN FIELDS TO PROPER POSITION         F  ********
006056  063000  A 2504         STB     0,X                                                      F  ********
006057  055001  A 2505         STA     1,X                                                      F  ********
006060  001000  A 2506         JMP     FLD39           CONTINUE FIELD PROCESSING                F  ********
006061  006001  R
                        2507 *                                                                  F  ********
006062  004440  A 2508 FLLRL   LLRL    0               LLRL INSTRUCTION BASE VALUE              F  ********
006063  000000  A 2509 FLD90   DATA    0               FIELD NAME                               F  ********
006064  000000  A 2510 FLD91   DATA    0               NEW FIELD VALUE                          F  ********
006065  000000  A 2511 FLD92   DATA    0               NAME TABLE POINTER                       F  ********
006066  000000  A 2512 FLD93   DATA    0               TERM CHAR                                F  ********
006067  000000  A 2513 FLD94   DATA    0                                                        F  ********
006070  000000  A 2514 FLD95   DATA    0               ROM WORD SUBCOMP ADDR                    F  ********
                        2515 *                                                                  F  ********
006071  002000  A 2516 FLD60   CALL    SIOUT,3,FLER1   OUTPUT FIELD NAME ERROR                  F  ********
006072  004553  R
006073  000003  A
006074  006105  R
006075  001000  A 2517         JMP     EXC10           TRY AGAIN                                F  ********
006076  000673  R
006077  002000  A 2518 FLD65   CALL    SIOUT,3,FLER2   OUTPUT FIELD RANGE ERROR                 F  ********
006100  004553  R
006101  000003  A
006102  006110  R
006103  001000  A 2519         JMP     EXC10           TRY AGAIN                                F  ********
006104  000673  R
006105  120240  A 2520 FLER1   DATA    '  MU16'                                                 F  ********
006106  146725  A
006107  130666  A
006110  120240  A 2521 FLER2   DATA    '  MU17'                                                 F  ********
006111  146725  A
006112  130667  A
                        2522 *                                                                  F  ********
                        2523 *  FIELD NAME TABLE                                               F  ********
                        2524 *      3 WORD ENTRY                                               F  ********
                        2525 *          1=2 CHAR NAME                                          F  ********
                        2526 *          2=FIELD SIZE                                           F  ********
                        2527 *          3=LOW ORDER BIT POSITION                               F  ********
                        2528 *                                                                  F  ********
                006113  R 2529 FLNAM   EQU     *                                               F  ********
006113  140701  A 2530         DATA    'AA',4,0                                                F  ********
006114  000004  A
006115  000000  A
006116  141302  A 2531         DATA    'BB',4,4                                                F  ********
006117  000004  A
006120  000004  A
006121  151710  A 2532         DATA    'SH',3,8                                                F  ********
006122  000003  A
006123  000010  A
006124  154306  A 2533         DATA    'XF',2,11                                               F  ********
006125  000002  A
006126  000013  A
006127  153706  A 2534         DATA    'WF',1,13                                               F  ********
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006130 000001 A
006131 000015 A
006132 153306 A 2535        DATA    'VF',1,14                                F ********
006133 000001 A
006134 000016 A
006135 151703 A 2536        DATA    'SC',1,15                                F ********
006136 000001 A
006137 000017 A
006140 153722 A 2537        DATA    'WR',1,16                                F ********
006141 000001 A
006142 000020 A
006143 141706 A 2538        DATA    'CF',2,17                                F ********
006144 000002 A
006145 000021 A
006146 146706 A 2539        DATA    'MF',1,19                                F ********
006147 000001 A
006150 000023 A
006151 143306 A 2540        DATA    'FF',4,20                                F ********
006152 000004 A
006153 000024 A
006154 151306 A 2541        DATA    'RF',3,24                                F ********
006155 000003 A
006156 000030 A
006157 146301 A 2542        DATA    'LA',2,27                                F ********
006160 000002 A
006161 000033 A
006162 146302 A 2543        DATA    'LB',2,29                                F ********
006163 000002 A
006164 000035 A
006165 144715 A 2544        DATA    'IM',4,31                                F ********
006166 000004 A
006167 000037 A
006170 140702 A 2545        DATA    'AB',2,35                                F ********
006171 000002 A
006172 000043 A
006173 146722 A 2546        DATA    'MR',1,37                                F ********
006174 000001 A
006175 000045 A
006176 143706 A 2547        DATA    'GF',4,38                                F ********
006177 000004 A
006200 000046 A
006201 151706 A 2548        DATA    'SF',2,42                                F ********
006202 000002 A
006203 000052 A
006204 152306 A 2549        DATA    'TF',2,44                                F ********
006205 000002 A
006206 000054 A
006207 143323 A 2550        DATA    'FS',4,46                                F ********
006210 000004 A
006211 000056 A
006212 146724 A 2551        DATA    'MT',1,50                                F ********
006213 000001 A
006214 000062 A
006215 146723 A 2552        DATA    'MS',4,51                                F ********
006216 000004 A
006217 000063 A
006220 140706 A 2553        DATA    'AF',5,55                                F ********
006221 000005 A
006222 000067 A
006223 152323 A 2554        DATA    'TS',4,60                                F ********
006224 000004 A
006225 000074 A
006226 000000 A 2555        DATA    0               END OF TABLE             F ********
                2556 *                                                       F ********
       006227 R 2557 FLMSK  EQU     *               BIT MASK TABLE           F ********
006227 000000 A 2558        DATA    0                                        F ********
006230 000001 A 2559        DATA    01                                       F ********
006231 000003 A 2560        DATA    03                                       F ********
006232 000007 A 2561        DATA    07                                       F ********
006233 000017 A 2562        DATA    017                                      F ********
006234 000037 A 2563        DATA    037                                      F ********
                2564        EJEC                                                02 02380
                2565 *                                                      02 02381
                2566 *      THIS IS A SUBROUTINE TO CONVERT THE NUMBER IN THE B REGISTER  02 02382
                2567 *      INTO 4 HEXADECIMAL CHAR'S AND STORE THEM IN LOC.        02 02383
                2568 *      INDEXED BY X                                            02 02384
                2569 *                                                              02 02385
                2570 *      CALLING SEQUENCE                                        02 02386
                2571 *      LDX     ADDR OF ASCII CHAR STRING                       02 02387
                2572 *      LDB     BINARY NUMBER                                   02 02388
                2573 *      JMPM    DH                                              02 02389
                2574 *      RETURN                                                  02 02390
                2575 *                                                              02 02391
                2576 *                                                              02 02392
                2577 *                                                              02 02393
                2578 *      ENTRY POINT                                             02 02394
006235 000000 A 2579 DH     ENTR                                                    02 02395
006236 002000 A 2580        JMPM    DH2             CONVERT FIRST CHAR              02 02396
006237 006262 R
006240 004250 A 2581        LRLA    8               SAVE                            02 02397
006241 053000 A 2582        STA     0,1                                             02 02398
006242 002000 A 2583        JMPM    DH2             CONVERT SECOND CHAR             02 02399
006243 006262 R
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006244 115000 A 2584          DRA     0,1     ADD TO FIRST CHAR                02 02400
006245 055000 A 2585          STA     0,1     STORE IN BUFFER                  02 02401
006246 005144 A 2586          IXR                                              02 02402
006247 002000 A 2587          JMPM    DH2     CONVERT THIRD CHAR               02 02403
006250 006262 R
006251 004250 A 2588          LRLA    8                                        02 02404
006252 055000 A 2589          STA     0,1                                      02 02405
006253 002000 A 2590          JMPM    DH2     CONVERT FOURTH CHAR              02 02406
006254 006262 R
006255 115000 A 2591          DRA     0,1     ADD TO THIRD CHAR                02 02407
006256 055000 A 2592          STA     0,1     STORE IN BUFFER                  02 02408
006257 005144 A 2593          IXR                                              02 02409
006260 001000 A 2594          JMP*    DH      RETURN                           02 02410
006261 106235 R
               2595 *                                                          02 02411
006262 000000 A 2596 DH2      ENTR                                             02 02412
006263 005001 A 2597          TZA                                              02 02413
006264 004444 A 2598          LLRL    4       NEXT 4-BIT DIGIT                 02 02414
006265 006140 A 2599          SUBI    012                                      02 02415
006266 000012 A
006267 001004 A 2600          JAN     *+4     JUMP IF 0-9                      02 02416
006270 006273 R
006271 006120 A 2601          ADDI    07      A-F                              02 02417
006272 000007 A
006273 006120 A 2602          ADDI    012                                      02 02418
006274 000012 A
006275 006120 A 2603          ADDI    0260    CONVERT TO ASCII                 02 02419
006276 000260 A
006277 001000 A 2604          JMP*    DH2     RETURN                           02 02420
006300 106262 R
               2605 *                                                          02 02421
               2606          EJEC                                             02 02422
               2607 *                                                          02 02423
               2608 *    THIS ROUTINE WILL CONVERT THE TWO RIGHT-JUSTIFIED     02 02424
               2609 *    DIGITS IN THE B REGISTER INTO HEX ASCII AND STORE     02 02425
               2610 *    THEM IN THE LOCATION INDEXED BY X                     02 02426
               2611 *                                                          02 02427
               2612 *    CALLING SEQUENCE                                      02 02428
               2613 *    LDB     DIGITS TO BE CONVERTED                        02 02429
               2614 *    LDX     ADDR OF ASCII DATA STRING                     02 02430
               2615 *    JMPM    DHA                                           02 02431
               2616 *                                                          02 02432
               2617 *    RETURN                                                02 02433
               2618 *                                                          02 02434
006301 000000 A 2619 DHA      ENTR                                             02 02435
006302 004050 A 2620          LRLB    8       LEFT-JUSTIFY DIGITS              02 02436
006303 002000 A 2621          JMPM    DH2     CONVERT FIRST DIGIT              02 02437
006304 006262 R
006305 004250 A 2622          LRLA    8       POSITION DIGIT                   02 02438
006306 055000 A 2623          STA     0,1                                      02 02439
006307 002000 A 2624          JMPM    DH2     CONVERT SECOND DIGIT             02 02440
006310 006262 R
006311 115000 A 2625          DRA     0,1     ADD TO FIRST                     02 02441
006312 055000 A 2626          STA     0,1                                      02 02442
006313 005144 A 2627          IXR             STEP DATA STRING INDEX           02 02443
006314 001000 A 2628          JMP*    DHA     RETURN                           02 02444
006315 106301 R
               2629          EJEC                                             02 02445
               2630 *                                                          02 02446
               2631 *    MOVE WORD SUBROUTINE                                  02 02447
               2632 *    IF THE 'TO' AREA OVERLAPS THE 'FROM' AREA             02 02448
               2633 *    IT WILL MOVE IN A REVERSE ORDER                       02 02449
               2634 *    CALLING SEQUENCE                                      02 02450
               2635 *    JMPM    MOVW                                          02 02451
               2636 *    DATA    COUNT                                         02 02452
               2637 *    DATA    FROM ADDRESS                                  02 02453
               2638 *    DATA    TO ADDRESS                                    02 02454
               2639 *    RETURN                                                02 02455
               2640 *                                                          02 02456
006316 034050 A 2641 MOV1     LDX     MOVW                                     02 02457
006317 015001 A 2642          LDA     1,1     GET 'FROM' ADDRESS               02 02458
006320 145002 A 2643          SUB     2,1     SUBTRACT 'TO' ADDRESS            02 02459
006321 001004 A 2644          JAN     MOVR    JUMP IF REVERSE MOVE             02 02460
006322 006341 R
               2645 *         FORWARD MOVE                                     02 02461
006323 025001 A 2646          LDB     1,1     GET 'FROM' ADDRESS               02 02462
006324 015000 A 2647          LDA     0,1     GET COUNT                        02 02463
006325 035002 A 2648          LDX     2,1     GET 'TO' ADDRESS                 02 02464
006326 005311 A 2649 MOV2     DAR             DECREMENT COUNT                  02 02465
006327 001004 A 2650          JAN     MOVE    JUMP IF END OF COUNT             02 02466
006330 006363 R
006331 054040 A 2651          STA     MOVC                                     02 02467
006332 016000 A 2652          LDA     0,2                                      02 02468
006333 055000 A 2653          STA     0,1                                      02 02469
006334 005122 A 2654          IBR                                              02 02470
006335 005144 A 2655          IXR                                              02 02471
006336 014033 A 2656          LDA     MOVC    GET COUNT                        02 02472
006337 001000 A 2657          JMP     MOV2    KEEP TRYING                      02 02473
006340 006326 R
               2658 *         REVERSE MOVE                                     02 02474
006341 015000 A 2659 MOVR     LDA     0,1     GET COUNT                        02 02475
006342 125001 A 2660          ADD     1,1     ADD 'FROM' ADDRESS               02 02476
006343 005012 A 2661          TAB                                              02 02477
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006344 015000 A 2662          LDA     0,1         GET COUNT                    02 02478
006345 054024 A 2663          STA     MOVC        SAVE                         02 02479
006346 125002 A 2664          ADD     2,1         ADD 'TO' ADDRESS             02 02480
006347 005014 A 2665          TAX                                              02 02481
006350 014021 A 2666 MOV3     LDA     MOVC                                     02 02482
006351 005311 A 2667          DAR                 DECREMENT COUNT              02 02483
006352 001004 A 2668          JAN     MOVE        JUMP IF END OF COUNT         02 02484
006353 006363 R
006354 054015 A 2669          STA     MOVC                                     02 02485
006355 005322 A 2670          DBR                                              02 02486
006356 005344 A 2671          DXR                                              02 02487
006357 016000 A 2672          LDA     0,2                                      02 02488
006360 055000 A 2673          STA     0,1                                      02 02489
006361 001000 A 2674          JMP     MOV3        KEEP TRYING                  02 02490
006362 006350 R
                2675 *                                                         02 02491
006363 044003 A 2676 MOVE     INR     MOVW        ADJUST                       02 02492
006364 044002 A 2677          INR     MOVW        RETURN                       02 02493
006365 044001 A 2678          INR     MOVW        ADDRESS                      02 02494
006366 001000 A 2679          JMP     0           RETURN                       02 02495
006367 000000 A
                2680 *                                                         02 02496
                2681 *        ENTRY POINT                                      02 02497
                2682 *                                                         02 02498
006367          2683 MOVW     BES     0           ENTRY                        02 02499
006370 001000 A 2684          JMP     MOV1                                     02 02500
006371 006316 R
006372 000000 A 2685 MOVC     DATA    0           TEMP STORAGE FOR MOVW        02 02501
                2686          EJEC                                             02 02502
                2687 *                                                         02 02503
                2688 *        FOLLOWING TRANSFERS BLOCK OF WORDS FROM INPUT BUFFER TO WCS  02 02504
                2689 *                                                         02 02505
                2690 *                                                         02 02506
                2691 *        CALLING SEQUENCE:                                02 02507
                2692 *        JMPM    MVMW                                     02 02508
                2693 *        DATA    COUNT OF 16 BIT WORDS                    02 02509
                2694 *        DATA    FROM ADDRESS                             02 02510
                2695 *                                                         02 02511
                2696 *                                                         02 02512
006373 034055 A 2697 MMW1     LDX     MOVMW                                    02 02513
006374 015000 A 2698          LDA     0,1         GET COUNT                    02 02514
006375 054056 A 2699          STA     MMWX        SAVE IT                      02 02515
006376 015001 A 2700          LDA     1,1         GET FROM ADDR                02 02516
006377 054055 A 2701          STA     MMWY        SAVE IT                      02 02517
006400 044050 A 2702          INR     MOVMW       GET RETURN ADDR              02 02518
006401 044047 A 2703          INR     MOVMW                                    02 02519
006402 014051 A 2704 MMW2     LDA     MMWX        LOADED THEM ALL?             02 02520
006403 005311 A 2705          DAR                 YES                          02 02521
006404 001004 A 2706          JAN*    MOVMW       NO                           02 02522
006405 106451 R
006406 054045 A 2707          STA     MMWX                                     02 02523
006407 006017 A 2708          LDAE*   MMWY        GET NEXT 16 BITS             02 02524
006410 106455 R
006411 006057 A 2709          STAE    MBUF                                     02 02525
006412 000173 R
006413 044041 A 2710          INR     MMWY                                     02 02526
006414 006017 A 2711          LDAE    STORE       16 BIT MICROS ?              02 02527
006415 000171 R
006416 001004 A 2712          JAN     MMW3        YES                          02 02528
006417 006443 R
006420 006017 A 2713          LDAE*   MMWY        NO,SO GET 48 MORE BITS       02 02529
006421 106455 R
006422 044032 A 2714          INR     MMWY                                     02 02530
006423 006057 A 2715          STAE    MBUF+1                                   02 02531
006424 000174 R
006425 006017 A 2716          LDAE*   MMWY                                     02 02532
006426 106455 R
006427 044025 A 2717          INR     MMWY                                     02 02533
006430 006057 A 2718          STAE    MBUF+2                                   02 02534
006431 000175 R
006432 006017 A 2719          LDAE*   MMWY                                     02 02535
006433 106455 R
006434 044020 A 2720          INR     MMWY                                     02 02536
006435 006057 A 2721          STAE    MBUF+3                                   02 02537
006436 000176 R
006437 014014 A 2722          LDA     MMWX                                     02 02538
006440 006140 A 2723          SUBI    3                                        02 02539
006441 000003 A
006442 054011 A 2724          STA     MMWX                                     02 02540
006443 002000 A 2725 MMW3     CALL    WWCS        WRITE THE MICRO TO WCS       02 02541
006444 004004 R
006445 006047 A 2726          INRE    WORD        POINTER TO NEXT WCS LOCATION 02 02542
006446 000167 R
006447 001000 A 2727          JMP     MMW2                                     02 02543
006450 006402 R
                2728 *                                                         02 02544
                2729 *        ENTRY POINT                                      02 02545
                2730 *                                                         02 02546
006451 000000 A 2731 MOVMW    DATA    0                                        02 02547
006452 001000 A 2732          JMP     MMW1                                     02 02548
006453 006373 R
                2733 *                                                         02 02549
                2734 *        DATA AREA                                        02 02550
```

```
                    2735 *                                                                  02 02551
006454 000000 A     2736 MMWX   DATA    0          COUNT OF 16 BIT WORDS                    02 02552
006455 000000 A     2737 MMWY   DATA    0          FROM ADDR                                02 02553
                    2738        EJEC                                                       02 02554
       000002 R     2739        END     MIUTIL                                             02 02555
ENTRY NAMES
000002 R MIUTIL
EXTERNAL NAMES
005207 E $DATE   005210 E $JOB    004660 E $LUT    001011 E $SYST
001365 E BIFCB   005054 E INTR    004722 E INTRST  004710 E LOFCB
004505 E PIFCB   004375 E SIFCB   000000 E V$EXEC  000667 E V$WCS
003443 E V$WCSE  004214 E V$WCSF  004224 E V$WCSI  004024 E V$WCSO
SYMBOLS
005207 E $DATE   005210 E $JOB    004660 E $LUT    001011 E $SYST
002567 R ABORT   000002 A B       001307 R BEOD    001365 R BIBLK
001367 R BIBUF   001362 R BIDCB   001365 E BIFCB   004340 R BIFLG
000105 R BIRMD   005265 R BIT0    001370 R BIT11   001371 R BIT12
001372 R BIT15   005267 R BNASC   003643 R BRANCH  003604 R BT111
002673 R BUFCNT  000201 R BUFI    001373 R BUFPTR  000245 R BUFR
005263 R CHAR    003143 R CHME    003164 R CHMR    003160 R CHMS
000621 R CIAY    001374 R CKSM    001404 R CKSU    001341 R CKSU1
001346 R CKSU2   001333 R CKSUM   000443 R COMM    000461 R COMM1
005357 R CONV    005403 R CONV1   005407 R CONV2   005412 R CONV3
002315 R DAHDR   005207 R DATE    002326 R DBHDR   000166 R DEBUG
001440 R E110L   001500 R E112    001504 R E113    001530 R E114
001541 R E114A   001532 R E115    001570 R E118    003171 R E130
003221 R E130B   003261 R E130X   003446 R E140    003477 R E140R
003505 R E140S   003461 R E140X   001571 R E150    001577 R E152
002155 R E155    002337 R E155X   002340 R E155Y   002223 R E156
002240 R E157    002276 R E158    002341 R E170    002343 R E175
002356 R E177    001436 R EDRM    003512 R ENABLE  004173 R ENDCOM
003543 R ENDEC   003556 R ENIO    003525 R ENXX    001301 R EOF
001407 R EOFE    001273 R ERR     000701 R EX10E   000476 R EXC
000611 R EXC0    000612 R EXC1    000673 R EXC10   000710 R EXC12
000722 R EXC14   000725 R EXC16   000726 R EXC17   000727 R EXC18
000730 R EXC19   000613 R EXC2    000542 R EXC2M   000614 R EXC3
000615 R EXC4    000737 R EXC4M   000616 R EXC5    000617 R EXC6
000620 R EXC7    000731 R EXC90   000742 R EXC92   000133 R FCBBI
000132 R FCBLO   000131 R FCBPI   000130 R FCBSI   001630 R FELD
005224 R FETCH   005234 R FETCHA  005256 R FETCHB  000135 R FIELDS
005662 R FLDC5   005672 R FLD10   005705 R FLD20   005723 R FLD25
005730 R FLD30   005766 R FLD35   006001 R FLD39   006010 R FLD40
006030 R FLD50   006024 R FLD50A  006031 R FLD50B  006042 R FLD51
006051 R FLD56   006055 R FLD57   006071 R FLD60   006077 R FLD65
006063 R FLD90   006064 R FLD91   006065 R FLD92   006066 R FLD93
006067 R FLD94   006070 R FLD95   005660 R FLDCG   006105 R FLER1
006110 R FLER2   006062 R FLLRL   006227 R FLMSK   006113 R FLNAM
001275 R FREC    005264 R FWORD   005275 R GET     005303 R GET2
005145 R HDR     000177 R HLTADR  003367 R HLTCHK  001412 R HOPE
004027 R ICS     004135 R ICS110  004071 R ICSC    004115 R ICSDA
004123 R ICSDB   004127 R ICSDB1  004103 R ICSIO   002675 R IMGBUF
003765 R IMGFCB  005417 R INA     005444 R INA3    005413 R INA5
005503 R INA8    005505 R INAA    005506 R INAN    005507 R INAV
004453 R INDUB   005646 R INER    005520 R INH     005572 R INH2
005547 R INH3    005554 R INH4    005510 R INH5    005627 R INH6
005636 R INH7    005640 R INH8    005651 R INHA    005652 R INHC
005653 R INHN    005654 R INHT    003426 R INITW   005054 E INTR
004722 E INTRST  002304 R IOHDR   002356 R IOR01   002470 R IOR02
002567 R IOR03   002614 R IOR04   005210 R JOB     001415 R LCDE
001265 R LCOM    001376 R LDADR   001133 R LDBP    001323 R LDCDE
001420 R LDCM    001122 R LDFR    001223 R LDNR    001216 R LDORG
001377 R LDPT    001006 R LDRM    001256 R LDRNR   001261 R LDRM5
001170 R LDST    001137 R LDWD    001601 R LIST1   002024 R LIST3
002030 R LIST4   002051 R LIST7   002052 R LIST8   002053 R LIST9
002054 R LISTA   002107 R LISTB   002100 R LISTC   001031 R LMOD
000005 A LO      004712 R LO1     004760 R LO2     005002 R LO3
005003 R LO4     004777 R LOA     005000 R LOB     004773 R LOBOB
004710 E LOFCB   004776 R LOFLG   005000 R LOLINE  004661 R LOOUT
000066 R LORMD   005001 R LOX     001033 R LREAD   001051 R LRSB01
001400 R LREC    001401 R LSR13   004661 R LUT     003110 R M1
003077 R M1DCB   003121 R M2      003100 R M2DCB   003130 R M3
003105 R M3DCB   000173 R MBUF    003170 R MEDIA   000002 R MIUTIL
006373 R MMW1    006402 R MMW2    006443 R MMW3    006434 R MMWX
006455 R MMWY    006316 R MOV1    006326 R MOV2    006350 R MOVC
006372 R MOVC    006363 R MOVE    006450 R MOVMU   006341 R MOVR
006367 R MOVW    001200 R NMIC    000622 R OARX    000600 R OARY
000001 A OC      006235 R OH      006262 R OH2     006301 R OHA
000150 A OM      002551 R OPNERR  004632 R OUDCB   001002 R PAGS
001003 R PAG6    000172 R PAGE    005007 R PBUF    005206 R PGNO
000774 R PGNOK   000004 A PI      004544 R PIDCB   004500 R PIFLB
004547 R PIFLG   004462 R PIIN    004507 R PIIN1   004512 R PIIN2
004550 R PIINA   004551 R PIINB   004552 R PIINX   004547 R PIRMD
000745 R PSEL    005345 R PUT     005227 R PUTLP   001402 R RCLN
001430 R RDER    005266 R RHLT    004273 R RMD     004312 R RMD1
004337 R RMDT    003717 R RW50    003724 R RW52    003745 R RW55
003756 R RW57    003770 R RW59    003674 R RWCS    003262 R S100
003332 R S100A   003335 R S100E   003363 R S100X   005000 R SAR
005020 R SAR1    005024 R SAR2    005003 R SAR3    005024 R SE10
000557 R SEM1    000561 R SEM2    000574 R SEM3    000624 R SEN0
000635 R SEN1    000647 R SENC    000661 R SEN3    001403 R SEOE
001315 R SEOER   003635 R SETH1   003571 R SETXLT  000102 A SI
004442 R SIEOF   004430 R SIEOFM  004417 R SIEX    004435 R SIEXX
004375 E SIFCB   004456 R SIFLG   004401 R SIIN    004405 R SIIN1
```

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004356 R SIIN2   004377 R SIIN3   004457 R SIINA   004460 R SIINB
004461 R SIINX   004431 R SILO    004565 R SIOU1   004635 R SIOUA
004636 R SIOUB   004553 R SIOUT   004637 R SIOUX   000030 R SIRMD
000021 R SMBI    000014 R SMLO    000007 R SMPI    000003 A SO
004640 R SOELO   004613 R SOLO    004654 R SOLOCH  005041 R SPAC
000171 R STORE   000134 R SYST    005344 R TABL    003425 R TEMP
004206 R TMAD    004266 R TMADX   004267 R TMADY   005052 R TPFRM
005176 R TPMOS   005211 R TPST    005202 R TPVOR   000436 R TRACE
002674 R TRNCNT  000437 R V       004336 R V$DSTB  000000 E V$EXEC
004335 R V$LUT1  000667 E V$WCS   003443 E V$WCSE  004214 E V$WCSF
004224 E V$WCSI  004024 E V$WCSO  000001 A VORTEX  002635 R W10
002655 R W50     003776 R WBM1    004001 R WBM2    002672 R WCSPAG
002410 R WCSR20  002374 R WCSS10  001403 R WDCT    000167 R WORD
000170 R WORD2   002610 R WSAVE   004004 R WWCS    000001 A X
000030 A XA      000011 A XAB     000001 A XAF     000027 A XB
000020 A XC      000016 A XF      000004 A XFS     000007 A XG
000012 A XIMC    000014 A XLA     000013 A XLB     000010 A XM
000017 A XMD     000002 A XMS     000003 A XMT     000022 A XOS
000015 A XR      000006 A XS      000005 A XT      000026 A XTC
000000 A XTS     000023 A XV      000021 A XW      000025 A XX
000024 A XY      005356 R ZEROB
0 ERRORS ASSEMBLY COMPLETE

   0  $LUT     1936  1937
   0  $SYST     130   163   489
1107  ABORT    1076  1076  1119  1119
 614  BEOD      504
 649  BIBLK     154   630
 651  BIBUF     510   537   541   545   593   595   601
 647  BIDCB     503   590   600
   0  BIFCB     129   150   162   494   496   648   649
1785  BIFLG     156   491   584
 150  BIRMD     123
 652  BIT11     522
 653  BIT12     517
 654  BIT15     513
   0  BNASC    2065
1466  BRANCH    232
1476  BT111    1471
1147  BUFCNT   1024  1116  1121  1125  1127  1130  1139  1141  1143
 188  BUFI     1810  1816  1823  1832  1857  1863  1886  1872
 655  BUFPTR    539   543   544   548   554   562   568   572   573
                582   589   602
 189  BUFR      495   629   647   651   655   681   695   698   724
                727   904   907   938   960   964  1906  1990  2011
               2051
1170  CHME      227
1180  CHMR      450  1173
1177  CHMS     1175
 368  CIAY     1309  1508  1518  1514  1516  1711
 656  CKSM      507   515   531
 664  CKSU      642
 633  CKSU1     639
 638  CKSU2     631
 628  CKSUM     534   625   641
 206  COMM      443
 221  COMM1     444
   0  CONV      461
 968  DAHDR     925
   0  DATE     2068
 969  DBHDR     923
 177  DEBUG     250  1191  1243  1337  1356  1385  1431  1467
 678  E110L     728
 698  E112      684
 699  E113      696
 711  E114      708
 713  E115      702
 730  E118      701   713
1190  E130      230
1204  E130B    1199
1235  E130X    1195  1212  1225
1355  E140      231
1371  E140R    1365
1375  E140S    1368
1362  E140X    1360
 735  E150      222
 916  E155      738
 970  E155X     943   956   958
 971  E155Y     944   946   950
 937  E156      962
 945  E157      959
 964  E158      953
 976  E170      229
 978  E175     1830
 981  E177      979
 676  EDRM      223
1384  ENABLE    224
1691  ENDCOM    469   977  1340  1361  1390  1693  1695
1401  ENDEC    1334
1414  ENIO     1397
1391  ENXX     1382
 612  EOF       504
```

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665   EOFE      612
610   ERR       504
242   EXC       124   157
359   EXC0      296  1016  1342  1345
360   EXC1     1262  1265
422   EXC10     105   323   472   477   608   611   613   615   617
                619   643   700   716   722   886   887   961   965
               1179  1182  1201  1233  1268  1287  1291  1325  1327
               1348  1373  1377  1411  1424  1452  1458  1484  1563
               1567
430   EXC12     436
438   EXC14     433
441   EXC16     439
443   EXC17     427
444   EXC18     428
445   EXC19     426   432
361   EXC2     1204  1214  1219  1227  1275  1279
328   EXC2M     244
452   EXC4M     422
449   EXC90     425   431   460  1171  1176  1193  1197  1245  1339
               1358  1369  1387  1398  1433  1445  1469  1473  1633
               1641  1671  1677  1680  1696
453   EXC92     449
  0   EXIT      983   985
162   FCBBI     151
161   FCBLO     145
160   FCBPI     139
159   FCBSI     133
  0   FETCH     248   276   424  1250  1440
  0   FETCHA    281   459  1170  1246  1359  1388  1436  1623  1634
               1692
175   FIELDS    755   868
657   FREC      508   520   535
  0   HDR      2066  2067  2071  2076
183   HLTADR   1259  1285  1319  1451  1457
1303  HLTCHK   1286  1321
666   HOPE      614
1622  ICS       488   677   736  1673  1682
1667  ICS110   1648  1654  1664
1644  ICSC     1626
1655  ICSDA    1637
1660  ICSDB    1640
1662  ICSDB1   1657
1650  ICSIO    1629
1149  IMGBUF   1126  1138  1150
1150  IMGFCB   1010  1075  1087  1098  1118
  0   INA      1194  1252  1441  1470  1667  1672
1802  INDCB    1817  1821
  0   INH       699
1336  INITW     225
  0   INTR       91    92
  0   INTRST     99   100
367   IOHDR     920
1010  IORQ1    1011
1075  IORQ2    1076
1118  IORQ4    1119  1132
  0   JOB      2073
667   LODE      618
606   LOOM      599
658   LDADR     575   576
541   LDBP      536
618   LDCDF     560
668   LDCM      607
535   LDFR      533
584   LDNR      547
579   LDORG     557
407   LDPM      226
600   LDRNR     592
603   LDRNS     585   588
561   LDST      559
564   LDWD      540   555   577   583
740   LIST1     889
891   LIST3     872   878   905
895   LIST4     903
907   LIST7     893
908   LIST8     871   877   900   902
909   LIST9     860   895   899
910   LISTA     867
912   LISTB     875
914   LISTC     740   744   747   748
498   LMOS      490   492
 65   LO       1096  1106  1109  1969  2063
1999  LO1       146  1961  1963  1970
1982  LO2      1974
1985  LO3      1976  1979
1986  LO4      1977  1981
1992  LOA      1951  1977  1981  1986
1993  LOB      1952  1987
1990  LOBCB    1956  1958  1964  1966  1969  2063
   0  LOFCB     128   144   161   980  1965  1967
1991  LOFLG     148   978  1962
1997  LOLINE   1971  1972
1950  LOOUT     748   867   875   904   935   960   964  1823  1866
```

		1906	1954	1975	1980	1983	1985	1989	2051
144	LORMD	121							
1994	LOX	1953	1988						
503	LREAD	152	504	605					
505	LREAD1	598							
660	LREC	509	585	597	604				
661	LSB13	564	580						
1937	LUT	1925							
90	M1	1151							
1151	M1DCB	1108	1109						
1155	M2	1152							
1132	M2DCB	1105	1106						
1156	M3	1153							
1153	M3DCB	1095	1096						
182	MBUF	680	686	689	692	706	709	710	756	776
		804	838	947	1509	1513	1515	1517	1525	1595
		1599	1601	1603	1612					
1183	MEDIA	1178	1181	1795						
116	MIUTIL	33	66							
0	MOVMW	570								
0	MOVW	703	1977	1981						
570	NMIC	567	569	571	574					
369	OARX	1208	1213	1308	1407	1420	1480	1542	1709	
370	OARY	302	1596	1600	1602	1604				
1003	OC	1095	1105	1108						
0	OH	682	687	690	693	726	742	745	927	940
		948	1733							
0	OH2	1726								
0	OHA	897								
1004	OM	1010	1075	1098	1118					
1104	OPNERR	1011								
1914	OUDCB	1895	1897	1898	1902	1904				
0	P	82	82	82	82	85	85	85	85	88
		88	88	95	95	95	95	96	101	101
		101	101	101						
480	PAG5	468	470							
481	PAG6	476								
181	PAGE	320	471	743	926	1210	1223	1401	1414	1448
		1474	1535							
2007	PBUF	679	723	892	937	2012	2050			
0	PGND	2064								
476	PGNOK	462	464	467						
1872	PIDCB	1864								
0	PIFCB	127	138	160	1856	1858				
1873	PIFLG	142	1853							
1846	PIIN	1798	1799	1870						
1860	PIIN1	1852	1854							
1864	PIIN2	140	1865							
1874	PIINA	1847	1867							
1875	PIINB	1848	1868							
1876	PIINX	1849	1869							
138	PIRMD	119								
459	PSEL	228								
662	RCN	499	528	596	603					
669	RDER	610								
0	RHLF	1768								
1754	RMD	116	118	120	122	1755	1758	1761	1781	
1765	RMD1	1757								
1784	RMDT	1770	1772	1773	1776					
1532	RW50	1505	1548	1592						
1535	RW52	1556								
1551	RW55	1534								
1560	RW57	1547								
1565	RW59	1561								
1504	RWCS	678	750	945	1511	1528				
1242	S100	221								
1271	S100A	1247	1249							
1275	S100B	1255	1258	1260	1289	1293				
1295	S100X	1253	1272	1288	1292	1442	1450			
2038	SAR	1814	1861	2009	2022	2032	2033			
2022	SAR1	2039								
2026	SAR2	2030								
2032	SAR3	2027								
267	SE10	279	291							
296	SE20	284	287	290						
297	SE23	303								
329	SEM1	245	267							
330	SEM2	274								
331	SEM3	246								
372	SEN0	306	307	377	379	385	1543			
388	SEN1	309	310	391	393					
395	SEN2	312	313	398	400					
402	SEN3	315	316	407	409	416	1198	1533	1555	1560
670	SEQE	616								
616	SEQER	530								
1456	SETH1	1437	1439							
1430	SETHLT	233								
62	SI	1817								
1829	SIEOF	1818								
1831	SIEOFM	1829								
1907	SIEX	1901								
1824	SIEXX	1820								
0	SIFCB	126	132	159	1809	1811				

1833	$IFLG	136	1806							
1794	$IIN	247	275	423	1797	1827				
1817	$IIN1	134	1818							
1803	$IIN2	1796								
1813	$IIN3	1805	1807							
1834	$IINA	1800	1824							
1835	$IINB	1801	1825							
1836	$IINX	1802	1826							
1823	$ILO	1822								
1898	$IOU1	1899								
1915	$IOUA	1890	1910							
1916	$IOUB	1891	1911							
1889	$IOUT	244	245	246	267	274	422	449	476	607
		610	612	614	616	618	642	695	698	727
		1200	1562	1566	1739	1829	1893	1907	1909	1913
1917	$IOUX	1892	1912							
132	$IRMD	117								
1215	$KP1	1203								
1481	$KP10	1478								
1518	$KP12	1507								
1527	$KP13	1520								
1544	$KP14	1540								
1605	$KP16	1594								
1614	$KP17	1607								
1713	$KP18	1707								
1721	$KP19	1715								
1229	$KP2	1217								
380	$KP20	374								
386	$KP21	382								
410	$KP22	404								
417	$KP23	412								
317	$KP24	273								
1310	$KP25	1306								
1318	$KP26	1312								
1267	$KP3	1264								
1281	$KP4	1277								
1347	$KP5	1344								
1408	$KP6	1405								
1158	$KP7	987								
1421	$KP8	1418								
122	$MBI	149								
120	$MLO	143								
118	$MPI	137								
63	$O	1898								
1924	$OELO	1819	1900	1934						
1906	$OLO	1903	1905							
1933	$OLOCH	1930								
2049	$PAC	749	874	879	936	2052				
180	$TORE	683	707	737	917	1510	1522	1537	1597	1609
		1645	1651	1656	1661					
163	$YST	586	1759	1803	1850	1959	2078			
1329	TEMP	1314	1317							
1704	TMAD	1232	1284	1326	1723	1740				
1742	TMADX	1712	1718	1720	1729					
1744	TMADY	1728	1732	1734	1737	1739				
2062	TPFRM	243	739	916	1978					
0	TPMOS	2081								
0	TPST	2072	2077							
192	TRACE	322	1231	1257	1283	1324	1372	1376		
1148	TRNCNT	1036	1048	1060	1072	1123	1129	1131	1137	1142
195	V	705								
1783	V$DSTB	1774								
1782	V$LUT1	1762								
0	V$WCS	384	414	998						
0	V$WCSE	1002	1017	1220	1228	1266	1280	1346		
0	V$WCSF	1001	1034	1043	1055	1067	1222	1226	1313	1410
		1423	1483	1546	1716					
0	V$WCSI	999	1128	1140	1316	1526	1719			
0	V$WCSO	1000	1613							
73	VORTEX	272	373	381	403	411	982	984	986	1202
		1216	1261	1263	1274	1276	1305	1311	1341	1343
		1404	1409	1417	1428	1477	1482	1506	1519	1539
		1545	1593	1606	1706	1714				
1123	W10	1117								
1137	W50	1124								
1569	WBM1	1562								
1570	WBM2	1200	1566							
1146	WCSPAG	1022	1033	1042	1054	1066	1080	1082		
1031	WCSR20	1091								
663	WDCT	506								
178	WORD	581	718	719	725	741	884	888	939	951
		954	1538	1668	1679					
179	WORD2	720	885	952	1647	1653	1663	1669	1675	1681
1115	WSAVE	1037	1049	1061	1073	1144				
1591	WWCS	711	1598	1615						
60	X	932	1088	1089	1090	1812	1926	1927	1928	1931
		1968	2024	2025	2028					
59	XA	866								
44	XAB	799								
36	XAF	763								
58	XB	862								
51	XC	831								
49	XF	823								

39	XFS	779
42	XG	791
45	XIMC	807
47	XLA	815
46	XLB	811
43	XM	795
50	XMD	827
37	XMS	767
38	XMT	771
53	XOS	842
48	XR	819
41	XS	787
40	XT	783
57	XTC	858
35	XTS	759
54	XV	846
52	XW	835
56	XX	854
55	XY	850

```
000001 A     1 VORTEX SET     1                PUT LAST FOR VORTEX                          V2  03 00001
             2 *THIS IS A COPYRIGHTED PROGRAM. COPYRIGHT 1972 BY VARIAN DATA MACHINV2  03 00002
             3 *                                                                           03 00003
             4 *     V.D.M.  PART  NO.        92L0705-017D                                 03 00004
             5 *                                                                           03 00005
             6 *                                          RELEASED    03/01/74             03 00006
             7 *                                                                           03 00007
             8 *              V$JCP                                                        03 00008
             9 *                                                                           03 00009
            10 *                                                                           03 00010
            11         TITLE   V$JCP                                                      03 00011
            12 ************************************************************************** 03 00012
            13 ****     TIDB SETUP                                                    *** 03 00013
            14 *                                                                           03 00014
            15 ************************************************************************** 03 00015
000000 A    17 TBTRD   EQU     0              TASK THREAD                                  03 00017
000001 A    18 TBST    EQU     1              TASK STATUS                                  03 00018
000002 A    19 TBPL    EQU     2              STATUS CONT. (BITS15-6),PRIORITY LEVEL(5-0   03 00019
000003 A    20 TBEVNT  EQU     3              INTERRUPT EVENT                              03 00020
000004 A    21 TBRSA   EQU     4              A          REENTRANT AND SUSPEND STACK       03 00021
000005 A    22 TBRSB   EQU     5              B          REENTRANT AND SUSPEND STACK       03 00022
000006 A    23 TBRSX   EQU     6              X          REENTRANT AND SUSPEND STACK       03 00023
000007 A    24 TBRSP   EQU     7              OF/P       REENTRANT AND SUSPEND STACK       03 00024
000010 A    25 TBRSTS  EQU     8              TEMP. STG. REENTRANT AND SUSPEND STACK       03 00025
000011 A    26 TBENTY  EQU     9              TASK ENTRY LOCATION                          03 00026
000012 A    27 TBTMS   EQU     10             TIME COUNTER - CLOCK RESOLUTION IN 5MS INC   03 00027
000013 A    28 TBTMIN  EQU     11             TIME COUNTER - CLOCK MINUTE INCREMENTS       03 00028
000014 A    29 TBISA   EQU     12             A            INTERRUPT STACK                 03 00029
000015 A    30 TBISB   EQU     13             B            INTERRUPT STACK                 03 00030
000016 A    31 TBISX   EQU     14             X            INTERRUPT STACK                 03 00031
000017 A    32 TBISP   EQU     15             OF/P         INTERRUPT STACK                 03 00032
000020 A    33 TBISRS  EQU     16             REENT. STACK  INTERRUPT STACK                03 00033
000021 A    34 TBIO    EQU     17             BLK ALLOC(15-10),I/O THR(9-5),I/O ACT(4-0)   03 00034
000022 A    35 TBKN1   EQU     18             TASK NAME                                    03 00035
000023 A    36 TBKN2   EQU     19             TASK NAME                                    03 00036
000024 A    37 TBKN3   EQU     20             TASK NAME                                    03 00037
000025 A    38 TBTLC   EQU     21             1ST LOC. OF TASK ALLOCATABLE                 03 00038
000026 A    39 TBCPTH  EQU     22             BACKGROUND TASK QUEUE                        03 00039
000027 A    40 TBATSK  EQU     23             TIDB LOC. OF ACTIVATING TASK                 03 00040
000030 A    41 TBRSE   EQU     24             TASK ERROR CODE                              03 00041
            42         EJEC                                                              03 00042
            43 ************************************************************************** 03 00043
            44 *                                                                          03 00044
            45 ****     TASK STATUS DESCRIPTION  (BIT SET WORD 1)                    *** 03 00045
            46 *                                                                          03 00046
            47 ************************************************************************** 03 00047
000017 A    49 TBS15   EQU     15             INTERRUPT SUSPEND                            03 00049
000016 A    51 TBS14   EQU     14             TASK SUSPEND                                 03 00051
000015 A    52 TBS13   EQU     13             TASK ABORT                                   03 00052
000014 A    53 TBS12   EQU     12             TASK EXIT                                    03 00053
000013 A    55 TBS11   EQU     11             TIDB CORE RESIDENT                           03 00055
000012 A    56 TBS10   EQU     10             CORE RESIDENT TASK                           03 00056
000011 A    57 TBS9    EQU     9              FOREGROUND TASK                              03 00057
000010 A    59 TBS8    EQU     8              TASK PROTECTED                               03 00059
000007 A    60 TBS7    EQU     7              TASK SCHEDULED BY TIME DELAY                 03 00060
000006 A    61 TBS6    EQU     6              TIME DELAY ACTIVE                            03 00061
000005 A    63 TBS5    EQU     5              TASK WAITING TO BE LOADED                    03 00063
000004 A    64 TBS4    EQU     4              TASK ERROR                                   03 00064
000003 A    65 TBS3    EQU     3              TASK INTERRUPT EXPECTED                      03 00065
000002 A    67 TBS2    EQU     2              OVERLAY TASK                                 03 00067
000001 A    68 TBS1    EQU     1              UPON TERMINATION ACTIVATE TASK $SCHED TASK    03 00068
000000 A    69 TBS0    EQU     0              TASK SEARCH-ALLOCATED-LOADED                 03 00069
            70         EJEC                                                              03 00070
            71 ************************************************************************** 03 00071
            72 *                                                                          03 00072
            73 ***      TASK STATUS DESCRIPTION  (BIT SET WORD 2)                    *** 03 00073
            74 *                                                                          03 00074
            75 ************************************************************************** 03 00075
            77 *         BIT 15   -  TASK OPENED                                          03 00077
            79 *         BIT 14   -  UNUSED                                               03 00079
            80 *         BIT 13   -  OVERLAY LOAD                                         03 00080
            81 *         BIT 12   -  TASK WAITING FOR BACKGROUND TASK I/O TO COMPLETE     03 00081
            82 *                     TASK LOCKED-OUT UNTIL BG I/O COMPLETE OR BIT 11      03 00082
            83 *                     IS SET  (ALLOCATABLE SPACE AVAILABLE)                03 00083
            85 *         BIT 11   -  DEFINES THAT ALLOCATABLE SPACE IS AVAILABLE, TRY     03 00085
            86 *                     ALLOCATING TASK AGAIN.  OVERRIDES BIT 12 SET OR      03 00086
            87 *                     BIT 5 IN STATUS WORD.                                03 00087
            88 *         BIT 10   -  BACKGROUND TASK BEING WRITTEN ON CHECKPOINT FILE.    03 00088
            89 *         BIT  9   -  TASK WAITING FOR A TIDB TO COME AVAILABLE FOR        03 00089
            90 *                     SCHEDULING.                                          03 00090
            92 *         BIT  8 TO 6  - UNUSED                                            03 00092
            93         EJEC                                                              03 00093
            94 ************************************************************************** 03 00094
            95 *                                                                          03 00095
            96 ***      JOB PROCESSOR LOW CORE EQUATES                               ** 03 00096
            97 *                                                                          03 00097
            98 ************************************************************************** 03 00098
000050 A   100 LCJP    EQU     050                                                       03 00100
000050 A   101 V$JNAM  EQU     LCJP           JCP NAME                                   03 00101
000054 A   102 V$LCNT  EQU     LCJP+4         LINE COUNT                                 03 00102
000055 A   103 V$JCFG  EQU     LCJP+5         JCP FLAGS                                  03 00103
           104 *                             BIT 2-0    = LOAD AND GO FLAGS             03 00104
           105 *                             BIT  3     = DUMP FLAG  1=DUMP, 0=NO DUMP  03 00105
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                    106 *                                BIT  4    = DUMP FLAG IF LOAD AND GO          03 00106
                    107 *                                BIT 9-5   = UNUSED                            03 00107
                    108 *                                BIT 15-10 = BG EXTRA CORE BLOCKS TO ALLOC     03 00108
000056 A            110 V$BIC1 EQU     LCJP+6            BIC INTERRUPT ADDRESS TABLE  (10 WORDS)       03 00110
000070 A            111 V$DATE EQU     LCJP+16           JCP DATE RECORD                               03 00111
000074 A            112 V$PLCT EQU     LCJP+20           PERMINATE LINE COUNT                          03 00112
000075 A            113 V$BGLB EQU     LCJP+21           JCP LIB KEY AND LU NO. (BACKGROUND LIB)       03 00113
000046 A            114 V$CRDM EQU     LCJP-2            CARD KEYPUNCH TYPE. 0=026, 1=029          D.103 00114
                    115 *                                BIT 0 = SYSTEM NOMINAL KEYPUNCH MODE.         03 00115
                    116 *                                BIT 9 = CURRENT JOB KEYPUNCH MODE.            03 00116
000047 A            117 V$JCTM EQU     LCJP-1            TEMP. STORAGE FOR /MEM BLOCK              D.103 00117
                    118         EJEC                                                                   03 00118
                    119 ***************************************************************************** 03 00119
                    120 *                                                                              03 00120
                    121 ****    LOW CORE DESCRIPTION                                              ***  03 00121
                    122 *                                                                              03 00122
                    123 ***************************************************************************** 03 00123
000300 A            125 LC     EQU     0300                                                            03 00125
000300 A            126 V$CTL  EQU     LC                CURRENT TASK TIDB LOCATION                    03 00126
000301 A            127 V$CPL  EQU     LC+1              CURRENT PRIORITY LEVEL                        03 00127
000302 A            128 V$CRS  EQU     LC+2              CURRENT REENTRANT STACK POINTER               03 00128
000303 A            129 V$TB   EQU     LC+3              POINTER TO HIGHEST PRIORITY TIDB              03 00129
000304 A            130 V$UTB  EQU     LC+4              POINTER TO UNUSED TASK TIDB                   03 00130
000305 A            131 V$PTVB EQU     LC+5              POINTER TO NEXT ENTRY IN REENTRANT STACK      03 00131
000306 A            132 V$FLRS EQU     LC+6              FIRST LOC. OF REENTRANT STACK                 03 00132
000307 A            133 V$LRSK EQU     LC+7              LAST LOC. OF REENTRANT STACK+1                03 00133
000310 A            134 V$CKPT EQU     LC+8              CHECKPOINT FLAG 1=ON, 0=OFF                   03 00134
000311 A            135 V$OPCL EQU     LC+9              LOC. OF TIDB FOR OPCOM TASK                   03 00135
000312 A            136 V$LSAL EQU     LC+10             LOC. OF TIDB FOR SYSTEM SAL TASK              03 00136
000313 A            137 V$LER  EQU     LC+11             LOC. OF TIDB FOR SYSTEM ERROR TASK            03 00137
000314 A            138 V$TJCP EQU     LC+12             LOC. OF TIDB FOR JOB CONTROL PROCESSOR TAS    03 00138
000315 A            139 V$BTB  EQU     LC+13             LOC. OF CURRENT ACTIVE BACKGROUND TSK TIDB    03 00139
000316 A            140 V$LUP  EQU     LC+14             LOC. OF 1ST UNPROTECTED WORD                  03 00140
000317 A            141 V$LLUP EQU     LC+15             LOC. OF LAST UNPROTECTED WORD                 03 00141
000320 A            142 V$IM   EQU     LC+16             INTERRUPT MASK  (8 WORDS)                     03 00142
000330 A            143 V$MPM  EQU     LC+24             MEMORY PROTECT MASK  (4 WORDS)                03 00143
000334 A            144 V$CAM  EQU     LC+28             CORE ALLOCATION MASK  (4 WORDS)               03 00144
                    145 *      EQU     LC+32             UNUSED                                        03 00145
000341 A            146 V$CRDR EQU     LC+33             CORE RESIDENT DIRECTORY LOCATION              03 00146
000342 A            147 V$TBGT EQU     LC+34             TOP OF THREAD OF BG TSK WAITING TO BE ALLO    03 00147
000343 A            148 V$TM$  EQU     LC+35             TIME OF DAY IN 5 MILLISECOND INCREMENTS       03 00148
000344 A            149 V$TMN  EQU     LC+36             TIME OF DAY IN MINUTE INCREMENTS              03 00149
000345 A            150 V$LUNT EQU     LC+37             ADDR. OF LOGICAL UNIT NAME TABLE              03 00150
000346 A            151 V$OPCF EQU     LC+38             OPCOM LOCKOUT FLAG                            03 00151
000347 A            152 V$FGLB EQU     LC+39             KEY AND LU NO. FOR FOREGROUND LIB             03 00152
000350 A            153 V$FREE EQU     LC+40             FREE RUNNING COUNTER INCR. IN MICROSECONDS    03 00153
000351 A            154 V$CTMS EQU     LC+41             CLOCK RESOLUTION IN 5 MILLISECOND INCR.       03 00154
000352 A            155 V$SCV  EQU     LC+42             CLOCK SELECTED COUNT VALUE (1 TO 4095)        03 00155
000353 A            156 V$CKB  EQU     LC+43             BASIC CLOCK INTERRUPT RATE IN MICROSECONDS    03 00156
000354 A            157 V$CRM  EQU     LC+44             CLOCK RESOLUTION INCR. FOR 1 MINUTE.          03 00157
000355 A            158 V$DSTB EQU     LC+45             BASE ADDR. FOR DST BLOCK                      03 00158
000356 A            159 V$LIT  EQU     LC+46             LAST LOCATION OF BACKGROUND LITERAL TABLE     03 00159
                    160 *      EQU     LC+47             UNUSED                                        03 00160
000360 A            161 V$CTAD EQU     LC+48             BASE ADDR. FOR CONTROLLER ADDR. TABLE         03 00161
000361 A            162 V$SCTL EQU     LC+49             CURRENT CONTROLLER IN SCAN                    03 00162
000362 A            163 V$NCTR EQU     LC+50             NO. OF CONTROLLERS                            03 00163
000363 A            164 V$PIMN EQU     LC+51             EXTERNAL DEVICE ADDRESS TABLE FOR PIMS        03 00164
                    165 *                                  (8 WORDS DEFINED IN PIM NO ORDER)         03 00165
                    166 *      EQU     LC+59             UNUSED                                        03 00166
                    167 *      EQU     LC+60             UNUSED                                        03 00167
000375 A            168 V$SLFG EQU     LC+61             SAL TASK BUSY FLAG     1=BUSY, 0=NOT BUSY     03 00168
000376 A            169 V$ERFG EQU     LC+62             ERROR TASK BUSY FLAG   1=BUSY, 0=NOT BUSY     03 00169
000377 A            170 V$JOP  EQU     LC+63             JCP OPERATING FLAG                            03 00170
000400 A            171 V$LUT1 EQU     LC+64             START LUN ADDR FOR JCP/OPCOM ASSIGNABLE       03 00171
000401 A            172 V$LUT2 EQU     LC+65             START LUN ADDR FOR UNASSIGNABLE               03 00172
000402 A            173 V$LUT3 EQU     LC+66             START LUN ADDR FOR OPCOM ASSIGNABLE           03 00173
000403 A            174 V$1MIN EQU     LC+67             32767 - (60000/(5*V$CTMS)) + 1                03 00174
                    175 *      EQU     LC+68             UNUSED                                        03 00175
                    176 *      EQU     LC+69             UNUSED                                        03 00176
                    177 *      EQU     LC+70             UNUSED                                        03 00177
                    178 *      EQU     LC+71             UNUSED                                        03 00178
000410 A            179 V$IOA  EQU     LC+72             I/O ALGORITHM                                 03 00179
000411 A            180 V$CKIT EQU     LC+73             CLOCK INT. IN PIM BEFORE LOCKOUT FLAG.        03 00180
000412 A            181 V$JCB  EQU     LC+74             ALL SYSTEM BACKGROUND PROGRAMS AND JCP USE    03 00181
                    182 *                                THIS SYSTEM BUFFER TO READ DIRECTIVES AND     03 00182
                    183 *                                SOURCE RECORDS IN.                            03 00183
000413 A            184 V$OCB  EQU     LC+75             OPCOM WILL READ OPERATOR KEY-IN REQUESTS      03 00184
                    185 *                                IN THIS BUFFER.  IF JCP IS SET NOT ACTIVE     03 00185
                    186 *                                AND A 1 DIRECTIVE IS INPUTED, OPCOM           03 00186
                    187 *                                WILL MOVE THE DIRECTIVE TO V$JCB BEFORE       03 00187
                    188 *                                SCHEDULING JCP.                               03 00188
000414 A            189 V$BVN  EQU     LC+76             BOTTOM OF VORTEX NUCLEUS                      03 00189
000415 A            190 V$BFC  EQU     LC+77             TOP OF FG RES. AREA/BOTTOM OF FG BLK COMM.    03 00190
000416 A            191 V$TFC  EQU     LC+78             TOP OF FG BLK COMMON/TOP OF VORTEX CORE.      03 00191
                    192 *      EQU     LC+79             UNUSED                                        03 00192
                    193         EJEC                                                                   03 00193
                    194 ***************************************************************************** 03 00194
                    195 *                                                                              03 00195
                    196 ****    MASK TABLE DESCRIPTION                                            ***  03 00196
                    197 *                                                                              03 00197
                    198 ***************************************************************************** 03 00198
000420 A            200 MT     SET     0420                                                            03 00200
000420 A            201 ZERO   EQU     MT                ZERO WORD                                     03 00201
```

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000421 A  202 BS0     EQU     MT+1          BIT MASK CONTENTS 000001                    03 00202
000422 A  203 BS1     EQU     MT+2                            000002                    03 00203
000423 A  204 BS2     EQU     MT+3                            000004                    03 00204
000424 A  205 BS3     EQU     MT+4                            000010                    03 00205
000425 A  206 BS4     EQU     MT+5                            000020                    03 00206
000426 A  207 BS5     EQU     MT+6                            000040                    03 00207
000427 A  208 BS6     EQU     MT+7                            000100                    03 00208
000430 A  209 BS7     EQU     MT+8                            000200                    03 00209
000431 A  210 BS8     EQU     MT+9                            000400                    03 00210
000432 A  211 BS9     EQU     MT+10                           001000                    03 00211
000433 A  212 BS10    EQU     MT+11                           002000                    03 00212
000434 A  213 BS11    EQU     MT+12                           004000                    03 00213
000435 A  214 BS12    EQU     MT+13                           010000                    03 00214
000436 A  215 BS13    EQU     MT+14                           020000                    03 00215
000437 A  216 BS14    EQU     MT+15                           040000                    03 00216
000440 A  217 BS15    EQU     MT+16                         0100000                     03 00217
000441 A  218 BR0     EQU     MT+17         BIT MASK CONTENTS  0177776                  03 00218
000442 A  219 BR1     EQU     MT+18                            0177775                  03 00219
000443 A  220 BR2     EQU     MT+19                            0177773                  03 00220
000444 A  221 BR3     EQU     MT+20                            0177767                  03 00221
000445 A  222 BR4     EQU     MT+21                            0177757                  03 00222
000446 A  223 BR5     EQU     MT+22                            0177737                  03 00223
000447 A  224 BR6     EQU     MT+23                            0177677                  03 00224
000450 A  225 BR7     EQU     MT+24                            0177577                  03 00225
000451 A  226 BR8     EQU     MT+25                            0177377                  03 00226
000452 A  227 BR9     EQU     MT+26                            0176777                  03 00227
000453 A  228 BR10    EQU     MT+27                            0175777                  03 00228
000454 A  229 BR11    EQU     MT+28                            0173777                  03 00229
000455 A  230 BR12    EQU     MT+29                            0167777                  03 00230
000456 A  231 BR13    EQU     MT+30                            0157777                  03 00231
000457 A  232 BR14    EQU     MT+31                            0137777                  03 00232
000460 A  233 BR15    EQU     MT+32                            0077777                  03 00233
000461 A  234 NEG     EQU     MT+33         SET ALL BITS                               03 00234
000462 A  235 LHW     EQU     MT+34         LEFT HALF WORD MASK 0177400                03 00235
000463 A  236 RHW     EQU     MT+35         RIGHT HALF WORD MASK   0377                03 00236
000421 A  237 ONE     EQU     MT+1          CONTAINS NUMBER  1                         03 00237
000422 A  238 TWO     EQU     MT+2          CONTAINS NUMBER  2                         03 00238
000464 A  239 THREE   EQU     MT+36         CONTAINS NUMBER  3                         03 00239
000423 A  240 FOUR    EQU     MT+3          CONTAINS NUMBER  4                         03 00240
000465 A  241 FIVE    EQU     MT+37         CONTAINS NUMBER  5                         03 00241
000466 A  242 SIX     EQU     MT+38         CONTAINS NUMBER  6                         03 00242
000467 A  243 SEVEN   EQU     MT+39         CONTAINS NUMBER  7                         03 00243
000424 A  244 EIGHT   EQU     MT+4          CONTAINS NUMBER  8                         03 00244
000470 A  245 NINE    EQU     MT+40         CONTAINS NUMBER  9                         03 00245
000471 A  246 TEN     EQU     MT+41         CONTAINS NUMBER 10                         03 00246
000421 A  247 BM1     EQU     MT+1          BIT MASK WORD  00001                       03 00247
000464 A  248 BM3     EQU     MT+36         BIT MASK WORD  00003                       03 00248
000467 A  249 BM7     EQU     MT+39         BIT MASK WORD  00007                       03 00249
000472 A  250 BM17    EQU     MT+42         BIT MASK WORD  00017                       03 00250
000473 A  251 BM37    EQU     MT+43         BIT MASK WORD  00037                       03 00251
000474 A  252 BM77    EQU     MT+44         BIT MASK WORD  00077                       03 00252
000475 A  253 BM177   EQU     MT+45         BIT MASK WORD  00177                       03 00253
000463 A  254 BM377   EQU     MT+35         BIT MASK WORD  00377                       03 00254
000476 A  255 BM777   EQU     MT+46         BIT MASK WORD  00777                       03 00255
000477 A  256 BM1777  EQU     MT+47         BIT MASK WORD  01777                       03 00256
          257         EJEC                                                           03 00257
          258 ********************************************************************** 03 00258
          259 *                                                                      03 00259
          260 ****     BIT TEST BIT DESIGNATION                                  *** 03 00260
          261 *                                                                      03 00261
          262 ********************************************************************** 03 00262
000040 A  264 RA0     EQU     040           BT JUMPS WHEN A REGISTER IS 0              03 00264
000000 A  265 RA1     EQU     000           BT JUMPS WHEN A REGISTER IS 1              03 00265
000060 A  266 RB0     EQU     060           BT JUMPS WHEN B REGISTER IS 0              03 00266
000020 A  267 RB1     EQU     020           BT JUMPS WHEN B REGISTER IS 1              03 00267
          269 ********************************************************************** 03 00269
          270 *                                                                      03 00270
          271 **       THE BIT CHECKED                                              03 00271
          272 *                                                                      03 00272
          273 ********************************************************************** 03 00273
000000 A  275 B0      EQU     0                                                      03 00275
000001 A  276 B1      EQU     1                                                      03 00276
000002 A  277 B2      EQU     2                                                      03 00277
000003 A  278 B3      EQU     3                                                      03 00278
000004 A  279 B4      EQU     4                                                      03 00279
000005 A  280 B5      EQU     5                                                      03 00280
000006 A  281 B6      EQU     6                                                      03 00281
000007 A  282 B7      EQU     7                                                      03 00282
000010 A  283 B8      EQU     8                                                      03 00283
000011 A  284 B9      EQU     9                                                      03 00284
000012 A  285 B10     EQU     10                                                     03 00285
000013 A  286 B11     EQU     11                                                     03 00286
000014 A  287 B12     EQU     12                                                     03 00287
000015 A  288 B13     EQU     13                                                     03 00288
000016 A  289 B14     EQU     14                                                     03 00289
000017 A  290 B15     EQU     15                                                     03 00290
          291         EJEC                                                           03 00291
          292 ********************************************************************** 03 00292
          293 *                                                                      03 00293
          294 ****     DEVICE AND FUNCTION CODES                                 *** 03 00294
          295 *                                                                      03 00295
          296 ********************************************************************** 03 00296
          298 ****     REAL TIME CLOCK                                           *** 03 00298
```

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000047 A  299 CLOCK   EQU     047             DEVICE NUMBER 047                                    03 00299
          300 *                                                                                  03 00300
000747 A  301 DISCLK  EQU     0700+CLOCK      DISABLE CLOCK                                        03 00301
000147 A  302 ENACLK  EQU     0100+CLOCK      ENABLE CLOCK                                         03 00302
          304 *                                                                                  03 00304
          305 ****     PIM                                                                  *** 03 00305
000044 A  306 APIM    EQU     044             ALL PIMS DEVICE NUMBER                               03 00306
000040 A  307 PIM1    EQU     040                                                                  03 00307
000041 A  308 PIM2    EQU     041                                                                  03 00308
000042 A  309 PIM3    EQU     042                                                                  03 00309
000043 A  310 PIM4    EQU     043                                                                  03 00310
000040 A  311 PIM5    EQU     040                                                                  03 00311
000040 A  312 PIM6    EQU     040                                                                  03 00312
000040 A  313 PIM7    EQU     040                                                                  03 00313
000040 A  314 PIM8    EQU     040                                                                  03 00314
          315 *                                                                                  03 00315
000444 A  316 DISPIM  EQU     0400+APIM                                                            03 00316
000244 A  317 ENAPIM  EQU     0200+APIM                                                            03 00317
          319 ****     MEMORY PROTECT                                                       *** 03 00319
000045 A  320 MP      EQU     045             DEVICE ADDRESS 045                                   03 00320
000745 A  321 DISMP   EQU     0700+MP         DISABLE MEMORY PROTECT                               03 00321
000645 A  322 ENAMP   EQU     0600+MP         ENABLE MEMORY PROTECT                                03 00322
000045 A  323 MPMR0   EQU     0000+MP         SELECT MASK REGISTER 0                               03 00323
000145 A  324 MPMR1   EQU     0100+MP         SELECT MASK REGISTER 1                               03 00324
000245 A  325 MPMR2   EQU     0200+MP         SELECT MASK REGISTER 2                               03 00325
000345 A  326 MPMR3   EQU     0300+MP         SELECT MASK REGISTER 3                               03 00326
          327         EJEC                                                                       03 00327
          328 *                                                                                  03 00328
          329         NAME    V$JCP                                                              03 00329
000001 A  330 X       EQU     1                                                                  03 00330
000002 A  331 B       EQU     2                                                                  03 00331
000002 A  332 SI      EQU     2                                                                  03 00332
000003 A  333 SO      EQU     3                                                                  03 00333
000005 A  334 LO      EQU     5                                                                  03 00334
000011 A  335 GO      EQU     9                                                                  03 00335
          336 *                                                                                  03 00336
          337 *                               JOB CONTROL PROCESSOR                              03 00337
          338 *                                                                                  03 00338
000000 010412 A  339 V$JCP  LDA     V$JCB       ADRS OF JC BUFFER                                03 00339
000001 054005 A  340        STA     JC01        STORE BUFFER ADDRESS IN SIFCB                    03 00340
000002 005311 A  341        DAR                 MINUS ONE                                        03 00341
000003 054010 A  342        STA     JC02        STORE BUFFER ADDRESS IN LOFCB                    03 00342
       000007 R  343 JC01   EQU     *+3                                                          03 00343
          344         IOLINK  SI,0,40                                                            03 00344
000004 006505 A
000005 000406 A
000006 001402 A
000007 000000 A
000010 000050 A
       000014 R  345 JC02   EQU     *+3                                                          03 00345
          346         IOLINK  LO,0,41                                                            03 00346
000011 006505 A
000012 000406 A
000013 001405 A
000014 000000 A
000015 000051 A
000016 005111 A  347        IAR                                                                03 00347
000017 004241 A  348        LRLA    1           INITIALIZE                                       03 00348
000020 006057 A  349        STAE    CHPTR       CHARACTER POINTER                                03 00349
000021 003423 R
          350 *                                                                                  03 00350
          351 *       CLEAR LOCKOUT BITS FOR ALL DSTS                                            03 00351
          352 *                                                                                  03 00352
000022 030355 A  353        LDX     V$DSTB      BASE OF DST BLOCK                            C.1 03 00353
000023 015001 A  354 JC03   LDA     1,X                                                      C.1 03 00354
000024 001010 A  355        JAZ     JC05        JUMP IF END OF DST BLOCK                     C.1 03 00355
000025 000036 R
000026 015002 A  356        LDA     2,X                                                      C.1 03 00356
000027 150455 A  357        ANA     BR12        CLEAR LOCKOUT BIT                            C.1 03 00357
000030 055002 A  358        STA     2,X                                                      C.1 03 00358
000031 005144 A  359        IXR                                                              C.1 03 00359
000032 005144 A  360        IXR                                                              C.1 03 00360
000033 005144 A  361        IXR         POINT TO NEXT DST                                    C.1 03 00361
000034 001000 A  362        JMP     JC03                                                     C.1 03 00362
000035 000023 R
       000036 R  363 JC05   EQU     *                                                        C.1 03 00363
000036 010055 A  364        LDA     V$JCFG      GET JC FLAGS                                     03 00364
000037 150466 A  365        ANA     SIX                                                          03 00365
000040 140422 A  366        SUB     TWO         EXECUTE BIT ONLY SET ?                           03 00366
000041 001010 A  367        JAZ     JC?XQT      YES - EXECUTE LOAD AND GO                        03 00367
000042 001701 R
000043 010055 A  368        LDA     V$JCFG      NO -                                             03 00368
000044 150423 A  369        ANA     FOUR        ERRORS ?                                         03 00369
000045 001010 A  370        JAZ     JC11        NO                                               03 00370
000046 000053 R
000047 010466 A  371        LDA     SIX         YES -                                            03 00371
000050 057000 I  372        STA     ERRN        SET ERROR CODE                                   03 00372
000051 005001 A  373        TZA                 CLEAR JCP                                        03 00373
000052 050055 A  374        STA     V$JCFG      FLAG BITS                                        03 00374
000053 001000 A  375        JMP     JCRMSG      PROCESS ERROR                                    03 00375
000054 000607 R
000055 005003 A  376 JC11   TZB                                                                  03 00376
000056 006067 A  377        STBE    IOBLK                                                        03 00377
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000057 003745 R
000060 006505 A  376          JSR     JCGTCH,X      GET 1ST CHARACTER                          03 00378
000061 003705 R
000062 006147 A  379          SUBE    N257          IS IT A SLASH ?                            03 00379
000063 003404 R
000064 001010 A  380          JAZ     JC1B1                                                    03 00380
000065 000142 R
000066 010422 A  381 JCRET    LDA     TWO           LUN FOR SI                                 03 00381
000067 006505 A  382          JSR     V$DVTP,X      SI A TTY OR CRT ?                          03 00382
000070 004130 R
000071 001016 A  383          JANZ    JC1A2         NO                                         03 00383
000072 000102 R
                 384 JC1A1    WRITE   JCPOUT,SI,1,1 YES - WRITE 'JC**' TO SI                   03 00384
000073 006505 A
000074 000404 A
000075 100000 A
000076 110402 A
000077 000724 R
000100 000000 A
000101 000000 A
000102 020412 A  385 JC1A2    LDB     V$JCB         CLEAR BUFFER                               03 00385
000103 006037 A  386          LDXE    N50                                                      03 00386
000104 003441 R
000105 006017 A  387          LDAE    DBLK                                                     03 00387
000106 003372 R
000107 056000 A  388 JC1B2    STA     0,B                                                      03 00388
000110 005122 A  389          IBR                                                              03 00389
000111 005344 A  390          DXR                                                              03 00390
000112 001046 A  391          JXNZ    JC1B2                                                    03 00391
000113 000107 R
000114 006030 A  392          LDXI    SIFCB                                              C     03 00392
000115 000000 E
000116 015002 A  393          LDA     2,1                                                C     03 00393
000117 150463 A  394          ANA     RHW           SAVE PROTECTION KEY                  C     03 00394
000120 130431 A  395          ERA     BS8           SET FOR SEQ ACCESS BY LOG REC        C     03 00395
000121 055002 A  396          STA     2,X           STORE IN SIFCB                       C     03 00396
000122 017000 I  397          LDA     JCFCBS        STORE 'SIFCB' ADDRESS IN CALL              03 00397
000123 054004 A  398          STA     *+5                                                      03 00398
                 399 JC1B3    READ    SIFCB,SI,0,1  READ NEXT DIRECTIVE INTO JC BUFFER         03 00399
000124 006505 A
000125 000404 A
000126 100000 A
000127 010002 A
000130 000115 E
000131 000000 A
000132 000000 A
                 400 JC1B4    STAT    JC1B3,JCRER,JCEOF,JCRER,JC1B4                      C.1 03 00400
000133 006505 A
000134 000373 A
000135 000124 R
000136 001234 R
000137 001231 R
000140 001234 R
000141 000133 R
000142 010421 A  401 JC1B1    LDA     ONE           SET JCP                                    03 00401
000143 050377 A  402          STA     V$JOP         OPERATING FLAG                             03 00402
000144 010412 A  403 JC1A3    LDA     V$JCB         INITIALIZE                                 03 00403
000145 004241 A  404          LRLA    1             CHARACTER                                  03 00404
000146 006057 A  405          STAE    CHPTR         POINTER                                    03 00405
000147 003423 R
000150 005001 A  406          TZA                                                              03 00406
000151 006057 A  407          STAE    IGBLK                                                    03 00407
000152 003745 R
000153 006057 A  408          STAE    COUNT         ZERO COUNT                                 03 00408
000154 003415 R
000155 020412 A  409          LDB     V$JCB         SET LIMIT                                  03 00409
000156 056050 A  410          STA     40,B          AT END OF JC BUFFER                        03 00410
000157 006505 A  411          JSR     JCGTCH,X      GET 1ST CHAR                               03 00411
000160 003705 R
000161 006147 A  412          SUBE    N257          IS IT A SLASH ?                            03 00412
000162 003404 R
000163 001016 A  413          JANZ    JC2A4         NO - ILLEGAL                               03 00413
000164 000604 R
000165 006017 A  414          LDAE    JCTPTR                                                   03 00414
000166 003406 R
000167 004241 A  415          LRLA    1                                                        03 00415
000170 006057 A  416          STAE    CHPTR2                                                   03 00416
000171 003424 R
000172 020466 A  417          LDB     SIX                                                      03 00417
000173 006505 A  418 JC1A31   JSR     JCGTCH,X      TRANSFER                                   03 00418
000174 003705 R
000175 005014 A  419          TAX                                                              03 00419
000176 006147 A  420          SUBE    N301          JC STATEMENT                               03 00420
000177 003407 R
000200 001004 A  421          JAN     JC1A33        TO TEMPORARY                               03 00421
000201 000227 R
000202 006147 A  422          SUBE    N32           BUFFER,                                    03 00422
000203 003410 R
000204 001002 A  423          JAP     JC1A33                                                   03 00423
000205 000227 R
000206 006127 A  424          ADDE    N333                                                     03 00424
000207 003412 R
000210 006505 A  425          JSR     JCPTCH,X                                                 03 00425
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000211 003751 R
000212 005322 A   426          DBR                                                    03 00426
000213 001026 A   427          JBNZ    JC1A31                                         03 00427
000214 000173 R
000215 006047 A   428          INRE    IGBLK          IGNORE BLANKS                   03 00428
000216 003745 R
000217 006505 A   429          JSR     JCGTCH,X       ADVANCE SCAN TO DELIMITER       03 00429
000220 003705 R
000221 001010 A   430          JAZ     JC1A4          NO PARAMETERS                   03 00430
000222 000257 R
000223 006505 A   431          JSR     DLMCHK,X       CHECK IT                        03 00431
000224 004072 R
000225 001000 A   432          JMP     JC1A4                                          03 00432
000226 000257 R
000227 005041 A   433 JC1A33    TXA                                                    03 00433
000230 006147 A   434          SUBE    N240                                           03 00434
000231 003413 R
000232 001010 A   435          JAZ     JC1A3X                                         03 00435
000233 000240 R
000234 006127 A   436          ADDE    N240                                           03 00436
000235 003413 R
000236 001000 A   437          JMP     JC1A34                                         03 00437
000237 000246 R
000240 006047 A   438 JC1A3X   INRE    IGBLK          IGNORE BLANKS,ADVANCE SCAN      03 00438
000241 003745 R
000242 006505 A   439          JSR     JCGTCH,X       TO DELIMITER                    03 00439
000243 003705 R
000244 001010 A   440          JAZ     JC1A36         NO PARAMETERS                   03 00440
000245 000250 R
000246 006505 A   441 JC1A34   JSR     DLMCHK,X       CHECK IT                        03 00441
000247 004072 R
000250 006017 A   442 JC1A36   LDAE    N240                                           03 00442
000251 003413 R
000252 006505 A   443          JSR     JCPTCH,X       OF BUFFER                       03 00443
000253 003751 R
000254 005322 A   444          DBR                    WITH BLANKS                     03 00444
000255 001026 A   445          JBNZ    JC1A36                                         03 00445
000256 000250 R
000257 030412 A   446 JC1A4    LDX     V$JCB                                          03 00446
000260 005344 A   447          DXR                                                    03 00447
000261 014451 A   448          LDA     N12024         PUT SPACE ONE LINE              03 00448
000262 055000 A   449          STA     0,X            IN FRONT OF BUFFER              03 00449
000263 017000 I   450          LDA     JCTBUF         IS DIRECTIVE                    03 00450
000264 144132 A   451          SUB     JCTAB          A /JOB ?                        03 00451
000265 001016 A   452          JANZ    JC1A41         NO                              03 00452
000266 000304 R
000267 017000 I   453          LDA     JCTBUF+1                                       03 00453
000270 144127 A   454          SUB     JCTAB+1                                        03 00454
000271 001016 A   455          JANZ    JC1A41         NO                              03 00455
000272 000304 R
000273 017000 I   456          LDA     JCTBUF+2                                       03 00456
000274 144124 A   457          SUB     JCTAB+2                                        03 00457
000275 001016 A   458          JANZ    JC1A41         NO                              03 00458
000276 000304 R
000277 054423 A   459          STA     JCFLSH         YES - CLEAR FLUSH FLAG          03 00459
000300 014431 A   460          LDA     N13064         SET TOP OF FORM CHAR            03 00460
000301 055000 A   461          STA     0,X            IN FRONT OF BUFFER              03 00461
000302 001000 A   462          JMP     JC1C1                                          03 00462
000303 000360 R
000304 017000 I   463 JC1A41   LDA     JCTBUF         IS DIRECTIVE                    03 00463
000305 144115 A   464          SUB     JCTAB+4        A /ENDJOB ?                     03 00464
000306 001016 A   465          JANZ    JC1A42         NO                              03 00465
000307 000331 R
000310 017000 I   466          LDA     JCTBUF+1                                       03 00466
000311 144112 A   467          SUB     JCTAB+5                                        03 00467
000312 001016 A   468          JANZ    JC1A42         NO                              03 00468
000313 000331 R
000314 017000 I   469          LDA     JCTBUF+2                                       03 00469
000315 144107 A   470          SUB     JCTAB+6                                        03 00470
000316 001016 A   471          JANZ    JC1A42         NO                              03 00471
000317 000331 R
000320 017000 I   472          LDA     JCCHAR         FETCH LAST CHAR                 03 00472
000321 001010 A   473          JAZ     JC1A46         JUMP IF NO TERM.                03 00473
000322 000326 R
000323 147000 I   474          SUB     N256           CHECK IF NEXT CHAR IS PERIOD    03 00474
000324 001016 A   475          JANZ    JC13F2         ANY OTHER CHAR. IS A ERROR      03 00475
000325 003564 R
000326 054374 A   476 JC1A46   STA     JCFLSH         YES - CLEAR FLUSH FLAG          03 00476
000327 001000 A   477          JMP     JC1C1                                          03 00477
000330 000360 R
000331 017000 I   478 JC1A42   LDA     JCTBUF         IS DIRECTIVE                    03 00478
000332 144074 A   479          SUB     JCTAB+8        A /FINI ?                       03 00479
000333 001016 A   480          JANZ    JC1A43         NO                              03 00480
000334 000355 R
000335 017000 I   481          LDA     JCTBUF+1                                       03 00481
000336 144071 A   482          SUB     JCTAB+9                                        03 00482
000337 001016 A   483          JANZ    JC1A43         NO                              03 00483
000340 000355 R
000341 017000 I   484          LDA     JCTBUF+2                                       03 00484
000342 144066 A   485          SUB     JCTAB+10                                       03 00485
000343 001016 A   486          JANZ    JC1A43         NO                              03 00486
000344 000355 R
000345 017000 I   487          LDA     JCCHAR         FETCH LAST CHAR                 03 00487
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000346 001010 A  488          JAZ     JC1A46          JUMP TO CLEAR FLUSH FLAG                        03 00488
000347 000326 R
000350 147000 I  489          SUB     N256            CHECK IF NEXT CHAR IS PERIOD                    03 00489
000351 001016 A  490          JANZ    JC13F2          ANY OTHER CHAR. IS A ERROR                      03 00490
000352 003564 R
000353 001000 A  491          JMP     JC1A46          JUMP TO CLEAR FLUSH FLAG                        03 00491
000354 000326 R
000355 014345 A  492 JC1A43   LDA     JCFLSH          FLUSH FLAG SET ?                                03 00492
000356 001016 A  493          JANZ    JCRET           YES - IGNORE DIRECTIVE                          03 00493
000357 000066 R
000360 006505 A  494 JC1C1    JSR     JCPRT,X         PRINT JCP DIRECTIVE                             03 00494
000361 000734 R
000362 074522 A  495          STX     JCPRTF          SET ALREADY PRINTED FLAG                        03 00495
000363 005002 A  496          TZB                                                                     03 00496
000364 005004 A  497          TZX                                                                     03 00497
000365 006015 A  498 JC1A45   LDAE    JCTAB,X                                                         03 00498
000366 000417 R
000367 001010 A  499          JAZ     JC2A4           NOT THERE - ERROR                               03 00499
000370 000604 R
000371 147000 I  500          SUB     JCTBUF                                                          03 00500
000372 001016 A  501          JANZ    JC1A5           NO MATCH                                        03 00501
000373 000406 R
000374 006015 A  502          LDAE    JCTAB+1,X                                                       03 00502
000375 000420 R
000376 147000 I  503          SUB     JCTBUF+1                                                        03 00503
000377 001016 A  504          JANZ    JC1A5           NO MATCH                                        03 00504
000400 000406 R
000401 006015 A  505          LDAE    JCTAB+2,X                                                       03 00505
000402 000421 R
000403 147000 I  506          SUB     JCTBUF+2                                                        03 00506
000404 001010 A  507          JAZ     JC1A6           MATCH                                           03 00507
000405 000413 R
000406 005041 A  508 JC1A5    TXA                                                                     03 00508
000407 120423 A  509          ADD     FOUR            INCREMENT X REG                                 03 00509
000410 005014 A  510          TAX                     BY FOUR                                         03 00510
000411 001000 A  511          JMP     JC1A45          GO BACK FOR NEXT                                03 00511
000412 000365 R
000413 006025 A  512 JC1A6    LDBE    JCTAB+3,X       DO INDEXED                                      03 00512
000414 000422 R
000415 006706 A  513          IJMP    0,B             JUMP TO ROUTINE                                 03 00513
000416 000000 A
                 514 *                                                                                03 00514
                 515 *        TABLE TO JUMP TO PROPER SUBCOMPONENT.  FIRST THREE WORDS               03 00515
                 516 *        EQUALS STATEMENT NAME, RIGHT JUSTIFIED, BLANK FILLED.                  03 00516
                 517 *        FOURTH WORD IS ADDRESS OF STARTING LOCATION OF SUBCOMPONENT.           03 00517
                 518 *        TABLE IS TERMINATED BY ZERO WORD                                       03 00518
                 519 *                                                                               03 00519
000417 145317 A  520 JCTAB    DATA    'JOB    '                                                       03 00520
000420 141240 A
000421 120240 A
000422 001106 R  521          DATA    JCPCON          JOB                                             03 00521
000423 142715 A  522          DATA    'ENDJOB'                                                        03 00522
000424 142312 A
000425 147702 A
000426 001106 R  523          DATA    JCPCON          ENDJOB                                          03 00523
000427 143311 A  524          DATA    'FINI   '                                                       03 00524
000430 147311 A
000431 120240 A
000432 001106 R  525          DATA    JCPCON          FINI                                            03 00525
000433 142301 A  526          DATA    'DASMR  '                                                       03 00526
000434 151715 A
000435 151240 A
000436 001527 R  527          DATA    JCPTSK          DASMR                                           03 00527
000437 143317 A  528          DATA    'FORT   '                                                       03 00528
000440 151324 A
000441 120240 A
000442 001527 R  529          DATA    JCPTSK          FORT                                            03 00529
000443 143315 A  530          DATA    'FMAIN  '                                                       03 00530
000444 140711 A
000445 147240 A
000446 001527 R  531          DATA    JCPTSK          FMAIN                                           03 00531
000447 151705 A  532          DATA    'SEDIT  '                                                       03 00532
000450 142311 A
000451 152240 A
000452 001527 R  533          DATA    JCPTSK          SEDIT                                           03 00533
000453 151715 A  534          DATA    'SMAIN  '                                                       03 00534
000454 140711 A
000455 147240 A
000456 001527 R  535          DATA    JCPTSK          SMAIN                                           03 00535
000457 146315 A  536          DATA    'LMGEN  '                                                       03 00536
000460 143705 A
000461 147240 A
000462 001527 R  537          DATA    JCPTSK          LMGEN                                           03 00537
000463 144717 A  538          DATA    'IOUTIL'                                                        03 00538
000464 152724 A
000465 144714 A
000466 001527 R  539          DATA    JCPTSK          IOUTIL                                          03 00539
000467 141717 A  540          DATA    'CONC   '                                                       03 00540
000470 147303 A
000471 120240 A
000472 001527 R  541          DATA    JCPTSK          CONC                                            03 00541
000473 142730 A  542          DATA    'EXEC   '                                                       03 00542
000474 142703 A
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000475 120240 A
000476 001561 R  543          DATA    JCPEX          EXEC                                    03 00543
000477 141717 A  544          DATA    'COMSY '                                               03 00544
000500 146723 A
000501 154640 A
000502 001527 R  545          DATA    JCPTSK         COMSY                                   03 00545
000503 147720 A  546          DATA    'OPEN  '                                               03 00546
000504 142716 A
000505 120240 A
000506 001527 R  547          DATA    JCPTSK         VTAM OPEN                               03 00547
000507 141714 A  548          DATA    'CLOSE '                                               03 00548
000510 147723 A
000511 142640 A
000512 001527 R  549          DATA    JCPTSK         VTAM CLOSE                              03 00549
000513 142325 A  550          DATA    'DUMP  '                                         C.1   03 00550
000514 146720 A
000515 120240 A
000516 002070 R  551          DATA    JCDUMP                                           C.1   03 00551
000517 146317 A  552          DATA    'LOAD  '                                               03 00552
000520 140704 A
000521 120240 A
000522 001720 R  553          DATA    JCPLD          LOAD                                    03 00553
000523 143317 A  554          DATA    'FORM  '                                               03 00554
000524 151315 A
000525 120240 A
000526 002075 R  555          DATA    JCFOR          FORM                                    03 00555
000527 151706 A  556          DATA    'SFILE '                                               03 00556
000530 144714 A
000531 142640 A
000532 002117 R  557          DATA    JCSFI          SFILE                                   03 00557
000533 151305 A  558          DATA    'REW   '                                               03 00558
000534 153640 A
000535 120240 A
000536 002213 R  559          DATA    JCREW          REWIND                                  03 00559
000537 151722 A  560          DATA    'SREC  '                                               03 00560
000540 142703 A
000541 120240 A
000542 002274 R  561          DATA    JCSRE          SREC                                    03 00561
000543 153705 A  562          DATA    'WEOF  '                                               03 00562
000544 147706 A
000545 120240 A
000546 002441 R  563          DATA    JCWEO          WEOF                                    03 00563
000547 150306 A  564          DATA    'PFILE '                                               03 00564
000550 144714 A
000551 142640 A
000552 002507 R  565          DATA    JCPFI          PFILE                                   03 00565
000553 141706 A  566          DATA    'CFILE '                                               03 00566
000554 144714 A
000555 142640 A
000556 002762 R  567          DATA    JCFILE         CLOSEFILE                               03 00567
                 568 *                                ALLOWS /CFILE,LUN WHERE LUN IS NUMBER   03 00568
                 569 *                                OR NAME RESULTING 4 LSQ LUN GT1EQ 10    03 00569
                 570 *                                CLOSES FILE USING GLOBAL FCB WITH UPDATE 03 00570
000557 140723 A  571          DATA    'ASSIGN'                                               03 00571
000560 151711 A
000561 143716 A
000562 003013 R  572          DATA    JCASS          ASSIGN                                  03 00572
000563 140714 A  573          DATA    'ALTLIB'       SPECIAL ALTLIB DIRECTIVE                03 00573
000564 152314 A
000565 144702 A
000566 002733 R  574          DATA    JCALT                                                  03 00574
000567 146705 A  575          DATA    'MEM   '       MEMORY                                  03 00575
000570 146640 A
000571 120240 A
000572 003322 R  576          DATA    JCMEM                                                  03 00576
000573 145720 A  577          DATA    'KPMODE'       KPMODE                                  03 00577
000574 146717 A
000575 142305 A
000576 003333 R  578          DATA    JCKPMD                                                 03 00578
000577 141640 A  579          DATA    'C     '                                               03 00579
000600 120240 A
000601 120240 A
000602 000066 R  580          DATA    JCRET          C                                       03 00580
000603 000000 A  581          DATA    0                                                      03 00581
                 582 *                END OF TABLE                                           03 00582
000604 005101 A  583 JC2A4    INCR    1              ILLEGAL STATEMENT ERROR                 03 00583
000605 006057 A  584          STAE    ERRN                                                   03 00584
000606 003414 R
                 585 *        JMP     JCRMSG                                                 03 00585
                 586          EJEC                                                           03 00586
                 587 *                                                                       03 00587
                 588 *                               ERROR HANDLING ROUTINE                  03 00588
                 589 *                                                                       03 00589
000607 014113 A  590 JCRMSG   LDA     JCFLSH         FLUSH FLAG ALREADY SET ?                03 00590
000610 001016 A  591          JANZ    JC1A2          YES                                     03 00591
000611 000102 R
000612 014272 A  592          LDA     JCPRTF                                                 03 00592
000613 001016 A  593          JANZ    JCRMS1         JUMP IF ALREADY PRINTED                 03 00593
000614 000617 R
000615 006505 A  594          JSR     JCPRT,X        GO PRINT JCP ERROR DIRECTIVE            03 00594
000616 000734 R
000617 005001 A  595 JCRMS1   TZA                    RESET PRINTED FLAG                      03 00595
000620 054264 A  596          STA     JCPRTF                                                 03 00596
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000621 006017 A  597          LDAE    H00         NO -                                  03 00597
000622 003440 R
000623 006127 A  598          ADDE    ERRM        SET JCON IN                           03 00598
000624 003414 R
000625 006057 A  599          STAE    JCPMSG+1    ERROR MSG                             03 00599
000626 003435 R
000627 006027 A  600          LDBE    COUNT                                             03 00600
000630 003415 R
000631 001020 A  601          JBZ     JC3D1                                             03 00601
000632 000657 R
000633 005001 A  602          TZA                                                       03 00602
000634 170471 A  603          DIV     TEN         CONVERT                               03 00603
000635 004250 A  604          LRLA    8                                                 03 00604
000636 006127 A  605          ADDE    HZERO       COUNT                                 03 00605
000637 003417 R
000640 006057 A  606          STAE    JCPMSG+3    AND SET                               03 00606
000641 003437 R
000642 005001 A  607          TZA                                                       03 00607
000643 170471 A  608          DIV     TEN         IN ERROR                              03 00608
000644 006127 A  609          ADDE    HCOMZ       MESSAGE                               03 00609
000645 003416 R
000646 006057 A  610          STAE    JCPMSG+2                                          03 00610
000647 003436 R
                 611          IOLINK  LO,JCPMSG-1,5                                     03 00611
000650 006505 A
000651 000406 A
000652 001405 A
000653 003433 R
000654 000005 A
000655 001000 A  612          JMP     JC3E2                                             03 00612
000656 000664 R
                 613 JC3D1    IOLINK  LO,JCPMSG-1,3                                     03 00613
000657 006505 A
000660 000406 A
000661 001405 A
000662 003433 R
000663 000003 A
000664 017000 I  614 JC3E2    LDA     JCFCBS+3    STORE 'LOFCB' ADDRESS IN CALL         03 00614
000665 054004 A  615          STA     *+5                                               03 00615
                 616          WRITE   LOFCB,SO,0,1 WRITE ERROR MSG TO SO                03 00616
000666 006505 A
000667 000404 A
000670 100000 A
000671 010403 A
000672 000000 E
000673 000000 A
000674 000000 A
000675 006505 A  617          JSR     V$SOLO,X    LO = SO ?                             03 00617
000676 004160 R
000677 001010 A  618          JAZ     JC3E4       YES                                   03 00618
000700 000712 R
000701 017000 I  619          LDA     JCFCBS+3    STORE 'LOFCB' ADDRESS IN CALL         03 00619
000702 054004 A  620          STA     *+5                                               03 00620
                 621          WRITE   LOFCB,LO,0,1 NO - WRITE ERROR MSG TO LO           03 00621
000703 006505 A
000704 000404 A
000705 100000 A
000706 010405 A
000707 000672 E
000710 000000 A
000711 000000 A
000712 010422 A  622 JC3E4    LDA     TWO         LUN FOR SI                            03 00622
000713 006505 A  623          JSR     V$DVTP,X    IS SI A TTY OR CRT ?                  03 00623
000714 004130 R
000715 001010 A  624          JAZ     JC1A1       YES - GET NEXT STATEMENT              03 00624
000716 000073 R
000717 054003 A  625          STA     JCFLSH      NO - SET FLUSH FLAG                   03 00625
000720 001000 A  626          JMP     JC1A2                                             03 00626
000721 000102 R
000722 152331 A  627 ZTY      DATA    'TY'                                              03 00627
000723 000000 A  628 JCFLSH   DATA    0                                                 03 00628
                 629 JCPOUT   DCB     3,HASTR,0                                         03 00629
000724 000003 A
000725 000727 R
000726 000000 A
000727 120240 A  630 HASTR    DATA    '  JC**'                                          03 00630
000730 145303 A
000731 125252 A
000732 130640 A  631 N13064   DATA    0130640                                           03 00631
000733 120240 A  632 N12024   DATA    0120240                                           03 00632
                 633          EJEC                                                      03 00633
                 634 *                                                                  03 00634
                 635 *        SUBROUTINE PRINTS JCP DIRECTIVE ON SO AND LO DEVICE       03 00635
                 636 *                                                                  03 00636
000734 074146 A  637 JCPRT    STX     JCPRX                                             03 00637
000735 064146 A  638          STB     JCPRB                                             03 00638
000736 010412 A  639          LDA     V$JCB       GET BUFFER ADDRESS                    03 00639
000737 005311 A  640          DAR                                                       03 00640
000740 054003 A  641          STA     *+4         SETUP LOFCB                           03 00641
                 642          IDLINK  LO,*,41                                           03 00642
000741 006505 A
000742 000406 A
000743 001405 A
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000744 000741 R
000745 000051 A
000746 030400 A   643          LDX     V$LUT1          ADRS OF LOG UNIT TBL                          03 00643
000747 015003 A   644          LDA     SO,X                                                          03 00644
000750 150463 A   645          ANA     BM377           SO CUR ASSIGNMT                               03 00645
000751 054445 A   646          STA     JCTA                                                          03 00646
000752 015002 A   647          LDA     SI,X                                                          03 00647
000753 150463 A   648          ANA     BM377           SO CUR ASSIGNMT                               03 00648
000754 144442 A   649          SUB     JCTA            SO, SI SAME LUN ?                             03 00649
000755 001010 A   650          JAZ     JCPR1                                                         03 00650
000756 000770 R
000757 017000 I   651          LDA     JCFCBS+3        STORE 'LOFCB' ADDRESS IN CALL                 03 00651
000760 054004 A   652          STA     *+5                                                           03 00652
                  653          WRITE   LOFCB,SO,0,1    NO - WRITE JC BUFFER TO SO                    03 00653
000761 006505 A
000762 000404 A
000763 100000 A
000764 010403 A
000765 000707 E
000766 000000 A
000767 000000 A
000770 030400 A   654 JCPR1    LDX     V$LUT1                                                        03 00654
000771 015005 A   655          LDA     LO,X                                                          03 00655
000772 150463 A   656          ANA     BM377           LO CUR ASSIGNMT                               03 00656
000773 144423 A   657          SUB     JCTA            LO,SO SAME LUN                                03 00657
000774 001010 A   658          JAZ     JCPRE           YES                                           03 00658
000775 001007 R
000776 017000 I   659          LDA     JCFCBS+3        STORE 'LOFCB' ADDRESS IN CALL                 03 00659
000777 054004 A   660          STA     *+5                                                           03 00660
                  661          WRITE   LOFCB,LO,0,1    NO - WRITE JC BUFFER TO LO                    03 00661
001000 006505 A
001001 000404 A
001002 100000 A
001003 010405 A
001004 000765 E
001005 000000 A
001006 000000 A
001007 010412 A   662 JCPRE    LDA     V$JCB           CALCULATE CHAR ADDRESS OF LAST + 1      E.1 ********
001010 006120 A   663          ADDI    40              CHAR IN JC BUF                          E.1 ********
001011 000050 A
001012 004241 A   664          LRLA    1               AND STORE IT                            E.1 ********
001013 054065 A   665          STA     BUFLIM          INTO BUFLIM.                             E.1********
001014 027000 I   666          LDB     CHPTR           SAVE CHPTR IN SAVECP.                   E.1 ********
001015 064064 A   667          STB     SAVECP                                                  E.1 ********
001016 005111 A   668          IAR                                                             E.1 ********
001017 137000 I   669          ERA     CHPTR           IS CHPTR AT END OF BUFFER?          E.1     ********
001020 001010 A   670          JAZ     JCLAB5          IF YES, JUMP TO END OF ROUTINE.         E.1 ********
001021 001073 R
001022 017000 I   671          LDA     PERPTR          WHEN PERPTR IS ZERO, WE SCAN FOR "."    E.1 ********
001023 001010 A   672          JAZ     JCLAB1          IF NOT, WE ALREADY KNOW WHERE "." IS.   E.1 ********
001024 001030 R
001025 057000 I   673          STA     CHPTR                                                   E.1 ********
001026 005001 A   674          TZA                                                             E.1 ********
001027 057000 I   675          STA     PERPTR          REINITIALIZE PERPTR.                    E.1 ********
001030 006505 A   676 JCLAB1   JSR     JCGTCH,X        IS NEXT CHAR A PERIOD?                  E.1 ********
001031 003705 R
001032 147000 I   677          SUB     N256                                                    E.1 ********
001033 001016 A   678          JANZ    JCLAB4          IF NOT, JUMP                            E.1 ********
001034 001067 R
001035 014043 A   679          LDA     BUFLIM          CALCULATE LAST WORD ADDRESS OF          E.1 ********
001036 004341 A   680          LSRA    1               JCB AND STORE                           E.1 ********
001037 005311 A   681          DAR                                                             E.1 ********
001040 054040 A   682          STA     BUFLIM          IT BACK INTO BUFLIM                     E.1 ********
001041 037000 I   683          LDX     N12024          TWO SPACES.                              E.1********
001042 027000 I   684          LDB     CHPTR                                                   E.1 ********
001043 005322 A   685          DBR                                                             E.1 ********
001044 005021 A   686          TBA                                                              E.1********
001045 004141 A   687          LSRB    1               COMPUTE WORD ADDRESS.                    E.1********
001046 006440 A   688          BT      RA0+B0,JCLAB2   IS PERIOD IN LEFT BYTE?                  E.1********
001047 001057 R
001050 016000 A   689          LDA     0,B             NO.                                     E.1 ********
001051 150462 A   690          ANA     LHW             REPLACE PERIOD BY                        E.1********
001052 006110 A   691          ORAI    0240            A BLANK.                                 E.1********
001053 000240 A
001054 056000 A   692          STA     0,B             STORE BACK INTO JCB.                    E.1 ********
001055 001000 A   693          JMP     JCLAB3                                                   E.1********
001056 001060 R
001057 076000 A   694 JCLAB2   STX     0,B             STORE BLANKS INTO JCB.                  E.1 ********
001060 005021 A   695 JCLAB3   TBA                                                             E.1 ********
001061 144017 A   696          SUB     BUFLIM          ARE WE AT END OF BUFFER?                E.1 ********
001062 001010 A   697          JAZ     JCLAB5          IF YES, JUMP TO JCLAB5.                 E.1 ********
001063 001073 R
001064 005122 A   698          IBR                     IF NOT, INCREMENT B AND LOOP.           E.1 ********
001065 001000 A   699          JMP     JCLAB2                                                  E.1 ********
001066 001057 R
001067 017000 I   700 JCLAB4   LDA     CHPTR           THIS CHAR NOT A PERIOD.                 E.1 ********
001070 144010 A   701          SUB     BUFLIM                                                  E.1 ********
001071 001016 A   702          JANZ    JCLAB1          LOOK AT NEXT CHAR.                      E.1 ********
001072 001030 R
001073 014006 A   703 JCLAB5   LDA     SAVECP          RESTORE CHPTR.                          E.1 ********
001074 057000 I   704          STA     CHPTR                                                   E.1 ********
001075 024006 A   705          LDB     JCPRB                                                    E.1********
001076 034004 A   706          LDX     JCPRX                                                        03 00663
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001077 006705 A   707            IJMP    0,X          EXIT                                                    03 00664
001100 000000 A
001101 000000 A   708 BUFLIM     DATA    0            STORES END OF JCB.                                      E.1********
001102 000000 A   709 SAVECP     DATA    0            SAVES CHPTR WHILE WE LOOK FOR PERIOD                    E.1********
001103 000000 A   710 JCPRX      DATA    0                                                                    03 00665
001104 000000 A   711 JCPRB      DATA    0                                                                    03 00666
001105 000000 A   712 JCPRTF     DATA    0                                                                    03 00667
                  713            EJEC                                                                         03 00668
                  714 *                                                                                       03 00669
                  715 *          JCP CONTROL STATEMENTS                                                       03 00670
                  716 *                                                                                       03 00671
001106 010046 A   717 JCPCON    LDA     V$CRDM       GET KEYPUNCH MODE                                       03 00672
001107 004250 A   718            LRLA    8                                                                    03 00673
001110 150462 A   719            ANA     LHW                                                                  03 00674
001111 054305 A   720            STA     JCTA                                                                 03 00675
001112 010046 A   721            LDA     V$CRDM       RESET TO NOMINAL VALUE                                  03 00676
001113 150463 A   722            ANA     RHW                                                                  03 00677
001114 114302 A   723            ORA     JCTA                                                                 03 00678
001115 050046 A   724            STA     V$CRDM                                                               03 00679
001116 005001 A   725            TZA                                                                          03 00680
                  726            IOLINK  GO,*,120                                                             03 00681
001117 006505 A
001120 000406 A
001121 001411 A
001122 001117 R
001123 000170 A
001124 017000 I   727            LDA     JCFCBS+7     STORE 'GOFCB' ADDRESS IN CALL                           03 00682
001125 054004 A   728            STA     *+5                                                                  03 00683
                  729            OPEN    GOFCB,GO,0,0 OPEN 'GO' FILE WITH WAIT/REW.                           03 00684
001126 006505 A
001127 000404 A
001130 100000 A
001131 003011 A
001132 000000 E
001133 000000 A
001134 000000 A
001135 017000 I   730            LDA     JCFCBS+7     STORE 'GOFCB' ADDRESS IN CALL                           03 00685
001136 054004 A   731            STA     *+5                                                                  03 00686
                  732            CLOSE   GOFCB,GO,0,1 CLOSE 'GO' FILE WITH WAIT/UPDATE                        03 00687
001137 006505 A
001140 000404 A
001141 100000 A
001142 013411 A
001143 001132 E
001144 000000 A
001145 000000 A
001146 010465 A   733            LDA     FIVE         LO                                                      E.2********
001147 006505 A   734            JSR     JCLNDV,X     GET DST ENTRY ADDR                                      E.2********
001150 004003 R
001151 005012 A   735            TAB                                                                          E.2********
001152 016001 A   736            LDA     1,B          DEVICE NAME                                             E.2********
001153 004350 A   737            LSRA    8                                                                    E.2********
001154 006617 A   738            SRE     M304,7,010   IS LO AN RMD                                          E.2********
001155 003367 R
001156 001000 A   739            JMP     JCP1         IF NOT AN RMD                                           E.2********
001157 001175 R
001160 027000 I   740            LDB     JCFCBS+3     LOFCB ADDR                                              E.2********
001161 016003 A   741            LDA     3,B                                                                  E.2********
001162 005311 A   742            DAR                                                                          E.2********
001163 001004 A   743            JAN     JCP1         IF FILE NOT OPEN, DO NOT CLOSE                          E.2********
001164 001175 R
001165 064004 A   744            STB     *+5          STORE FCB ADDR IN CALL                                  E.2********
                  745            CLOSE   LOFCB,LO,0,1 CLOSE 'LO' FILE WITH WAIT/UPDATE                        E.2********
001166 006505 A
001167 000404 A
001170 100000 A
001171 013405 A
001172 001004 E
001173 000000 A
001174 000000 A
       001175 R   746 JCP1       EQU     *                                                                    E.2********
001175 010467 A   747            LDA     SEVEN        BO                                                      E.2********
001176 006505 A   748            JSR     JCLNDV,X     GET DST ENTRY ADDR                                      E.2********
001177 004003 R
001200 005012 A   749            TAB                                                                          E.2********
001201 016001 A   750            LDA     1,B          DEVICE NAME                                             E.2********
001202 004350 A   751            LSRA    8                                                                    E.2********
001203 006617 A   752            SRE     M304,7,010   IS BO AN RMD                                          E.2********
001204 003367 R
001205 001000 A   753            JMP     JCP2         IF NOT AN RMD                                           E.2********
001206 001224 R
001207 027000 I   754            LDB     JCFCBS+5     BOFCB ADDR                                              E.2********
001210 016003 A   755            LDA     3,B                                                                  E.2********
001211 005311 A   756            DAR                                                                          E.2********
001212 001004 A   757            JAN     JCP2         IF FILE NOT OPEN                                        E.2********
001213 001224 R
001214 064004 A   758            STB     *+5          STORE FCB ADDR IN CALL                                  E.2********
                  759            CLOSE   BOFCB,7,0,1  CLOSE 'BO' FILE WITH WAIT/UPDATE                        E.2********
001215 006505 A
001216 000404 A
001217 100000 A
001220 013407 A
001221 000000 E
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001222 000000 A
001223 000000 A
       001224 R   760 JCP2    EQU     *                                          E.2********
001224 014637 A   761          LDA     JCTBUF                                        03 00688
001225 006617 A   762          SRE     HZF,7,010       FINI STATEMENT ?              03 00689
001226 003420 R
001227 001000 A   763          JMP     JC4C1           NO                            03 00690
001230 001271 R
001231 017000 I   764 JCEOF   LDA     JCFLSH          FLUSH FLAG SET?            C.1 03 00691
001232 001016 A   765          JANZ    JC2A4           YES - CONTINUE FLUSH       C.1 03 00692
001233 000604 R
001234 006017 A   766 JCRER   LDAE    DBLK                                          03 00693
001235 003372 R
001236 020412 A   767          LDB     V$JCB           CLEAR                         03 00694
001237 006037 A   768          LDXE    N50             CLEAR JOB CONTROL             03 00695
001240 003441 R
001241 056000 A   769 JC4B1   STA     0,B             BUFFER                        03 00696
001242 005122 A   770          IBR                                                   03 00697
001243 005344 A   771          DXR                                                   03 00698
001244 001046 A   772          JXNZ    JC4B1                                         03 00699
001245 001241 R
001246 020400 A   773          LDB     V$LUT1          ADRS OF JCP ASSIGNABLE        03 00700
001247 036000 A   774          LDX     0,B             LOGICAL UNIT TABLE            03 00701
001250 005122 A   775          IBR                     SKIP FIRST UNIT - OC          03 00702
001251 005344 A   776          DXR                                                   03 00703
001252 005122 A   777 JC4BC   IBR                     RESET LUNS                    03 00704
001253 016000 A   778          LDA     0,B             TO STANDARD                   03 00705
001254 150462 A   779          ANA     LHW             ASSIGNMENTS                   03 00706
001255 054141 A   780          STA     JCTA                                          03 00707
001256 004350 A   781          LSRA    8                                             03 00708
001257 114137 A   782          ORA     JCTA                                          03 00709
001260 056000 A   783          STA     0,B                                           03 00710
001261 005344 A   784          DXR                     LAST LUN ?                    03 00711
001262 001046 A   785          JXNZ    JC4BC           NO - REPEAT LOOP              03 00712
001263 001252 R
001264 005001 A   786          TZA                     YES                           03 00713
001265 050377 A   787          STA     V$JOP           CLEAR JCP FLAG                03 00714
                  788          EXIT                    EXIT TO RTE                   03 00715
001266 006505 A
001267 000406 A
001270 000200 A
001271 006017 A   789 JC4C1   LDAE    NAMPTR          /JOB OR /ENDJOB STATEMENT     03 00716
001272 003421 R
001273 004241 A   790          LRLA    1               SET STORAGE                   03 00717
001274 006057 A   791          STAE    CHPTR2          CHAR POINTER                  03 00718
001275 003424 R
001276 010424 A   792          LDA     EIGHT                                         03 00719
001277 054117 A   793          STA     JCTA            SET COUNTER                   03 00720
001300 014563 A   794          LDA     JCTBUF                                        03 00721
001301 006147 A   795          SUBE    HZJ             SET JOB/ENDJOB FLAG           03 00722
001302 003422 R
001303 005012 A   796          TAB                                                   03 00723
001304 006047 A   797          INRE    IGBLK           IGNORE BLANKS                 03 00724
001305 003745 R
001306 006017 A   798 JC4D1   LDAE    N240                                          03 00725
001307 003413 R
001310 001026 A   799          JBNZ    JC4E1           ENDJOB - CLEAR V$JNAM         03 00726
001311 001337 R
001312 006505 A   800          JSR     JCGTCH,X        JOB - SET JOB NAME IN V$JNAM  03 00727
001313 003705 R
001314 001010 A   801          JAZ     JC4D2           JUMP IF NO MORE CHARS.        03 00728
001315 001334 R
001316 006140 A   802          SUBI    0254            COMMA ?                       03 00729
001317 000254 A
001320 001010 A   803          JAZ     DLMY            YES,ERROR                     03 00730
001321 004122 R
001322 147000 I   804          SUB     N21             EQUALS ?                      03 00731
001323 001010 A   805          JAZ     DLMY            YES,ERROR                     03 00732
001324 004122 R
001325 006120 A   806          ADDI    017             PERIOD ?                      03 00733
001326 000017 A
001327 001016 A   807          JANZ    JC4G1           JUMP IF NOT PERIOD            03 00734
001330 001412 R
001331 017000 I   808          LDA     JCCHAR                                        03 00735
001332 006505 A   809          JSR     DLMCHK,X        CHECK DELIMETER               03 00736
001333 004072 R
001334 006017 A   810 JC4D2   LDAE    N240            STORE BLANK CHAR.             03 00737
001335 003413 R
001336 005102 A   811          INCR    2                                             03 00738
001337 006505 A   812 JC4E1   JSR     JCPTCH,X                                      03 00739
001340 003751 R
001341 014055 A   813          LDA     JCTA                                          03 00740
001342 005311 A   814          DAR                                                   03 00741
001343 054053 A   815          STA     JCTA                                          03 00742
001344 001016 A   816          JANZ    JC4D1                                         03 00743
001345 001306 R
001346 020400 A   817          LDB     V$LUT1          ADRS OF JCP ASSIGNABLE        03 00744
001347 036000 A   818          LDX     0,B             LOGICAL UNIT TABLE            03 00745
001350 005122 A   819          IBR                     SKIP FIRST                    03 00746
001351 005122 A   820          IBR                     TWO LOGICAL UNITS             03 00747
001352 005344 A   821          DXR                     OC AND SI                     03 00748
001353 005344 A   822          DXR                                                   03 00749
001354 005122 A   823 JC4F1   IBR                                                   03 00750
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001355 016000 A   824          LDA     0,B             RESET LUNS                          03 00751
001356 150462 A   825          ANA     LHW             TO STANDARD                         03 00752
001357 054037 A   826          STA     JCTA            ASSIGNMENTS                         03 00753
001360 004350 A   827          LSRA    8                                                   03 00754
001361 114035 A   828          ORA     JCTA                                                03 00755
001362 056000 A   829          STA     0,B                                                 03 00756
001363 005344 A   830          DXR                     LAST LUN ?                          03 00757
001364 001046 A   831          JXNZ    JC4F1           NO - GO BACK FOR MORE               03 00758
001365 001354 R
001366 010074 A   832          LDA     V$PLCT          RESET                               03 00759
001367 050054 A   833          STA     V$LCNT          LINE COUNT                          03 00760
                  834 *        RESET ALL FCBS FROM PIFCB                                   03 00761
001370 006010 A   835          LDAI    70                                                  03 00762
001371 000106 A
001372 054023 A   836          STA     JCMOVC          SET MOVE COUNT                      03 00763
001373 006020 A   837          LDBI    JFCBI           FROM ADDRESS                        03 00764
001374 001421 R
001375 006030 A   838          LDXI    PIFCB           TO ADDRESS                          03 00765
001376 000000 E
001377 005311 A   839 JCMOV1   DAR                                                         03 00766
001400 001004 A   840          JAN     JCRET           DONE-GO BACK FOR NEXT STATEMENT     03 00767
001401 000066 R
001402 054013 A   841          STA     JCMOVC                                              03 00768
001403 016000 A   842          LDA     0,B             MOVE NEXT FCB WORD                  03 00769
001404 055000 A   843          STA     0,X                                                 03 00770
001405 005122 A   844          IBR                     INCREMENT TO NEXT WORD              03 00771
001406 005144 A   845          IXR                                                         03 00772
001407 014006 A   846          LDA     JCMOVC                                              03 00773
001410 001000 A   847          JMP     JCMOV1          GO MOVE NEXT WORD                   03 00774
001411 001377 R
001412 006017 A   848 JC4G1    LDAE    JCCHAR                                              03 00775
001413 003747 R
001414 001000 A   849          JMP     JC4E1                                               03 00776
001415 001337 R
001416 000000 A   850 JCMOVC   DATA    0                                                   03 00777
001417 000000 A   851 JCTA     DATA    0                                                   03 00778
001420 000000 A   852 JCTB     DATA    0                                                   03 00779
                  853 JFCBI    FCB     120,0,3,0,'PI',' ',' '                              03 00780
001421 000170 A
001422 000000 A
001423 001400 A
001424 000000 A
001425 000000 A
001426 000000 A
001427 000000 A
001430 150311 A
001431 120240 A
001432 120240 A
                  854          FCB     120,0,3,0,'LO',' ',' '                              03 00781
001433 000170 A
001434 000000 A
001435 001400 A
001436 000000 A
001437 000000 A
001440 000000 A
001441 000000 A
001442 146317 A
001443 120240 A
001444 120240 A
                  855          FCB     120,0,3,0,'BI',' ',' '                              03 00782
001445 000170 A
001446 000000 A
001447 001400 A
001450 000000 A
001451 000000 A
001452 000000 A
001453 000000 A
001454 141311 A
001455 120240 A
001456 120240 A
                  856          FCB     120,0,3,0,'BO',' ',' '                              03 00783
001457 000170 A
001460 000000 A
001461 001400 A
001462 000000 A
001463 000000 A
001464 000000 A
001465 000000 A
001466 141317 A
001467 120240 A
001470 120240 A
                  857          FCB     120,0,3,0,'SS',' ',' '                              03 00784
001471 000170 A
001472 000000 A
001473 001400 A
001474 000000 A
001475 000000 A
001476 000000 A
001477 000000 A
001500 151723 A
001501 120240 A
001502 120240 A
                  858          FCB     120,0,3,0,'GO',' ',' '                              03 00785
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001503 000170 A
001504 000000 A
001505 001400 A
001506 000000 A
001507 000000 A
001510 000000 A
001511 000000 A
001512 143717 A
001513 120240 A
001514 120240 A
                    859         FCB     120,0,3,0,'PD','  ','  '                                  03 00786
001515 000170 A
001516 000000 A
001517 001400 A
001520 000000 A
001521 000000 A
001522 000000 A
001523 000000 A
001524 150317 A
001525 120240 A
001526 120240 A
                    860         EJEC                                                              03 00787
                    861 *                                                                         03 00788
001527 014334 A     862 JCPTSK  LDA     JCTBUF          TRANSFER                                  03 00789
001530 054325 A     863         STA     JC5F1+4         TASK NAME                                 03 00790
001531 014333 A     864         LDA     JCTBUF+1        TO                                        03 00791
001532 054324 A     865         STA     JC5F1+5         SCHED                                     03 00792
001533 014332 A     866         LDA     JCTBUF+2        CALL                                      03 00793
001534 054323 A     867         STA     JC5F1+6                                                   03 00794
001535 017000 I     868         LDA     N101            SET P1=1, REQ CODE=1,                     03 00795
001536 054315 A     869         STA     JC5F1+2         P2=0 IN SCHED CALL                        03 00796
001537 017000 I     870         LDA     N1425           SET P3=105 (0151)                         03 00797
001540 054314 A     871         STA     JC5F1+3         P4='E' IN SCHED CALL                      03 00798
001541 020412 A     872         LDB     V$JCB                                                     03 00799
001542 004041 A     873         LRLB    1               SET PUT CHARACTER POINTER                 03 00800
001543 067000 I     874         STB     CHPTR2          TO BEGIN OF JC BUFFER                     03 00801
001544 006047 A     875 JC5D1   INRE    IGBLK                                                     03 00802
001545 003745 R
001546 006020 A     876         LDBI    80                                                        03 00803
001547 000120 A
001550 006505 A     877 JC5D2   JSR     JCGTCH,X        TRANSFER PARAMETERS                       03 00804
001551 003705 R
001552 001010 A     878         JAZ     JC5E1           IN JC BUFFER TO                           03 00805
001553 002030 R
001554 006505 A     879         JSR     JCPTCH,X        BEGIN OF BUFFER                           03 00806
001555 003751 R
001556 005322 A     880         DBR                                                               03 00807
001557 001000 A     881         JMP     JC5D2                                                     03 00808
001560 001550 R
                    882         EJEC                                                              03 00809
                    883 *                                                                         03 00810
                    884 *                       EXECUTE STATEMENT                                 03 00811
                    885 *                                                                         03 00812
001561 006047 A     886 JCPEX   INRE    IGBLK           IGNORE BLANKS                             03 00813
001562 003745 R
001563 006505 A     887         JSR     JCGTCH,X        CHECK FOR                                 03 00814
001564 003705 R
001565 147000 I     888         SUB     N304            'D' PARAM                                 03 00815
001566 001016 A     889         JANZ    JC5C4           NO                                        03 00816
001567 001577 R
001570 006047 A     890         INRE    IGBLK           IGNORE BLANKS                             03 00817
001571 003745 R
001572 006505 A     891         JSR     JCGTCH,X        GET NEXT CHAR.                            03 00818
001573 003705 R
001574 010055 A     892         LDA     V$JCFG          YES -                                     03 00819
001575 110425 A     893         ORA     BS4             SAVE DUMP FLAG AND SET LATER              03 00820
001576 050055 A     894         STA     V$JCFG                                                    03 00821
001577 017000 I     895 JC5C4   LDA     JCCHAR          FETCH LAST CHAR.                          03 00822
001600 001010 A     896         JAZ     JC5C5           JUMP IF NO TERM.                          03 00823
001601 001605 R
001602 147000 I     897         SUB     N256            CHECK IF NEXT CHAR IS PERIOD              03 00824
001603 001016 A     898         JANZ    JC5D8           ANY OTHER CHARS. IS AN ERROR              03 00825
001604 001670 R
001605 010055 A     899 JC5C5   LDA     V$JCFG          SET                                       03 00826
001606 150465 A     900         ANA     FIVE                                                      03 00827
001607 001010 A     901         JAZ     JCPXQT          JUMP IF NOT LOAD AND GO                   03 00828
001610 001701 R
001611 140421 A     902         SUB     ONE             LOAD AND GO BIT ONLY SET ?                03 00829
001612 001016 A     903         JANZ    JC5XC           NO                                        03 00830
001613 001676 R
001614 006010 A     904         LDAI    9                                                         03 00831
001615 000011 A
001616 006505 A     905         JSR     JCLNDV,X        GET GO DST                                03 00832
001617 004003 R
001620 005014 A     906         TAX                                                               03 00833
001621 015001 A     907         LDA     1,X                                                       03 00834
001622 006617 A     908         SRE     HMT,7,010       MT ?                                      03 00835
001623 003376 R
001624 001000 A     909         JMP     JC5C6                                                     03 00836
001625 001637 R
001626 017000 I     910         LDA     JCFCBS+7        STORE 'GOFCB' ADDRESS IN CALL             03 00837
001627 054004 A     911         STA     *+5                                                       03 00838
                    912         WEOF    GOFCB,GO,0                                                03 00839
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001630 006505 A
001631 000404 A
001632 100000 A
001633 001011 A
001634 001143 E
001635 000000 A
001636 000000 A
001637 006010 A   913 JC5C6  LDAI    'LM'          YES -                                  03 00840
001640 146315 A
001641 054214 A   914        STA     JC5F1+4       SET                                    03 00841
001642 006010 A   915        LDAI    'GE'          'LMGEN'                                03 00842
001643 143705 A
001644 054212 A   916        STA     JC5F1+5       IN                                     03 00843
001645 006010 A   917        LDAI    'N '          SCHED CALL                             03 00844
001646 147240 A
001647 054210 A   918        STA     JC5F1+6                                              03 00845
001650 017000 I   919        LDA     N101          SET P1 =1, REQ CODE =1                 03 00846
001651 054202 A   920        STA     JC5F1+2       P2=0 IN SCHED CALL                     03 00847
001652 017000 I   921        LDA     N1425         SET P3 = 105                           03 00848
001653 054201 A   922        STA     JC5F1+3       P4 ='E' IN SCHED CALL                  03 00849
001654 006017 A   923        LDAE    DBLK          CLEAR JCP BUFFER                       03 00850
001655 003372 R
001656 020412 A   924        LDB     V$JCB                                                03 00851
001657 006037 A   925        LDXE    N50                                                  03 00852
001660 003441 R
001661 056000 A   926 JC5C66 STA     0,B                                                  03 00853
001662 005122 A   927        IBR                                                          03 00854
001663 005344 A   928        DXR                                                          03 00855
001664 001046 A   929        JXNZ    JC5C66                                               03 00856
001665 001661 R
001666 001000 A   930        JMP     JC5F1                                                03 00857
001667 002052 R
001670 010422 A   931 JC5D8  LDA     TWO                                                  03 00858
001671 057000 I   932 JC5D7  STA     ERRN          SET ERROR TYPE                         03 00859
001672 005001 A   933        TZA                   RESET JCP FLAG WORD                    03 00860
001673 050055 A   934        STA     V$JCFG        RESET DUMP FLAG                        03 00861
001674 001000 A   935        JMP     JCRMSG        PROCESS ERROR                          03 00862
001675 000607 R
001676 010466 A   936 JC5XC  LDA     SIX                                                  03 00863
001677 001000 A   937        JMP     JC5D7         GO SET ERROR CODE                      03 00864
001700 001671 R
001701 010427 A   938 JCPXQT LDA     BS6           SET P1=0, P2=0                         03 00865
001702 054151 A   939        STA     JC5F1+2       REQ CODE=1 IN SCHED                    03 00866
001703 017000 I   940        LDA     N1411         SET P3=102 (0146),                     03 00867
001704 054150 A   941        STA     JC5F1+3       P4='B' IN SCHED                        03 00868
001705 017000 I   942        LDA     HSW                                                  03 00869
001706 054147 A   943        STA     JC5F1+4       SET                                    03 00870
001707 017000 I   944        LDA     DBLK          'SW    '                               03 00871
001710 054146 A   945        STA     JC5F1+5       FOR TASK NAME                          03 00872
001711 054146 A   946        STA     JC5F1+6       IN SCHED                               03 00873
001712 020412 A   947        LDB     V$JCB         CLEAR                                  03 00874
001713 017000 I   948        LDA     DBLK          FIRST                                  03 00875
001714 056000 A   949        STA     0,B           2 WORDS                                03 00876
001715 056001 A   950        STA     1,B           OF JC BUFFER                           03 00877
001716 001000 A   951        JMP     JC5E11                                               03 00878
001717 002037 R
                  952        EJEC                                                         03 00879
                  953 *                                                                  03 00880
                  954 *                         LOAD STATEMENT                         03 00881
                  955 *                                                                  03 00882
001720 027000 I   956 JCPLD  LDB     JC5PTR        SET PUT CHAR                           03 00883
001721 004041 A   957        LRLB    1             POINTER TO                             03 00884
001722 067000 I   958        STB     CHPTR2        SCHED CALL +4                          03 00885
001723 020466 A   959        LDB     SIX                                                  03 00886
001724 006047 A   960 JC6A1  INRE    IGBLK                                                03 00887
001725 003745 R
001726 006505 A   961 JC6A2  JSR     JCGTCH,X      GET CHAR FROM JC BUFFER                03 00888
001727 003705 R
001730 054026 A   962        STA     JC6A25+1      SAVE CHAR.                             03 00889
001731 006147 A   963        SUBE    N240          BLANK ?                                03 00890
001732 003413 R
001733 001010 A   964        JAZ     JC6A3         YES                                    03 00891
001734 001765 R
001735 140423 A   965        SUB     FOUR          DOLLARSIGN ?                           03 00892
001736 001010 A   966        JAZ     JC6A25        YES                                    03 00893
001737 001756 R
001740 006140 A   967        SUBI    014                                                  03 00894
001741 000014 A
001742 001004 A   968        JAN     JC6A4                                                03 00895
001743 001773 R
001744 140471 A   969        SUB     TEN           NUMBER                          E.2 ********
001745 001004 A   970        JAN     JC6A25        YES                                    03 00897
001746 001756 R
001747 140467 A   971        SUB     SEVEN                                         E.2 ********
001750 001004 A   972        JAN     JC6A4                                                03 00899
001751 001773 R
001752 006140 A   973        SUBI    032           LETTER ?                               03 00900
001753 000032 A
001754 001002 A   974        JAP     JC6A4         NO                                     03 00901
001755 001773 R
001756 006010 A   975 JC6A25 LDAI    0                                                    03 00902
001757 000000 A
001760 006505 A   976        JSR     JCPTCH,X      PUT CHAR IN SCHED CALL                 03 00903
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001761 003751 R
001762 005322 A   977          DBR                                                                  03 00904
001763 001026 A   978          JBNZ     JC6A2                                                       03 00905
001764 001726 R
001765 006047 A   979 JC6A3    IRRE     IGBLK          ADVANCE SCAN                                 03 00906
001766 003745 R
001767 006505 A   980          JSR      JCGTCH,X       TO DELIMITER                                 03 00907
001770 003705 R
001771 001010 A   981          JAZ      JC6B1          NO PARAMETERS                                03 00908
001772 002007 R
001773 017000 I   982 JC6A4    LDA      JCCHAR         FETCH LAST CHARACTER                         03 00909
001774 006503 A   983          JSR      DLMCHK,X       CHECK DELIMITER                              03 00910
001775 004072 R
001776 017000 I   984          LDA      JCCHAR         FETCH LAST CHARACTER                         03 00911
001777 147000 I   985          SUB      N254           CHECK IF COMMA                               03 00912
002000 001010 A   986          JAZ      JC6B1          IF SO CONTINUE PROCESSING                    03 00913
002001 002007 R
002002 140422 A   987          SUB      TWO            CHECK IF PERIOD                              03 00914
002003 001010 A   988          JAZ      JC5E1          IF SO BLANK BUFFER                           03 00915
002004 002030 R
002005 001000 A   989          JMP      JC13F2         ANY OTHER CHAR. IS AN ERROR                  03 00916
002006 003564 R
002007 001020 A    990 JC6B1   JBZ      JC6C1          JUMP IF BLANK FILLED                         03 00917
002010 002017 R
002011 017000 I    991         LDA      N240           FILL OUT                                     03 00918
002012 006505 A    992         JSR      JCPTCH,X       TASK NAME                                    03 00919
002013 003751 R
002014 005322 A    993         DBR                     WITH BLANKS                                  03 00920
002015 001000 A    994         JMP      JC6B1                                                       03 00921
002016 002007 R
002017 010427 A    995 JC6C1   LDA      BS6            SET P1=0, P2=0                               03 00922
002020 054033 A    996         STA      JC5F1+2        IN SCHED                                     03 00923
002021 017000 I    997         LDA      N1425          SET P3=105 (0151)                            03 00924
002022 054032 A    998         STA      JC5F1+3        P4='E' IN SCHED                              03 00925
002023 020412 A    999         LDB      V$JCB                                                       03 00926
002024 004041 A   1000         LRLB     1              SET PUT CHARCCTER POINTER                    03 00927
002025 067000 I   1001         STB      CHPTR2         TO BEGIN OF JC BUFFER                        03 00928
002026 001000 A   1002         JMP      JC5D1                                                       03 00929
002027 001544 R
002030 006010 A   1003 JC5E1   LDAI     0240                                                        03 00930
002031 000240 A
002032 006505 A   1004         JSR      JCPTCH,X       BLANK OUT                                    03 00931
002033 003751 R
002034 005322 A   1005         DBR                     REST OF BUFFER                               03 00932
002035 001026 A   1006         JBNZ     JC5E1                                                       03 00933
002036 002030 R
002037 020055 A   1007 JC5E11  LDB      V$JCFG         GET JCP FLAG WORD                            03 00934
002040 010055 A   1008         LDA      V$JCFG         MOVE MEM BLOCKS IN BITS 10-15                03 00935
002041 006150 A   1009         ANAI     01740                                                       03 00936
002042 001740 A
002043 110047 A   1010         ORA      V$JCTM                                                      03 00937
002044 006464 A   1011         BT       RB0+B4,JC5D9   JUMP IF NO DUMP OPTION                       03 00938
002045 002047 R
002046 110424 A   1012         ORA      BS3            OTHERWISE, SET DUMP FLAG ON                  03 00939
002047 050055 A   1013 JC5D9   STA      V$JCFG         STORE VALUE IN JCP FLAG WORD                 03 00940
002050 005001 A   1014         TZA                                                                  03 00941
002051 050047 A   1015         STA      V$JCTM         RESET TEMP. MEM CELL                         03 00942
                  1016 *  THE A REG MUST BE ZERO AT THE TIME OF THE SCHED REQ -REQUIRED BY   E.2********
                  1017 *  VSORT-                                                               E.2********
                  1018 JC5F1  SCHED    0,0,0,0,0,0,0  BLANK MACRO FOR SCHED CALL                   03 00943
002052 006505 A
002053 000406 A
002054 000100 A
002055 000000 A
002056 000000 A
002057 000000 A
002060 000000 A
                  1019         EXIT                    EXIT TO RTE                                  03 00944
002061 006505 A
002062 000406 A
002063 000200 A
002064            1020 JCTBUF  BSS      4                                                           03 00945
                  1021         EJEC                                                           C.1   03 00946
                  1022 *                                                                      C.1   03 00947
                  1023 *                              DUMP STATEMENT                          C.1   03 00948
                  1024 *                                                                      C.1   03 00949
002070 010055 A   1025 JCDUMP  LDA      V$JCFG                                                 C.1   03 00950
002071 110425 A   1026         ORA      BS4                                                    C.1   03 00951
002072 050055 A   1027         STA      V$JCFG                                                 C.1   03 00952
002073 001000 A   1028         JMP      JCRET                                                  C.1   03 00953
002074 000066 R
                  1029         EJEC                                                                 03 00954
                  1030 *                                                                            03 00955
                  1031 *                              FORM STATEMENT                                03 00956
                  1032 *                                                                            03 00957
002075 006505 A   1033 JCFOR   JSR      JCCNVT,X       GET COUNT                                    03 00958
002076 003473 R
002077 006505 A   1034         JSR      JCCKTM,X       CHECK IF BLANK OR PERIOD CHAR.               03 00959
002100 003447 R
002101 140465 A   1035         SUB      FIVE                                                        03 00960
002102 001004 A   1036         JAN      JC7C2          COUNT LESS THAN 5                            03 00961
002103 002113 R
002104 147000 I   1037         SUB      D9995                                                       03 00962
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002105 001002 A 1038        JAP     JC7C2       COUNT GTR THAN 9999                          03 00963
002106 002113 R
002107 127000 I 1039        ADD     D10000                                                   03 00964
002110 050054 A 1040        STA     V$LCNT      COUNT OK, STORE IN LOW CORE                  03 00965
002111 001000 A 1041        JMP     JCRET       RETURN                                       03 00966
002112 000066 R
002113 010074 A 1042 JC7C2  LDA     V$PLCT      BAD COUNT,                                   03 00967
002114 050054 A 1043        STA     V$LCNT      RESTORE PERMANENT LINE COUNT                 03 00968
002115 001000 A 1044        JMP     JC8B2       ERROR,IF COUNT BAD                           03 00969
002116 002174 R
                1045        EJEC                                                             03 00970
                1046 *                                                                       03 00971
                1047 *                          SKIP FILE STATEMENT                          03 00972
                1048 *                                                                       03 00973
002117 006505 A 1049 JCSFI  JSR     JCCKLN,X    CHECK LOG UNIT                               03 00974
002120 003611 R
002121 057000 I 1050        STA     JCT1        SAVE LOG UNIT NO.                            03 00975
002122 006505 A 1051        JSR     JCLNDV,X    GET DST ENTRY ADRS                           03 00976
002123 004003 R
002124 005014 A 1052        TAX                                                              03 00977
002125 010464 A 1053        LDA     THREE                                                    03 00978
002126 057000 I 1054        STA     ERRN                                                     03 00979
002127 015001 A 1055        LDA     1,X                                                      03 00980
002130 137000 I 1056        ERA     HMT                                                  D.103 00981
002131 001010 A 1057        JAZ     JCSF1       IF MT                                    D.103 00982
002132 002142 R
002133 137000 I 1058        ERA     HMT         RESTORE                                  D.103 00983
002134 006130 A 1059        ERAI    'CR'                                                 D.103 00984
002135 141722 A
002136 001010 A 1060        JAZ     JCSF1       IF CR                                    D.103 00985
002137 002142 R
002140 001000 A 1061        JMP     JCRMSG      GIVE ERROR MESSAGE                       D.103 00986
002141 000607 R
       002142 R 1062 JCSF1  EQU     *                                                    D.103 00987
002142 006505 A 1063        JSR     JCCNVT,X    CONVERT AND                                  03 00988
002143 003473 R
002144 057000 I 1064        STA     COUNT       SAVE FILE COUNT                              03 00989
002145 006505 A 1065        JSR     JCCKTM,X    CHECK IF BLANK OR PERIOD CHAR.               03 00990
002146 003447 R
002147 017000 I 1066        LDA     COUNT                                                    03 00991
002150 001010 A 1067        JAZ     JC8B2       JUMP IF COUNT = ZERO                         03 00992
002151 002174 R
002152 014006 A 1068        LDA     JC8E1+3                                                  03 00993
002153 150462 A 1069        ANA     LHW         SET LUN INTO                                 03 00994
002154 117000 I 1070        ORA     JCT1        SREC MACRO CALL                              03 00995
002155 054003 A 1071        STA     JC8E1+3                                                  03 00996
                1072 JC8E1  SREC    0,0,0,0     SKIP ONE RECORD                              03 00997
002156 006505 A
002157 000404 A
002160 100000 A
002161 002000 A
002162 000000 A
002163 000000 A
002164 000000 A
002165 006017 A 1073        LDAE    JC8E1+2                                                  03 00998
002166 002160 R
002167 157000 I 1074        ANA     N340                                                     03 00999
002170 006617 A 1075        SRE     N340,7,010  SKIP IF EOT                                 03 01000
002171 003377 R
002172 001000 A 1076        JMP     JC8B3       NOT EOT                                      03 01001
002173 002200 R
002174 010463 A 1077 JC8B2  LDA     FIVE        EOT -                                        03 01002
002175 057000 I 1078        STA     ERRN        SET ERROR CODE                               03 01003
002176 001000 A 1079        JMP     JCRMSG      GO TO ERROR ROUTINE                          03 01004
002177 000607 R
002200 006617 A 1080 JC8B3  SRE     N300,7,010  SKIP IF EOF                                  03 01005
002201 003443 R
002202 001000 A 1081        JMP     JC8E1       NOT EOF - GO  BACK                           03 01006
002203 002156 R
002204 017000 I 1082        LDA     COUNT       EOF -                                        03 01007
002205 005311 A 1083        DAR                 DECREMENT COUNT                              03 01008
002206 001010 A 1084        JAZ     JCRET       DONE - RETURN                                03 01009
002207 000066 R
002210 057000 I 1085        STA     COUNT       SAVE NEW COUNT                               03 01010
002211 001000 A 1086        JMP     JC8E1       CONTINUE                                     03 01011
002212 002156 R
                1087        EJEC                                                             03 01012
                1088 *                                                                       03 01013
                1089 *                          REWIND STATEMENT                             03 01014
                1090 *                                                                       03 01015
002213 006505 A 1091 JCREW  JSR     JCCKLN,X    GO TO CHECK LUN                              03 01016
002214 003611 R
002215 057000 I 1092        STA     JCT1        SAVE LOG UNIT NO.                            03 01017
002216 006505 A 1093        JSR     JCLNDV,X    GET DST ENTRY ADRS                           03 01018
002217 004003 R
002220 005012 A 1094        TAB                                                              03 01019
002221 016001 A 1095        LDA     1,R                                                      03 01020
002222 147000 I 1096        SUB     HMT         DEVICE = MAG TAPE ?                          03 01021
002223 001010 A 1097        JAZ     JC9D1       YES                                          03 01022
002224 002242 R
002225 017000 I 1098        LDA     JCT1                                                     03 01023
002226 140422 A 1099        SUB     TWO         CHECK IF LEGAL LUN (2,4 TO 10)               03 01024
002227 005012 A 1100        TAB                                                              03 01025
```

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                    1218          EJEC                                                                  03 01143
                    1219  *                                                                             03 01144
                    1220  *                          POSITION FILE STATEMENT                            03 01145
                    1221  *                                                                             03 01146
002507 006505 A     1222  JCPFI   JSR       JCCKLN,X   CHECK LUN                                        03 01147
002510 003611 R
002511 054715 A     1223          STA       JCT1                                                        03 01148
002512 140422 A     1224          SUB       TWO        CHECK IF LEGAL LUN(2,4 TO 10)                    03 01149
002513 005012 A     1225          TAB                                                                   03 01150
002514 001004 A     1226          JAN       JC14B3     ERROR IF LESS THAN 2                             03 01151
002515 003676 R
002516 140470 A     1227          SUB       NINE       CHECK IF GRETHER THAN 10                         03 01152
002517 001002 A     1228          JAP       JC14B3     ERROR                                            03 01153
002520 003676 R
002521 006026 A     1229          LDBE      JCFCBS,B                                                    03 01154
002522 002722 R
002523 001020 A     1230          JBZ       JC14B3     ERROR IF LUN 3                                   03 01155
002524 003676 R
002525 064167 A     1231          STB       JC11E3+4   STORE FCB ADDRESS INTO OPEN CALL                03 01156
002526 014700 A     1232          LDA       JCT1                                                        03 01157
002527 006505 A     1233          JSR       JCLNDV,X   GET DST ENTRY ADRS                               03 01158
002530 004003 R
002531 005012 A     1234          TAB                                                                   03 01159
002532 010464 A     1235          LDA       THREE                                                       03 01160
002533 054660 A     1236          STA       ERRN                                                        03 01161
002534 016001 A     1237          LDA       1,B                                                         03 01162
002535 004350 A     1238          LSRA      8          IS DEVICE                                        03 01163
002536 006617 A     1239          SRE       N304,7,010 A RMD ?                                          03 01164
002537 003367 R
002540 001000 A     1240          JMP       JCRMSG     NO - GIVE ERROR MESSAGE                          03 01165
002541 000607 R
002542 047000 I     1241          INR       IGBLK                                                       03 01166
002543 006505 A     1242          JSR       JCGTCH,X   GET FILE PROTECT KEY                             03 01167
002544 003705 R
002545 001010 A     1243          JAZ       JC11D2     NOT THERE - ERROR                                03 01168
002546 002611 R
002547 054660 A     1244          STA       JCT2                                                        03 01169
002550 144671 A     1245          SUB       N254       DELIMITER ?                                      03 01170
002551 001010 A     1246          JAZ       JC11D0     YES                                              03 01171
002552 002557 R
002553 006140 A     1247          SUBI      021                                                         03 01172
002554 000021 A
002555 001015 A     1248          JANZ      JC11D1     NO                                               03 01173
002556 002562 R
002557 054650 A     1249  JC11D0  STA       JCT2       SET KEY TO ZERO                                  03 01174
002560 001000 A     1250          JMP       JC11D3                                                      03 01175
002561 002615 R
002562 047000 I     1251  JC11D1  INR       IGBLK      ADVANCE POINTER                                  03 01176
002563 006505 A     1252          JSR       JCGTCH,X                                                    03 01177
002564 003705 R
002565 006505 A     1253          JSR       DLMCHK,X   CHECK DELIMITER                                  03 01178
002566 004072 R
002567 014640 A     1254          LDA       JCT2       CHECK KEY FOR NUMBER, LETTER, OR $               03 01179
002570 144620 A     1255          SUB       N244                                                        03 01180
002571 001010 A     1256          JAZ       JC11D3     DOLLAR SIGN - OK                                 03 01181
002572 002615 R
002573 014634 A     1257          LDA       JCT2                                                        03 01182
002574 144650 A     1258          SUB       N260       TEST FOR NUMBER                                  03 01183
002575 001004 A     1259          JAN       JC11D2     INVALID                                          03 01184
002576 002611 R
002577 140471 A     1260          SUB       TEN                                                         03 01185
002600 001004 A     1261          JAN       JC11D3     NUMBER - OK                                      03 01186
002601 002615 R
002602 014625 A     1262          LDA       JCT2       TEST FOR LETTER                                  03 01187
002603 144603 A     1263          SUB       N301                                                        03 01188
002604 001004 A     1264          JAN       JC11D2     INVALID                                          03 01189
002605 002611 R
002606 144601 A     1265          SUB       N32                                                         03 01190
002607 001004 A     1266          JAN       JC11D3     LETTER - OK                                      03 01191
002610 002615 R
002611 010423 A     1267  JC11D2  LDA       FOUR       INVALID KEY -                                    03 01192
002612 054601 A     1268          STA       ERRN       SET ERR NO.                                      03 01193
002613 001000 A     1269          JMP       JCRMSG     PROCESS ERROR                                    03 01194
002614 000607 R
002615 024077 A     1270  JC11D3  LDB       JC11E3+4                                                    03 01195
002616 016002 A     1271          LDA       2,B                                                         03 01196
002617 150462 A     1272          ANA       LHW                                                         03 01197
002620 114607 A     1273          ORA       JCT2                                                        03 01198
002621 056002 A     1274          STA       2,B        PROTECT KEY IN FCB                               03 01199
002622 014547 A     1275          LDA       DBLK                                                        03 01200
002623 056007 A     1276          STA       7,B                                                         03 01201
002624 056010 A     1277          STA       9,B                                                         03 01202
002625 056011 A     1278          STA       9,B                                                         03 01203
002626 047000 I     1279          INR       IGBLK                                                       03 01204
002627 006505 A     1280          JSR       JCGTCH,X   GET                                              03 01205
002630 003705 R
002631 004250 A     1281          LRLA      8          FIRST                                            03 01206
002632 054575 A     1282          STA       JCT2       WORD                                             03 01207
002633 114557 A     1283          ORA       N240                                                        03 01208
002634 024060 A     1284          LDB       JC11E3+4                                                    03 01209
002635 056007 A     1285          STA       7,B                                                         03 01210
002636 006505 A     1286          JSR       JCGTCH,X   OF                                               03 01211
002637 003705 R
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002640 001010 A 1287          JAZ     JC11E2                                  03 01212
002641 002705 R
002642 114565 A 1288          ORA     JCT2        FILENAME                    03 01213
002643 024051 A 1289          LDB     JC11E3+4                                03 01214
002644 056007 A 1290          STA     7,B                                     03 01215
002645 006505 A 1291          JSR     JCGTCH,X    GET                         03 01216
002646 003705 R
002647 001010 A 1292          JAZ     JC11E2                                  03 01217
002650 002705 R
002651 004250 A 1293          LRLA    8           SECOND                      03 01218
002652 054555 A 1294          STA     JCT2        WORD                        03 01219
002653 114537 A 1295          ORA     M240                                    03 01220
002654 024040 A 1296          LDB     JC11E3+4                                03 01221
002655 056010 A 1297          STA     8,B                                     03 01222
002656 006505 A 1298          JSR     JCGTCH,X    OF                          03 01223
002657 003705 R
002660 001010 A 1299          JAZ     JC11E2                                  03 01224
002661 002705 R
002662 114545 A 1300          ORA     JCT2        FILENAME                    03 01225
002663 024031 A 1301          LDB     JC11E3+4                                03 01226
002664 056010 A 1302          STA     8,B                                     03 01227
002665 006505 A 1303          JSR     JCGTCH,X    GET                         03 01228
002666 003705 R
002667 001010 A 1304          JAZ     JC11E2                                  03 01229
002670 002705 R
002671 004250 A 1305          LRLA    8           THIRD                       03 01230
002672 054535 A 1306          STA     JCT2        WORD                        03 01231
002673 114517 A 1307          ORA     M240                                    03 01232
002674 024020 A 1308          LDB     JC11E3+4                                03 01233
002675 056011 A 1309          STA     9,B                                     03 01234
002676 006505 A 1310          JSR     JCGTCH,X    OF                          03 01235
002677 003705 R
002700 001010 A 1311          JAZ     JC11E2                                  03 01236
002701 002705 R
002702 114525 A 1312          ORA     JCT2        FILENAME                    03 01237
002703 024011 A 1313          LDB     JC11E3+4                                03 01238
002704 056011 A 1314          STA     9,B                                     03 01239
002705 014006 A 1315 JC11E2   LDA     JC11E3+3                                03 01240
002706 150462 A 1316          ANA     LHW         SET LUN                     03 01241
002707 114517 A 1317          ORA     JCT1        INTO OPEN CALL              03 01242
002710 054003 A 1318          STA     JC11E3+3                                03 01243
               1319 JC11E3    OPEN    PIFCB,0,0,0 OPEN                        03 01244
002711 006505 A
002712 000404 A
002713 100000 A
002714 003000 A
002715 001376 E
002716 000000 A
002717 000000 A
002720 001000 A 1320          JMP     JCRET       RETURN                      03 01245
002721 000066 R
002722 000130 E 1321 JCFCBS   DATA    SIFCB                                   03 01246
002723 000000 A 1322          DATA    0                                       03 01247
002724 002715 E 1323          DATA    PIFCB                                   03 01248
002725 001172 E 1324          DATA    LOFCB                                   03 01249
002726 000000 E 1325          DATA    BIFCB                                   03 01250
002727 001221 E 1326          DATA    BOFCB                                   03 01251
002730 000000 E 1327          DATA    SSFCB                                   03 01252
002731 001634 E 1328          DATA    GOFCB                                   03 01253
002732 000000 E 1329          DATA    POFCB                                   03 01254
               1330           EXT     SIFCB,PIFCB,LOFCB,BIFCB                 03 01255
               1331           EXT     BOFCB,SSFCB,GOFCB,POFCB                 03 01256
               1332           EJEC                                            03 01257
               1333 *                                                         03 01258
               1334 *         SPECIAL ALTLIB ROUTINE                          03 01259
               1335 *                                                         03 01260
002733 006505 A 1336 JCALT    JSR     JCCKLN,X    GET LUN                     03 01261
002734 003611 R
002735 006057 A 1337          STAE    JCT1                                    03 01262
002736 003427 R
002737 014463 A 1338          LDA     CHPTR       PICKUP DELIMETER            03 01263
002740 005311 A 1339          DAR                                             03 01264
002741 054461 A 1340          STA     CHPTR                                   03 01265
002742 006505 A 1341          JSR     JCGTCH,X                                03 01266
002743 003705 R
002744 006140 A 1342          SUBI    0254        COMMA                       03 01267
002745 000254 A
002746 001016 A 1343          JANZ    JCALT1      NO.                         03 01268
002747 002757 R
002750 006505 A 1344          JSR     JCGTCH,X    YES                         03 01269
002751 003705 R
002752 004250 A 1345          LRLA    8                                       03 01270
002753 114453 A 1346 JCALT2   ORA     JCT1        ADD IN LUN                  03 01271
002754 054410 A 1347          STA     N1425       STORE IT IN BL UNIT HOLDER  03 01272
002755 001000 A 1348          JMP     JCRET       RETURN                      03 01273
002756 000066 R
002757 005001 A 1349 JCALT1   TZA                                             03 01274
002760 001000 A 1350          JMP     JCALT2                                  03 01275
002761 002753 R
               1351           EJEC                                            03 01276
               1352 *                                                         03 01277
               1353 *         CLOSE FILE DIRECTIVE                            03 01278
               1354 *                                                         03 01279
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002762 006505 A 1355 JCFILE JSR     JCCKLN,X     CONVERT LUN                          03 01280
002763 003611 R
002764 005012 A 1356         TAB                                                     03 01281
002765 140423 A 1357         SUB     FOUR         ERROR IF LT 4                      03 01282
002766 001004 A 1358         JAN     JC12B3                                          03 01283
002767 003025 R
002770 140466 A 1359         SUB     SIX          ERROR IF GT 10                     03 01284
002771 001002 A 1360         JAP     JC12B3                                          03 01285
002772 003025 R
002773 006016 A 1361         LDAE    JCFCBS-2,B   PICKUP ADDR OF APPROPRIATE         E.2*********
002774 002720 R
002775 054010 A 1362         STA     JCFL1+4      GLOBAL FCB AND SET DP CLOSE CALL.  03 01287
002776 005021 A 1363         TBA                                                     03 01288
002777 006110 A 1364         ORAI    013400       SET LUN INTO CLOSE CALL            03 01289
003000 013400 A
003001 054003 A 1365         STA     JCFL1+3                                         03 01290
                1366 JCFL1   CLOSE   *            CLOSE                              03 01291
003002 006505 A
003003 000404 A
003004 100000 A
003005 003400 A
003006 003002 R
003007 000000 A
003010 000000 A
003011 001000 A 1367         JMP     JCRET        RETURN                             03 01292
003012 000066 R
                1368         EJEC                                                    03 01293
                1369 *                                                               03 01294
                1370 *                           ASSIGN STATEMENT                   03 01295
                1371 *                                                               03 01296
003013 006505 A 1372 JCASS   JSR     JCCKLN,X     CHECK LUN                          03 01297
003014 003611 R
003015 001010 A 1373         JAZ     JC12B3       IS LUN JCP                         03 01298
003016 003025 R
003017 054407 A 1374         STA     JCT1         ASSISGNABLE AND VALID ?            03 01299
003020 020400 A 1375         LDB     V$LUT1                                          03 01300
003021 146000 A 1376         SUB     0,B                                             03 01301
003022 005311 A 1377         DAR                                                     03 01302
003023 001004 A 1378         JAN     JC12C1       YES                                03 01303
003024 003031 R
003025 010467 A 1379 JC12B3  LDA     SEVEN        NO -                               03 01304
003026 054365 A 1380         STA     ERRN         SET ERROR NO.                      03 01305
003027 001000 A 1381         JMP     JCRMSG       PROCESS ERROR                      03 01306
003030 000607 R
003031 014371 A 1382 JC12C1  LDA     CHPTR                                           03 01307
003032 005311 A 1383         DAR                  GET                                03 01308
003033 054367 A 1384         STA     CHPTR        NEXT                               03 01309
003034 044710 A 1385         INR     IGBLK                                           03 01310
003035 006505 A 1386         JSR     JCGTCH,X     CHARACTER                          03 01311
003036 003705 R
003037 006505 A 1387         JSR     DLMCHK,X     CHECK DELIMITER                    03 01312
003040 004072 R
003041 014361 A 1388 JC12C2  LDA     CHPTR        SAVE POINTER                       03 01313
003042 054367 A 1389         STA     JCT4                                            03 01314
003043 044701 A 1390         INR     IGBLK                                           03 01315
003044 006505 A 1391         JSR     JCGTCH,X     GET NEXT                           03 01316
003045 003705 R
003046 004250 A 1392         LRLA    8            TWO CHARACTERS                     03 01317
003047 054360 A 1393         STA     JCT2         AND                                03 01318
003050 006505 A 1394         JSR     JCGTCH,X     PACK INTO WORD                     03 01319
003051 003705 R
003052 114355 A 1395         ORA     JCT2                                            03 01320
003053 054354 A 1396         STA     JCT2                                            03 01321
003054 006505 A 1397         JSR     JCGTCH,X     IS NEXT CHARACTER                  03 01322
003055 003705 R
003056 144003 A 1398         SUB     JC12CM       CHECK IF  'M' CHAR. OF 'DUM'       03 01323
003057 001010 A 1399         JAZ     JC12CZ       YES, GO CHECK FOR 'DU'             03 01324
003060 003104 R
003061 006120 A 1400         ADDI    0315                                            03 01325
003062 000315 A
003062          1401 JC12CM  BES     0                                               03 01326
003063 144361 A 1402         SUB     N260         A NUMBER ?                         03 01327
003064 001004 A 1403         JAN     JC12CA       NO                                 03 01328
003065 003114 R
003066 140471 A 1404         SUB     TEN                                             03 01329
003067 001002 A 1405         JAP     JC12CA       NO                                 03 01330
003070 003114 R
003071 120471 A 1406         ADD     TEN          YES - GET LAST                     03 01331
003072 004212 A 1407         ASLA    10           TWO CHAR OF DEVICE NAME (CNTRLR, DEV) 03 01332
003073 054335 A 1408         STA     JCT3         SAVE 1ST                           03 01333
003074 006505 A 1409         JSR     JCGTCH,X     GET SECOND                         03 01334
003075 003705 R
003076 144346 A 1410         SUB     N260         CONVERT                            03 01335
003077 004204 A 1411         ASLA    4                                               03 01336
003100 114330 A 1412         ORA     JCT3         COMBINE WITH 1ST                   03 01337
003101 054327 A 1413         STA     JCT3         SAVE                               03 01338
003102 001000 A 1414         JMP     JC12CB                                          03 01339
003103 003121 R
003104 014323 A 1415 JC12CZ  LDA     JCT2         GET FIRST TWO CHARS.               03 01340
003105 006140 A 1416         SUBI    'DU'                                            03 01341
003106 142325 A
003107 005002 A 1417         TZB                  SET B= TO DUM LOGICAL UNIT.        03 01342
003110 001010 A 1418         JAZ     JC12E5       JUMP IF 'DUM'                      03 01343
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003111 003235 R
003112 001000 A 1419          JMP     JC14B3          SET TO ERROR                                    03 01344
003113 003676 R
003114 005001 A 1420 JC12CA   TZA                                                                     03 01345
003115 054313 A 1421          STA     JCT3            SET CNTRLR, DEV TO ZERO                         03 01346
003116 014304 A 1422          LDA     CHPTR                                                           03 01347
003117 005311 A 1423          DAR                     RESET                                           03 01348
003120 054302 A 1424          STA     CHPTR           CHAR POINTER                                    03 01349
003121 020355 A 1425 JC12CB   LDB     V$DSTB          SEARCH DST FOR NAME                             03 01350
003122 016001 A 1426 JC12C3   LDA     1,B             END OF TABLE ?                                  03 01351
003123 001010 A 1427          JAZ     JC12D1          YES                                             03 01352
003124 003144 R
003125 144302 A 1428          SUB     JCT2            NO - MATCH ON 1ST 2 CHAR ?                      03 01353
003126 001010 A 1429          JAZ     JC12C4          YES                                             03 01354
003127 003135 R
003130 005122 A 1430 JC12CC   IBR                     NO -                                            03 01355
003131 005122 A 1431          IBR                     INCREMENT                                       03 01356
003132 005122 A 1432          IBR                     POINTER TO                                      03 01357
003133 001000 A 1433          JMP     JC12C3          NEXT ENTRY                                      03 01358
003134 003122 R
003135 016000 A 1434 JC12C4   LDA     0,B             MATCH ON 2ND 2 CHAR ?                           03 01359
003136 154244 A 1435          ANA     N17760                                                          03 01360
003137 144271 A 1436          SUB     JCT3                                                            03 01361
003140 001016 A 1437          JANZ    JC12CC          NO - GO BACK                                    03 01362
003141 003130 R
003142 001000 A 1438          JMP     JC12E3          YES - DONE                                      03 01363
003143 003156 R
003144 014265 A 1439 JC12D1   LDA     JCT4            NOT PHYS UNIT, CHECK FOR LOGICAL                03 01364
003145 054255 A 1440          STA     CHPTR           RESET POINTER                                   03 01365
003146 006505 A 1441          JSR     JCCKLN,X        CHECK LUN                                       03 01366
003147 003611 R
003150 034252 A 1442          LDX     CHPTR           RESET                                           03 01367
003151 005344 A 1443          DXR                     CHARACTER                                       03 01368
003152 074250 A 1444          STX     CHPTR           POINTER                                         03 01369
003153 006505 A 1445          JSR     JCLNDV,X        GET DST ENTRY ADDRESS                           03 01370
003154 004003 R
003155 005012 A 1446          TAB                                                                     03 01371
003156 016000 A 1447 JC12E3   LDA     0,B             IS DEVICE JCP                                   03 01372
003157 154266 A 1448          ANA     N60000          ASSIGNABLE ?                                    03 01373
003160 001016 A 1449          JANZ    JC12B3          NO - ERROR                                      03 01374
003161 003025 R
003162 014244 A 1450          LDA     JCT1            IS THIS                                         03 01375
003163 140421 A 1451          SUB     ONE             OPCOM LOGICAL UNIT ?                            03 01376
003164 001010 A 1452          JAZ     JC12ED          YES                                             03 01377
003165 003171 R
003166 140422 A 1453          SUB     TWO             NO - IS THIS TO LOGICAL UNIT                    03 01378
003167 001016 A 1454          JANZ    JC12E4          NO                                              03 01379
003170 003227 R
003171 016001 A 1455 JC12ED   LDA     1,B             YES                                             03 01380
003172 006147 A 1456          SUBE    ZTY             IS DEVICE A TTY ?                               03 01381
003173 000722 R
003174 001010 A 1457          JAZ     JC12EG          YES                                             03 01382
003175 003202 R
003176 016001 A 1458          LDA     1,B             NO - IS DEVICE A                                03 01383
003177 144226 A 1459          SUB     ZCT             CRT ?                                           03 01384
003200 001016 A 1460          JANZ    JC12B3          NO - ERROR                                      03 01385
003201 003025 R
003202 014224 A 1461 JC12EG   LDA     JCT1            DEVICE IS TTY OR CRT                            03 01386
003203 140421 A 1462          SUB     ONE             IS LOG UNIT OPCOM ?                             03 01387
003204 001016 A 1463          JANZ    JC12E4          NO                                              03 01388
003205 003227 R
003206 016000 A 1464          LDA     0,B             YES -                                           03 01389
003207 150460 A 1465          ANA     BR15            MAKE SURE                                       03 01390
003210 056000 A 1466          STA     0,B             DEVICE IS MARKED UP                             03 01391
003211 016002 A 1467          LDA     2,B                                                             03 01392
003212 006413 A 1468          BT      RA1+B11,JC12E4          JUMP IF DEVICE IS ALREADY OPCOM         03 01393
003213 003227 R
003214 110434 A 1469          ORA     BS11            SET OPCOME DEVICE FLAG                          03 01394
003215 056002 A 1470          STA     2,B             IN DST ENTRY                                    03 01395
003216 030400 A 1471          LDX     V$LUT1          GET CURRENT                                     03 01396
003217 015001 A 1472          LDA     1,X             OPCOM ASSIGNMENT                                03 01397
003220 150463 A 1473          ANA     RHW                                                             03 01398
003221 006505 A 1474          JSR     JCLNDV,X        GET DEVICE ADDRESS                              03 01399
003222 004003 R                                       .
003223 005014 A 1475          TAX                                                                     03 01400
003224 015002 A 1476          LDA     2,X             CLEAR OPCOM                                     03 01401
003225 150454 A 1477          ANA     BR11            DEVICE FLAG IN                                  03 01402
003226 055002 A 1478          STA     2,X             OLD DST ENTRY                                   03 01403
003227 005021 A 1479 JC12E4   TBA                                                                     03 01404
003230 140355 A 1480          SUB     V$DSTB          CONVERT                                         03 01405
003231 005012 A 1481          TAB                     DST ADRS                                        03 01406
003232 005001 A 1482          TZA                     TO                                              03 01407
003233 170464 A 1483          DIV     THREE           DST ENTRY NO.                                   03 01408
003234 005122 A 1484          IBR                                                                     03 01409
003235 010400 A 1485 JC12E5   LDA     V$LUT1                                                          03 01410
003236 124170 A 1486          ADD     JCT1                                                            03 01411
003237 005014 A 1487          TAX                     GET LUN ADRS                                    03 01412
003240 064167 A 1488          SIB     JCT2                                                            03 01413
003241 015000 A 1489          LDA     0,X                                                             03 01414
003242 150462 A 1490          ANA     LHW                                                             03 01415
003243 114164 A 1491          ORA     JCT2            PACK DST ENTRY NO                               03 01416
003244 055000 A 1492          STA     0,X             INTO LUT ENTRY                                  03 01417
003245 014161 A 1493          LDA     JCT1                                                            03 01418
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003246 140422 A 1494          SUB     TWO             CHECK IF SI LUN.                        03 01419
003247 001016 A 1495          JANZ    JC12E6          JUMP IF NOT 'SI' LUN                    03 01420
003250 003302 R
003251 010422 A 1496          LDA     TWO                                                     03 01421
003252 006505 A 1497          JSR     JCLNDV,X        GET DST ENTRY ADRS                      03 01422
003253 004003 R
003254 005012 A 1498          TAB                                                             03 01423
003255 016001 A 1499          LDA     1,B                                                     03 01424
003256 004350 A 1500          LSRA    8               IS DEVICE                               03 01425
003257 006617 A 1501          SRE     N304,7,010      A RMD ?                                 03 01426
003260 003367 R
003261 001000 A 1502          JMP     JC12E6          JUMP IF NOT RMD                         03 01427
003262 003302 R
003263 027000 I 1503          LDB     JCFCBS                                                  03 01428
003264 064012 A 1504          STB     JC12EZ+4        STORE SIFCB ADDRESS                     03 01429
003265 006010 A 1505          LDAI    'SI'                                                    03 01430
003266 151711 A
003267 056007 A 1506          STA     7,B                                                     03 01431
003270 014101 A 1507          LDA     DBLK                                                    03 01432
003271 056010 A 1508          STA     8,B                                                     03 01433
003272 056011 A 1509          STA     9,B                                                     03 01434
               1510 JC12EZ OPEN   SIFCB,2,0,0  OPEN SI IF RMD.                               03 01435
003273 006505 A
003274 000404 A
003275 100000 A
003276 003002 A
003277 002722 E
003300 000000 A
003301 000000 A
003302 006047 A 1511 JC12E6 INRE   IGBLK          IGNORE BLANKS                           03 01436
003303 003745 R
003304 006505 A 1512          JSR     JCGTCH,X                                                03 01437
003305 003705 R
003306 001010 A 1513          JAZ     JCRET           MORE ASSIGN PAIRS LEFT ?                03 01438
003307 000066 R
003310 006140 A 1514          SUBI    0256                                                    03 01439
003311 000256 A
003312 001010 A 1515          JAZ     JCRET           NO - DONE                               03 01440
003313 000066 R
003314 006120 A 1516          ADDI    0256                                                    03 01441
003315 000256 A
003316 006505 A 1517          JSR     DLMCHK,X        CHECK DELIMITER                         03 01442
003317 004072 R
003320 001000 A 1518          JMP     JCASS           YES                                     03 01443
003321 003013 R
               1519          EJEC                                                            03 01444
               1520 *                                                                        03 01445
               1521 *                          MEM DIRECTIVE                                 03 01446
               1522 *                                                                        03 01447
003322 006505 A 1523 JCMEM    JSR     JCCNVT,X        GET NUMBER OF BLOCKS                    03 01448
003323 003473 R
003324 006505 A 1524          JSR     JCCKTM,X        CHECK IF BLANK OR PERIOD CHAR.          03 01449
003325 003447 R
003326 150474 A 1525          ANA     BM77                                                    03 01450
003327 004252 A 1526          LRLA    10              SHIFT TO POSITION                       03 01451
003330 050047 A 1527          STA     V$JCTM          SAVE MEM BLOCKS                         03 01452
003331 001000 A 1528          JMP     JCRET           RETURN                                  03 01453
003332 000066 R
               1529          EJEC                                                            03 01454
               1530 *                                                                        03 01455
               1531 *                          /KPMODE DIRECTIVE                             03 01456
               1532 *                                                                        03 01457
003333 006047 A 1533 JCKPMD INRE   IGBLK                                                     03 01458
003334 003745 R
003335 006505 A 1534          JSR     JCCNVT,X        GET PARAMETER                           03 01459
003336 003473 R
003337 054067 A 1535          STA     JCT1                                                    03 01460
003340 006505 A 1536          JSR     JCCKTM,X        CHECK IF BLANK OR PERIOD CHAR.          03 01461
003341 003447 R
003342 001010 A 1537          JAZ     JCKPB           EQUALS ZERO - OK                        03 01462
003343 003353 R
003344 140421 A 1538          SUB     ONE                                                     03 01463
003345 001010 A 1539          JAZ     JCKPB           EQUALS ONE - OK                         03 01464
003346 003353 R
003347 010422 A 1540          LDA     TWO             ILLEGAL PARAMETER                       03 01465
003350 054043 A 1541          STA     ERRN            SET ERROR CODE                          03 01466
003351 001000 A 1542          JMP     JCRMSG          GIVE ERROR MESSAGE                      03 01467
003352 000607 R
003353 010046 A 1543 JCKPB    LDA     V$CRDM          CLEAR CURRENT SETTING                   03 01468
003354 150463 A 1544          ANA     RHW                                                     03 01469
003355 050046 A 1545          STA     V$CRDM                                                  03 01470
003356 014050 A 1546          LDA     JCT1                                                    03 01471
003357 004250 A 1547          LRLA    8                                                       03 01472
003360 110046 A 1548          ORA     V$CRDM          OR NEW VALUE                            03 01473
003361 050046 A 1549          STA     V$CRDM          INTO KPMODE WORD                        03 01474
003362 001000 A 1550          JMP     JCRET           RETURN                                  03 01475
003363 000066 R
               1551          EJEC                                                            03 01476
003364 000101 A 1552 N101     DATA    0101                                                    03 01477
003365 142551 A 1553 N1425    DATA    0142551                                                 03 01478
003366 000170 A 1554 D120     DATA    120                                                     03 01479
003367 000304 A 1555 N304     DATA    0304                                                    03 01480
003370 141146 A 1556 N1411    DATA    0141146                                                 03 01481
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003371 151727 A 1557 HSW    DATA   'SW'                                                  03 01482
003372 120240 A 1558 DBLK   DATA   0120240                                               03 01483
003373 002056 R 1559 JC5PTR DATA   JC5F1+4                                               03 01484
003374 023413 A 1560 D9995  DATA   9995                                                  03 01485
003375 023420 A 1561 D10000 DATA   10000                                                 03 01486
003376 146724 A 1562 HMT    DATA   'MT'                                                  03 01487
003377 000340 A 1563 N340   DATA   0340                                                  03 01488
003400 003000 A 1564 N3000  DATA   03000                                                 03 01489
003401 000143 A 1565 D99    DATA   99                                                    03 01490
003402 000275 A 1566 N275   DATA   0275                                                  03 01491
003403 017760 A 1567 N17760 DATA   017760                                                03 01492
003404 000257 A 1568 N257   DATA   0257                                                  03 01493
003405 106400 A 1569 HCR    DATA   0106400                                               03 01494
003406 002064 R 1570 JCTPTR DATA   JCTBUF                                               03 01495
003407 000301 A 1571 N301   DATA   0301                                                  03 01496
003410 000032 A 1572 N32    DATA   032                                                   03 01497
003411 000244 A 1573 N244   DATA   0244                                                  03 01498
003412 000333 A 1574 N333   DATA   0333                                                  03 01499
003413 000240 A 1575 N240   DATA   0240                                                  03 01500
003414 000000 A 1576 ERRN   DATA   0                                                     03 01501
003415 000000 A 1577 COUNT  DATA   0                                                     03 01502
003416 126260 A 1578 HCOMZ  DATA   ',0'                                                  03 01503
003417 130240 A 1579 HZERO  DATA   '0 '                                                  03 01504
003420 143311 A 1580 HZF    DATA   'FI'                                                  03 01505
003421 000050 A 1581 NAMPTR DATA   V$JNAM                                                03 01506
003422 145317 A 1582 HZJ    DATA   'JO'                                                  03 01507
003423 000000 A 1583 CHPTR  DATA   0                                                     03 01508
003424 000000 A 1584 CHPTR2 DATA   0                                                     03 01509
003425 000000 A 1585 CHPTRS DATA   0                                                     03 01510
003426 141724 A 1586 ZCT    DATA   'CT'                                                  03 01511
003427 000000 A 1587 JCT1   DATA   0                                                     03 01512
003430 000000 A 1588 JCT2   DATA   0                                                     03 01513
003431 000000 A 1589 JCT3   DATA   0                                                     03 01514
003432 000000 A 1590 JCT4   DATA   0                                                     03 01515
003433 120240 A 1591        DATA   '  '                                                  03 01516
003434 145303 A 1592 JCPMSG DATA   'JC',0,0,0                                            03 01517
003435 000000 A
003436 000000 A
003437 000000 A
003440 130260 A 1593 H00    DATA   '00'                                                  03 01518
003441 000050 A 1594 N50    DATA   050                                                   03 01519
003442 000254 A 1595 N254   DATA   0254                                                  03 01520
003443 000300 A 1596 N300   DATA   0300                                                  03 01521
003444 000322 A 1597 N322   DATA   0322                                                  03 01522
003445 000260 A 1598 N260   DATA   0260                                                  03 01523
003446 060000 A 1599 N60000 DATA   060000                                                03 01524
               1600         EJEC                                                       03 01525
               1601 *                                                                  03 01526
               1602 *                          SUBROUTINE TO CHECK IF LAST CHAR.       03 01527
               1603 *                          IS A BLANK OR PERIOD.                   03 01528
               1604 *                                                                  03 01529
003447 074136 A 1605 JCCKTM STX    JCNVT1      SAVE X                                   03 01530
003450 054136 A 1606        STA    JCNVT2      SAVE A                                   03 01531
003451 014136 A 1607        LDA    JCNVT3      GET LAST CHAR.                           03 01532
003452 006147 A 1608        SUBE   N240                                                03 01533
003453 003413 R
003454 001010 A 1609        JAZ    JCCKT1      JUMP IF BLANK                            03 01534
003455 003467 R
003456 006140 A 1610        SUBI   016                                                 03 01535
003457 000016 A
003460 001010 A 1611        JAZ    JCCKT1      JUMP IF PERIOD                           03 01536
003461 003467 R
003462 010422 A 1612        LDA    TWO         ERROR IF ANY OTHER CHAR.                 03 01537
003463 006057 A 1613        STAE   ERRN                                                03 01538
003464 003414 R
003465 001000 A 1614        JMP    JCRMSG                                             03 01539
003466 000607 R
003467 014117 A 1615 JCCKT1 LDA    JCNVT2                                             03 01540
003470 034115 A 1616        LDX    JCNVT1                                             03 01541
003471 006705 A 1617        IJMP   0,X                                                03 01542
003472 000000 A
               1618         EJEC                                                       03 01543
               1619 *                                                                  03 01544
               1620 *                          SUBROUTINE TO CONVERT ASCII             03 01545
               1621 *                          TO BINARY, USES SUBROUTINE JCGTCH       03 01546
               1622 *                          IF FIRST CHAR ZERO - ASSUME OCTAL,      03 01547
               1623 *                          OTHERWISE DECIMAL.  IF NUMBER GTR       03 01548
               1624 *                          077777, ZERO IS RETURNED.  NUMBER       03 01549
               1625 *                          IS TERMINATED BY COMMA,BLANK,EQUALS,PERIOD 03 01550
               1626 *                          OR C/R.  ANYTHING ELSE CAUSES JC01.     03 01551
               1627 *                          RESULT RETURNED IN A REG.               03 01552
               1628 *                                                                  03 01553
003473 074112 A 1629 JCCNVT STX    JCNVT1      SAVE                                     03 01554
003474 064112 A 1630        STB    JCNVT2      REGISTERS                                03 01555
003475 005001 A 1631        TZA                                                        03 01556
003476 054502 A 1632        STA    NUM         INITIALIZE                               03 01557
003477 010471 A 1633        LDA    TEN                                                03 01558
003500 054501 A 1634        STA    BASE                                               03 01559
003501 044243 A 1635        INR    IGBLK                                              03 01560
003502 006505 A 1636        JSR    JCGTCH,X    GET 1ST CHAR                             03 01561
003503 003705 R
003504 054103 A 1637        STA    JCNVT3      SAVE CHAR                                03 01562
003505 001010 A 1638        JAZ    JC13E3                                             03 01563
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003506 003576 R
003507 006617 A 1639          SRE     N260,7,010      CHAR EQL ZERO ?                          03 01564
003510 003445 R
003511 001000 A 1640          JMP     JC13E1          NO                                       03 01565
003512 003515 R
003513 001000 A 1641          JMP     JC13D2          YES                                      03 01566
003514 003525 R
003515 144457 A 1642 JC13E1   SUB     HB0             NO, 260 LEQ CHAR LEQ 271 ?               03 01567
003516 001004 A 1643          JAN     JC13E2          NO                                       03 01568
003517 003543 R
003520 140471 A 1644          SUB     TEN                                                      03 01569
003521 001002 A 1645          JAP     JC13E2          NO                                       03 01570
003522 003543 R
003523 001000 A 1646          JMP     JC13A4          YES                                      03 01571
003524 003534 R
003525 010424 A 1647 JC13D2   LDA     EIGHT           1ST CHAR EQUAL ZERO,                     03 01572
003526 054453 A 1648          STA     BASE            CHANGE BASE                              03 01573
003527 006505 A 1649 JC13D3   JSR     JCGTCH,X        GET NEXT CHAR                            03 01574
003530 003705 R
003531 054056 A 1650          STA     JCNVT3          SAVE IT                                  03 01575
003532 001000 A 1651          JMP     JC13E1                                                   03 01576
003533 003515 R
003534 024444 A 1652 JC13A4   LDB     NUM             COMPUTE                                  03 01577
003535 014052 A 1653          LDA     JCNVT3                                                   03 01578
003536 144436 A 1654          SUB     HB0             NUM = NUM*BASE+CHAR-260                  03 01579
003537 164442 A 1655          MUL     BASE                    MUL IS BX + A  INTO  A,B         03 01580
003540 064440 A 1656          STB     NUM                                                      03 01581
003541 001000 A 1657          JMP     JC13D3                                                   03 01582
003542 003527 R
003543 014044 A 1658 JC13E2   LDA     JCNVT3          TEST CHAR                                03 01583
003544 001010 A 1659          JAZ     JC13E3                                                   03 01584
003545 003576 R
003546 006147 A 1660          SUBE    N240            CHAR A BLANK ?                           03 01585
003547 003413 R
003550 001010 A 1661          JAZ     JC13ED          YES                                      03 01586
003551 003571 R
003552 144431 A 1662          SUB     N14             NO - CHAR A COMMA ?                      03 01587
003553 001010 A 1663          JAZ     JC13E3          YES                                      03 01588
003554 003576 R
003555 144425 A 1664          SUB     N21             NO - CHAR AN EQUALS ?                    03 01589
003556 001010 A 1665          JAZ     JC13E3          YES                                      03 01590
003557 003576 R
003560 006120 A 1666          ADDI    017             PERIOD ?                                 03 01591
003561 000017 A
003562 001010 A 1667          JAZ     JC13E3          YES                                      03 01592
003563 003576 R
003564 010422 A 1668 JC13F2   LDA     TWO             NONE OF THE ABOVE                        03 01593
003565 006057 A 1669          STAE    ERRN                                                     03 01594
003566 003414 R
003567 001000 A 1670          JMP     JCRMSG          ERROR RETURN                             03 01595
003570 000607 R
003571 044153 A 1671 JC13ED   INR     IGBLK                                                    03 01596
003572 006505 A 1672          JSR     JCGTCH,X        ADVANCE POINTER                          03 01597
003573 003705 R
003574 006505 A 1673          JSR     DLMCHK,X        CHECK DELIMITER                          03 01598
003575 004072 R
003576 014402 A 1674 JC13E3   LDA     NUM                                                      03 01599
003577 001002 A 1675          JAP     JC13F4          0 LEQ NUM LEQ 77777 ?                    03 01600
003600 003602 R
003601 005001 A 1676          TZA                     NO                                       03 01601
003602 034003 A 1677 JC13F4   LDX     JCNVT1          RESTORE                                  03 01602
003603 024003 A 1678          LDB     JCNVT2          REGISTERS                                03 01603
003604 006705 A 1679          IJMP    0,X                                                      03 01604
003605 000000 A
003606 000000 A 1680 JCNVT1   DATA    0                                                        03 01605
003607 000000 A 1681 JCNVT2   DATA    0                                                        03 01606
003610 000000 A 1682 JCNVT3   DATA    0                                                        03 01607
                1683          EJEC                                                             03 01608
                1684 *                                                                         03 01609
                1685 *                          SUBROUTINE TO CHECK LOGICAL                    03 01610
                1686 *                          UNITS, CONVERTS LOGICAL UNIT                   03 01611
                1687 *                          NAMES TO LOGICAL UNIT NUMBERS.                 03 01612
                1688 *                          USES SUBROUTINES JCCNVT AND JCGTCH.            03 01613
                1689 *                                                                         03 01614
003611 074071 A 1690 JCCKLN   STX     JCKLN1          SAVE RETURN                              03 01615
003612 044132 A 1691          INR     IGBLK                                                    03 01616
003613 006505 A 1692          JSR     JCGTCH,X        GET CHARACTER                            03 01617
003614 003705 R
003615 054066 A 1693          STA     JCKLN2          IS IT A NUMBER                           03 01618
003616 144356 A 1694          SUB     HB0                                                      03 01619
003617 001004 A 1695          JAN     JC14B2          NO                                       03 01620
003620 003635 R
003621 140471 A 1696          SUB     TEN                                                      03 01621
003622 001002 A 1697          JAP     JC14B2          NO                                       03 01622
003623 003635 R
003624 006017 A 1698          LDAE    CHPTR           YES -                                    03 01623
003625 003423 R
003626 005311 A 1699          DAR                                                              03 01624
003627 006057 A 1700          STAE    CHPTR           RESET POINTER                            03 01625
003630 003423 R
003631 006505 A 1701          JSR     JCCNVT,X        GET AND CONVERT NUMBER                   03 01626
003632 003473 R
003633 001000 A 1702          JMP     JC14D2                                                   03 01627
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003634 003665 R
003635 014046 A 1703 JC14B2 LDA     JCKLN2                                          03 01628
003636 004250 A 1704        LRLA    8                                               03 01629
003637 054044 A 1705        STA     JCKLN2                                          03 01630
003640 006503 A 1706        JSR     JCGTCH,X    GET 2ND CHARACTER                   03 01631
003641 003705 R
003642 114041 A 1707        ORA     JCKLN2      COMBINE WITH FIRST                  03 01632
003643 054040 A 1708        STA     JCKLN2      SEARCH LOG. UNIT NAME TABLE         03 01633
003644 044100 A 1709        INR     IGBLK                                           03 01634
003645 006505 A 1710        JSR     JCGTCH,X                                        03 01635
003646 003705 R
003647 006505 A 1711        JSR     TLMCHK,X    CHECK DELIMITER                     03 01636
003650 004072 R
003651 030345 A 1712        LDX     V$LUNT                                          03 01637
003652 015000 A 1713 JC14C2 LDA     0,X         FOR THIS LOG. UNIT NAME             03 01638
003653 001010 A 1714        JAZ     JC14B3      END OF TABLE - NOT FOUND            03 01639
003654 003676 R
003655 005144 A 1715        IXR                                                     03 01640
003656 005144 A 1716        IXR     INCREMENT INDEX                                 03 01641
003657 006617 A 1717        SRE     JCKLN2,7,010 ENTRY FOUND                        03 01642
003660 003704 R
003661 001000 A 1718        JMP     JC14C2      NO                                  03 01643
003662 003652 R
003663 005344 A 1719        DXR                 YES -                               03 01644
003664 015000 A 1720        LDA     0,X         GET LOG. UNIT NUMBER                03 01645
003665 001004 A 1721 JC14D2 JAN     JC14B3                                          03 01646
003666 003676 R
003667 140431 A 1722        SUB     PS0         0 LEQ LUN LEQ 255                   03 01647
003670 001002 A 1723        JAP     JC14B3      NO                                  03 01648
003671 003676 R
003672 120431 A 1724        ADD     PS0         YES                                 03 01649
003673 034007 A 1725        LDX     JCKLN1      RESTORE RETURN                      03 01650
003674 006703 A 1726        IJMP    *,X         RETURN                              03 01651
003675 000000 A
003676 010467 A 1727 JC14B3 LDA     SEVEN       ERROR -                             03 01652
003677 006507 A 1728        STAE    ERRN        SET CODE                            03 01653
003700 003414 R
003701 001000 A 1729        JMP     JCRMSG      PROCESS ERROR                       03 01654
003702 000607 R
003703 000000 A 1730 JCKLN1 DATA    0                                               03 01655
003704 000000 A 1731 JCKLN2 DATA    0                                               03 01656
                1732        $JSEC                                                   03 01657
                1733 *                                                              03 01658
                1734 *                                                              03 01659
                1735 *                                                              03 01660
003705 064040 A 1736 JCGTCH STP     JCGT1       SUBROUTINE TO GET ONE CHARACTER, CHPTR/2 03 01661
003706 006027 A 1737 JC15A2 LDLE    CHPTR             IS WORD ADRS, CHPTR(0)=0 GIVES BITS 03 01662
003707 003423 R
003710 005021 A 1738        TBA                       15-8, CHPTR(0)=1 GIVES BITS 7-0.  03 01663
003711 005111 A 1739        IAR                                                     03 01664
003712 006057 A 1740        STAE    CHPTR             CHAR RETURNED IN A REG BITS 7-0 03 01665
003713 003423 R
003714 004101 A 1741        LSNR    1                 ALSO INCREMENTS POINTER TO NEXT CHAR. 03 01666
003715 006440 A 1742        BT      PS0+B0,JC15D2     B REG IS SAVED                  03 01667
003716 003723 R
003717 016000 A 1743        LDA     0,2         CHPTR IS ODD, GET BITS 15-8         03 01668
003720 004501 A 1744        LSFA    8                                               03 01669
003721 001000 A 1745        JMP     JC15F2                                          03 01670
003722 003726 R
003723 016000 A 1746 JC15D2 LDA     0,2         CHPTR IS EVEN,                      03 01671
003724 150402 A 1747        PHA     PHW         GET BITS 7-0                        03 01672
003725 024017 A 1748 JC15F2 LDB     IGBLK       IGNORE BLANKS ?                     03 01673
003726 001003 A 1749        JNZ     JC15F3      NO                                  03 01674
003727 003743 R
003730 006142 A 1750        SUBE    =B10        YES - BLANK CHAR ?                  03 01675
003731 003413 R
003732 001002 A 1751        JAZ     JC15A2      YES                                 03 01676
003733 000000 A
003734 006167 A 1752        ADDE    =B10        NO                                  03 01677
003735 003413 R
003736 005322 A 1753        TZB                 CLEAR FLAG                          03 01678
003737 054000 A 1754        STB     IGBLK                                           03 01679
003740 022000 A 1755 JC15F3 LDB     JCGT1       RESTORE B                           03 01680
003741 006051 A 1756        STAE    JCCHAR      SAVE LAST CHAR.                     03 01681
003742 000000 A
003743 006700 A 1757        IJMP    0,X         RETURN                              03 01682
003744 000000 A
003745 000000 A 1758 IGBLK  DATA    0                                               03 01683
003746 000000 A 1759 JCGT1  DATA    0                                               03 01684
003747 000000 A 1760 JCCHAR DATA    0                                               03 01685
003750 000256 A 1761 =B10   DATA    '256        PERIOD CHAR.                        03 01686
                1762        $JSEC                                                   03 01687
                1763 *                                                              03 01688
                1764 *                                                              03 01689
003751 054220 A 1765 JCPTCH STB     JCPT1       SUBROUTINE TO STORE ONE CHARACTER, CHPTR2/ 03 01690
003752 150465 A 1766        PHB     PHW               IS WORD ADRS, CHPTR2(0)=0 GIVES BITS 03 01691
003753 054220 A 1767        STB     JCPT2             15-8, CHPTR2(0)=1 GIVES BITS 7-0. 03 01692
003754 006027 A 1768        LDLE    CHPTR2      CHAR MUST BE IN A REG BITS 7-0          03 01693
003755 003424 R
003756 005021 A 1769        TBA                       ALSO INCREMENTS CHPTR2            03 01694
003757 005111 A 1770        IAR                       B REG IS SAVED.                   03 01695
003760 006057 A 1771        STAE    CHPTR2                                              03 01696
003761 003424 R
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003762 004141 A 1772          LSRB    1                                                    03 01697
003763 006440 A 1773          BT      RA0+B0,JC16D2                                        03 01698
003764 003774 R
003765 016000 A 1774          LDA     0,B             CHPTR2 IS ODD, BITS 15-8             03 01699
003766 004250 A 1775          LRLA    8                                                    03 01700
003767 150462 A 1776          ANA     LHW                                                  03 01701
003770 114207 A 1777          ORA     JCPT2                                                03 01702
003771 004250 A 1778          LRLA    8                                                    03 01703
003772 001000 A 1779          JMP     JC16F2                                               03 01704
003773 003777 R
003774 016000 A 1780 JC16D2   LDA     0,B                                                  03 01705
003775 150462 A 1781          ANA     LHW                                                  03 01706
003776 114201 A 1782          ORA     JCPT2                                                03 01707
003777 056000 A 1783 JC16F2   STA     0,B                                                  03 01708
004000 024176 A 1784          LDB     JCPT1                                                03 01709
004001 006705 A 1785          IJMP    0,X                                                  03 01710
004002 000000 A
               1786           EJEC                                                         03 01711
               1787 *                                                                      03 01712
               1788 *                  SUBROUTINE TO FIND DST ENTRY ADDRESS,               03 01713
               1789 *                  GIVEN A LOGICAL UNIT NUMBER.                        03 01714
               1790 *                                                                      03 01715
004003 054204 A 1791 JCLNDV   STA     JCLN1           SAVE                                 03 01716
004004 064204 A 1792          STB     JCLN2           REGISTERS                            03 01717
004005 144062 A 1793          SUB     D101            LUN LT 101 ?                         03 01718
004006 001002 A 1794          JAP     JC16C1          NO                                   03 01719
004007 004021 R
004010 020400 A 1795          LDB     V$LUT1          YES                                  03 01720
004011 016000 A 1796          LDA     0,B                                                  03 01721
004012 144175 A 1797          SUB     JCLN1                                                03 01722
004013 001004 A 1798          JAN     JC16F4          OUT OF RANGE - ERROR                 03 01723
004014 004063 R
004015 010400 A 1799          LDA     V$LUT1                                               03 01724
004016 124171 A 1800          ADD     JCLN1                                                03 01725
004017 001000 A 1801          JMP     JC16D1                                               03 01726
004020 004050 R
004021 054166 A 1802 JC16C1   STA     JCLN1           101 LEQ LUN LEQ 179 ?                03 01727
004022 144046 A 1803          SUB     D79                                                  03 01728
004023 001002 A 1804          JAP     JC16C3          NO                                   03 01729
004024 004037 R
004025 020401 A 1805          LDB     V$LUT2          YES                                  03 01730
004026 016000 A 1806          LDA     0,B                                                  03 01731
004027 144160 A 1807          SUB     JCLN1                                                03 01732
004030 001004 A 1808          JAN     JC16F4          OUT OF RANGE - ERROR                 03 01733
004031 004063 R
004032 010401 A 1809          LDA     V$LUT2                                               03 01734
004033 124154 A 1810          ADD     JCLN1                                                03 01735
004034 005111 A 1811          IAR                                                          03 01736
004035 001000 A 1812          JMP     JC16D1                                               03 01737
004036 004050 R
004037 054150 A 1813 JC16C3   STA     JCLN1           180 LEQ LUN LEQ MAX                  03 01738
004040 020402 A 1814          LDB     V$LUT3                                               03 01739
004041 016000 A 1815          LDA     0,B                                                  03 01740
004042 144145 A 1816          SUB     JCLN1                                                03 01741
004043 001004 A 1817          JAN     JC16F4                                               03 01742
004044 004063 R
004045 010402 A 1818          LDA     V$LUT3          YES                                  03 01743
004046 124141 A 1819          ADD     JCLN1                                                03 01744
004047 005111 A 1820          IAR                                                          03 01745
004050 005012 A 1821 JC16D1   TAB                                                          03 01746
004051 016000 A 1822          LDA     0,B             GET DST NO.                          03 01747
004052 150463 A 1823          ANA     RHW                                                  03 01748
004053 005311 A 1824          DAR                                                          03 01749
004054 054133 A 1825          STA     JCLN1           CONVERT TO                           03 01750
004055 004201 A 1826          ASLA    1                                                    03 01751
004056 124131 A 1827          ADD     JCLN1           DISPLACEMENT                         03 01752
004057 120355 A 1828          ADD     V$DSTB          ADD BASE                             03 01753
004060 024130 A 1829          LDB     JCLN2           RESTORE B                            03 01754
004061 006705 A 1830          IJMP    0,X             RETURN                               03 01755
004062 000000 A
004063 010467 A 1831 JC16F4   LDA     SEVEN           SET ERROR CODE                       03 01756
004064 006057 A 1832          STAE    ERRN                                                 03 01757
004065 003414 R
004066 001000 A 1833          JMP     JCRMSG          PROCESS ERROR                        03 01758
004067 000607 R
004070 000145 A 1834 D101     DATA    101                                                  03 01759
004071 000117 A 1835 D79      DATA    79                                                   03 01760
               1836           EJEC                                                         03 01761
               1837 *                  SUBROUTINE TO CHECK DELIMITER.                      03 01762
               1838 *                  ENTER WITH CHARACTER IN A REGISTER, IF COMMA OR EQUALS S 03 01763
               1839 *                  RETURN IS MADE WITH A = 0. IF PERIOD, CHPTR IS SET  03 01764
               1840 *                  TO END OF JC BUFFER,  AND RETURN IS MADE WITH A = 0. 03 01765
               1841 *                  IF ANYTHING ELSE, ERRN IS SET TO TWO AND AN EXIT IS 03 01766
               1842 *                  MADE TO JCRMSG.                                     03 01767
               1843 *                                                                      03 01768
               1844 *                                                                      03 01769
004072 001010 A 1845 DLMCHK   JAZ     DLMX            END OF BUFFER                        03 01770
004073 004120 R
004074 006140 A 1846          SUBI    0254            COMMA ?                              03 01771
004075 000254 A
004076 001010 A 1847          JAZ     DLMX            YES                                  03 01772
004077 004120 R
004100 144102 A 1848          SUB     M21             EQUALS SIGN ?                        03 01773
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004101 001010 A 1849          JAZ     DLMX          YES                                    03 01774
004102 004120 R
004103 006120 A 1850          ADDI    017           PERIOD ?                               03 01775
004104 000017 A
004105 001016 A 1851          JANZ    DLMY          NO - ERROR                             03 01776
004106 004122 R
004107 017000 I 1852          LDA     CHPTR         SAVE POSITION OF                       E.1********
004110 005311 A 1853          DAR                   PERIOD IN JC BUFFER                    E.1********
004111 054015 A 1854          STA     PERPTR        IN PERPTR.                             E.1********
004112 010412 A 1855          LDA     V$JCB         YES - SET                              03 01777
004113 004241 A 1856          LPLA    1             CHARACTER POINTER                      03 01778
004114 120072 A 1857          ADD     D80           TO                                     03 01779
004115 006057 A 1858          STAE    CHPTR         END OF JC BUFFER                       03 01780
004116 003423 R
004117 005001 A 1859          TZA                                                          03 01781
004120 006705 A 1860 DLMX     IJMP    0,X           RETURN                                 03 01782
004121 000000 A
004122 010422 A 1861 DLMY     LDA     TWO           ERROR -                                03 01783
004123 006057 A 1862          STAE    ERRN          SET CODE                               03 01784
004124 003414 R
004125 001000 A 1863          JMP     JCRMSG        PROCESS ERROR                          03 01785
004126 000607 R
004127 000000 A 1864 PERPTR   DATA    0             SAVES CHPTR TO PERIOD IN JCB.          E.1********
                1865          EJEC                                                         03 01786
                1866 *                                                                     03 01787
                1867 *        SUBROUTINE TO DETERMINE IF LOGICAL UNIT IS                   03 01788
                1868 *        ASSIGNED TO TELETYPE OR CRT.  CALLING SEQUENCE IS:           03 01789
                1869 *                                                                     03 01790
                1870 *                JSR  V$DVTP,X                                        03 01791
                1871 *                                                                     03 01792
                1872 *        ENTRANCE PARAMETER:  A REGISTER CONTAINS LOG. UNIT NO.       03 01793
                1873 *                                                                     03 01794
                1874 *        RETURN PARAMETER:  A REGISTER EQUALS ZERO - DEVICE IS        03 01795
                1875 *                                 A TTY OR CRT.                       03 01796
                1876 *                                                                     03 01797
                1877 *                           A REGISTER NOT EQUAL ZERO - DEVICE        03 01798
                1878 *                                 IS NOT A TTY OR CRT.                03 01799
                1879 *                                                                     03 01800
                1880 *        B REGISTER IS SAVED.                                         03 01801
                1881 *                                                                     03 01802
                1882 *                                                                     03 01803
004130 064023 A 1883 V$DVTP   STB     DVTPA                                                03 01804
004131 120400 A 1884          ADD     V$LUT1                                               03 01805
004132 005012 A 1885          TAB                                                          03 01806
004133 016000 A 1886          LDA     0,D           GET CURRENT DST ENTRY NO.              03 01807
004134 150463 A 1887          ANA     RHW                                                  03 01808
004135 005311 A 1888          DAR                   CONVERT                                03 01809
004136 054016 A 1889          STA     DVTPB         TO                                     03 01810
004137 004201 A 1890          ASLA    1             DISPLACEMENT                           03 01811
004140 124014 A 1891          ADD     DVTPB         IN TABLE                               03 01812
004141 120353 A 1892          ADD     V$DSTB        ADD TABLE BASE                         03 01813
004142 005012 A 1893          TAB                                                          03 01814
004143 016001 A 1894          LDA     1,B           GET DEVICE NAME                        03 01815
004144 144011 A 1895          SUB     DVTPTY        IS IT TY ?                             03 01816
004145 001010 A 1896          JAZ     DVTP1         YES                                    03 01817
004146 004151 R
004147 016001 A 1897          LDA     1,B           NO -                                   03 01818
004150 144006 A 1898          SUB     DVTPCT        TRY FOR CT                             03 01819
004151 024002 A 1899 DVTP1    LDB     DVTPA         RESTORE B                              03 01820
004152 006705 A 1900          IJMP    0,X           RETURN                                 03 01821
004153 000000 A
004154 000000 A 1901 DVTPA    DATA    0                                                    03 01822
004155 000000 A 1902 DVTPB    DATA    0                                                    03 01823
004156 152331 A 1903 DVTPTY   DATA    'TY'                                                 03 01824
004157 141724 A 1904 DVTPCT   DATA    'CT'                                                 03 01825
                1905          EJEC                                                         03 01826
                1906 *                                                                     03 01827
                1907 *        SUBROUTINE TO DETERMINE IF LO LOGICAL                        03 01828
                1908 *        UNIT AND SO LOGICAL UNIT ARE ASSIGNED                        03 01829
                1909 *        TO THE SAME DEVICE.                                          03 01830
                1910 *                                                                     03 01831
                1911 *        CALLING SEQUENCE:                                            03 01832
                1912 *                                                                     03 01833
                1913 *        JSR  V$SOLO,X                                                03 01834
                1914 *                                                                     03 01835
                1915 *        ENTRANCE PARAMETERS - NONE                                   03 01836
                1916 *                                                                     03 01837
                1917 *        RETURN PARAMETER - A REGISTER = ZERO,                        03 01838
                1918 *           SAME DEVICE.  A REGISTER NOT = ZERO,                      03 01839
                1919 *           DIFFERENT DEVICES.                                        03 01840
                1920 *                                                                     03 01841
                1921 *        B REGISTER IS PRESERVED DURING EXECUTION.                    03 01842
                1922 *                                                                     03 01843
004160 074012 A 1923 V$SOLO   STX     SOL01                                                03 01844
004161 030400 A 1924          LDX     V$LUT1                                               03 01845
004162 015003 A 1925          LDA     3,X           GET SO CURRENT                         03 01846
004163 150463 A 1926          ANA     RHW           ASSIGNMENT                             03 01847
004164 054007 A 1927          STA     SOL02                                                03 01848
004165 015005 A 1928          LDA     5,X           GET LO CURRENT                         03 01849
004166 150463 A 1929          ANA     RHW           ASSIGNMENT                             03 01850
004167 144004 A 1930          SUB     SOL02         TAKE DIFFERENCE                        03 01851
004170 034002 A 1931          LDX     SOL01                                                03 01852
004171 006705 A 1932          IJMP    0,X           RETURN                                 03 01853
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004172 000000 A                                                                 03 01854
004173 000000 A 1933 SOLO1   DATA     0                                       03 01855
004174 000000 A 1934 SOLO2   DATA     0                                       03 01856
004175 000260 A 1935 HB0     DATA     0260                                    03 01857
004176 000215 A 1936 N215    DATA     0215                                    03 01858
004177 000000 A 1937 JCPT1   DATA     0                                       03 01859
004200 000000 A 1938 JCPT2   DATA     0                                       03 01860
004201 000000 A 1939 NUM     DATA     0                                       03 01861
004202 000000 A 1940 BASE    DATA     0                                       03 01862
004203 000021 A 1941 N21     DATA     021                                     03 01863
004204 000014 A 1942 N14     DATA     014                                     03 01864
004205 000023 A 1943 N23     DATA     023                                     03 01865
004206 000144 A 1944 D100    DATA     100                                     03 01866
004207 000120 A 1945 D80     DATA     80                                      03 01867
004210 000000 A 1946 JCLN1   DATA     0                                       03 01868
004211 000000 A 1947 JCLN2   DATA     0                                       03 01869
       000000 R 1948         END      V$JCP
ENTRY NAMES
000000 R V$JCP
EXTERNAL NAMES
002726 E BIFCB  002727 E BOFCB  002731 E GOFCB  002725 E LOFCB
002724 E PIFCB  002732 E POFCB  003277 E SIFCB  002730 E SSFCB
000000 E V$EXEC 000000 E V$IOC  000000 E V$IOST
SYMBOLS
000044 A APIM   000002 A B      000000 A B0     000001 A B1
000012 A B10    000013 A B11    000014 A B12    000015 A B13
000016 A B14    000017 A B15    000002 A B2     000003 A B3
000004 A B4     000005 A B5     000006 A B6     000007 A B7
000010 A B8     000011 A B9     004202 R BASE   002726 E BIFCB
000421 A BM1    000472 A BM17   000475 A BM177  000477 A BM1777
000464 A BM3    000473 A BM37   000463 A BM377  000467 A BM7
000474 A BM77   000476 A BM777  002727 E BOFCB  000441 A BR0
000442 A BR1    000453 A BR10   000454 A BR11   000455 A BR12
000456 A BR13   000457 A BR14   000460 A BR15   000443 A BR2
000444 A BR3    000445 A BR4    000446 A BR5    000447 A BR6
000450 A BR7    000451 A BR8    000452 A BR9    000421 A BS0
000422 A BS1    000433 A BS10   000434 A BS11   000435 A BS12
000436 A BS13   000437 A BS14   000440 A BS15   000423 A BS2
000424 A BS3    000425 A BS4    000426 A BS5    000427 A BS6
000430 A BS7    000431 A BS8    000432 A BS9    001101 R BUFLIM
003423 R CHPTR  003424 R CHPTR2 003425 R CHPTR3 000047 A CLOCK
003415 R COUNT  004206 R D100   003375 R D10000 004070 R D101
003366 R D120   004071 R D79    004207 R D80    003401 R D99
003374 R D9995  003372 R DBLK   000747 A DISCLK 000745 A DISMP
000444 A DISPIM 004072 R DLMCHK 004120 R DLMX   004122 R DLMY
004151 R DVTP1  004154 R DVTPA  004155 R DVTPB  004157 R DVTPCT
004156 R DVTPTY 000424 A EIGHT  000147 A ENACLK 000645 A ENAMP
000244 A ENAPIM 003414 R ERRN   000465 A FIVE   000426 A FOUR
000011 A GO     002731 E GOFCB  003440 R H00    000727 R HASTB
004175 R HB0    003416 R HCOMZ  003405 R HCR    003376 R HMT
003371 R HSW    003417 R HZERO  003420 R HZF    003422 R HZJ
003745 R IGBLK  000007 R JC01   000014 R JC02   000023 R JC03
000036 R JC05   002432 R JC10A4 002333 R JC10B1 002337 R JC10D1
002406 R JC10D2 002401 R JC10D3 002414 R JC10E2 002411 R JC10E3
000055 R JC11   002465 R JC11C1 002557 R JC11D0 002562 R JC11D1
002611 R JC11D2 002615 R JC11D3 002705 R JC11E2 002711 R JC11E3
003025 R JC12B3 003031 R JC12C1 003041 R JC12C2 003122 R JC12C3
003135 R JC12C4 003114 R JC12CA 003121 R JC12CB 003130 R JC12CC
003062 R JC12CM 003104 R JC12CZ 003144 R JC12D1 003156 R JC12D3
003227 R JC12E4 003235 R JC12E5 003302 R JC12E6 003171 R JC12ED
003202 R JC12EG 003273 R JC12EZ 003534 R JC13A4 003525 R JC13D2
003527 R JC13D3 003515 R JC13E1 003543 R JC13E2 003576 R JC13E3
003571 R JC13ED 003564 R JC13F2 003602 R JC13F4 003635 R JC14B2
003676 R JC14B3 003652 R JC14C2 003665 R JC14D2 003706 R JC15A2
003723 R JC15D2 003725 R JC15F2 003740 R JC15F3 004021 R JC16C1
004037 R JC16C3 004050 R JC16D1 003774 R JC16D2 003777 R JC16F2
004063 R JC16F4 000073 R JC1A1  000102 R JC1A2  000144 R JC1A3
000173 R JC1A31 000227 R JC1A33 000246 R JC1A34 000250 R JC1A36
000240 R JC1A3X 000257 R JC1A4  000304 R JC1A41 000331 R JC1A42
000355 R JC1A43 000365 R JC1A45 000326 R JC1A46 000406 R JC1A5
000413 R JC1A6  000102 R JC1B1  000107 R JC1B2  000124 R JC1B3
000133 R JC1B4  000360 R JC1C1  000604 R JC2A4  000657 R JC3D1
000664 R JC3E2  000712 R JC3E4  001241 R JC4B1  001252 R JC4BC
001271 R JC4C1  001306 R JC4D1  001334 R JC4D2  001367 R JC4E1
001354 R JC4F1  001412 R JC4G1  001577 R JC5C4  001605 R JC5C5
001637 R JC5C6  001661 R JC5C66 001544 R JC5D1  001550 R JC5D2
001671 R JC5D7  001670 R JC5D8  002047 R JC5D9  002030 R JC5E1
002037 R JC5E11 002052 R JC5F1  003373 R JC5PTR 001676 R JC5XC
001724 R JC6A1  001726 R JC6A2  001756 R JC6A25 001762 R JC6A3
001773 R JC6A4  002007 R JC6B1  002017 R JC6C1  002113 R JC7C2
002174 R JC8B2  002200 R JC8B3  002156 R JC8E1  002242 R JC9D1
002246 R JC9D2  002270 R JC9D3  002733 R JCALT  002757 R JCALT1
002753 R JCALT2 003013 R JCASS  003747 R JCCHAR 003611 R JCCKLN
003467 R JCCKT1 003447 R JCCKTM 003473 R JCCNVT 002070 R JCDUMP
001231 R JCEOF  002722 R JCFCBS 002762 R JCFILE 003002 R JCFL1
000723 R JCFLSH 002075 R JCFOR  003746 R JCGT1  003705 R JCGTCH
003703 R JCKLN1 003704 R JCKLN2 003353 R JCKPB  003033 R JCKPMD
001030 R JCLA21 001057 R JCLA22 001060 R JCLA23 001067 R JCLA24
001073 R JCLA25 004210 R JCLN1  004211 R JCLN2  004003 R JCLNDV
003322 R JCMTM  001377 R JCMOV1 001416 R JCMOVC 003606 R JCNVT1
003607 R JCNVT2 003610 R JCNVT3 001172 R JCP1   001224 R JCP2
001106 R JCPCOM 001561 R JCPEX  002567 R JCPFI  001720 R JCPLD
003434 R JCPMSG 000724 R JCPOUT 000770 R JCPR1  001104 R JCPR2
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001007 R JCPRE   000734 R JCPRT   001105 R JCPRTF  001103 R JCPRX
004177 R JCPTI   004200 R JCPT2   003751 R JCPTCH  001527 R JCPTSK
001701 R JCPXQT  001234 R JCRER   000066 R JCRET   002213 R JCREW
000617 R JCRMS1  000607 R JCRMSG  002142 R JCSF1   002117 R JCSFI
002274 R JCSRE   003427 R JCT1    003430 R JCT2    003431 R JCT3
003432 R JCT4    001417 R JCTA    000417 R JCTAB   001420 R JCTB
002064 R JCTDUF  003406 R JCTPTR  002461 R JCWE1   002441 R JCWED
001421 R JFCBI   000300 A LC      000050 A LCJP    000462 A LHW
000005 A LO      002725 E LOFCB   000045 A MP      000045 A MPMR0
000145 A MPMR1   000245 A MPMR2   000345 A MPMR3   000420 A MT
003364 R N101    000732 R N12024  000732 R N13064  004204 R N14
003370 R N1411   003365 R N1425   003403 R N17760  004203 R N21
004176 R N215    004205 R N23     003413 R N240    003411 R N244
003442 R N254    003750 R N256    003404 R N257    003445 R N260
003402 R N275    003443 R N300    003400 R N3000   003407 R N301
003367 R N304    003410 R N32     003444 R N322    003412 R N333
003377 R N340    003441 R N50     003446 R N60000  003421 R NAMPTR
000461 A NEG     000470 A NINE    004201 R NUM     000421 A ONE
004127 R PERPTR  002724 E PIFCB   000040 A PIM1    000041 A PIM2
000042 A PIM3    000043 A PIM4    000040 A PIM5    000040 A PIM6
000040 A PIM7    000040 A PIM8    002732 E POFCB   000040 A RA0
000000 A RA1     000060 A RB0     000020 A RB1     000463 A RHW
001102 R SAVECP  000467 A SEVEN   000002 A SI      003277 E SIFCB
000466 A SIX     000003 A SO      004173 R SOLO1   004174 R SOLO2
002730 E SSFCB   000027 A TBATSK  000026 A TBCPTH  000011 A TBENTY
000003 A TBEVNT  000021 A TBIO    000014 A TBISA   000015 A TBISB
000017 A TBISP   000020 A TBISRS  000016 A TBISX   000022 A TBKN1
000023 A TBKN2   000024 A TBKN3   000002 A TBPL    000004 A TBRSA
000005 A TBRSB   000030 A TBRSE   000007 A TBRSP   000010 A TBRSTS
000006 A TBRSX   000000 A TBS0    000001 A TBS1    000012 A TBS10
000013 A TBS11   000014 A TBS12   000015 A TBS13   000016 A TBS14
000017 A TBS15   000002 A TBS2    000003 A TBS3    000004 A TBS4
000005 A TBS5    000006 A TBS6    000007 A TBS7    000010 A TBS8
000011 A TBS9    000001 A TBST    000025 A TBTLC   000013 A TBTMIN
000012 A TBTMS   000000 A TBTRD   000471 A TEN     000464 A THREE
000422 A TWO     000403 A V$1MIN  000415 A V$BFC   000075 A V$BGLB
000056 A V$BIC1  000315 A V$BTB   000414 A V$BVN   000304 A V$CAM
000353 A V$CKB   000411 A V$CKIT  000310 A V$CKPT  000301 A V$CPL
000046 A V$CRDM  000341 A V$CRDR  000354 A V$CRM   000302 A V$CRS
000360 A V$CTAD  000300 A V$CTL   000351 A V$CTMS  000070 A V$DATE
000355 A V$DSTB  004130 R V$DVTP  000376 A V$ERFG  000000 E V$EXEC
000347 A V$FGLB  000306 A V$FLRS  000350 A V$FREE  000320 A V$IM
000410 A V$IOA   000000 E V$IOC   000000 E V$IOST  000412 A V$JCB
000055 A V$JCFG  000000 R V$JCP   000047 A V$JCTM  000050 A V$JMAM
000377 A V$JOP   000054 A V$LCNT  000313 A V$LER   000356 A V$LIT
000317 A V$LLUP  000307 A V$LRSK  000312 A V$LSAL  000345 A V$LUNT
000316 A V$LUP   000400 A V$LUT1  000401 A V$LUT2  000402 A V$LUT3
000330 A V$MPM   000362 A V$NCTR  000413 A V$OCB   000346 A V$OPCF
000311 A V$OPCL  000363 A V$PIMN  000074 A V$PLCT  000305 A V$PTYB
000361 A V$SCTL  000352 A V$SCV   000375 A V$SLFG  004160 R V$SOLO
000303 A V$TB    000342 A V$TBGT  000416 A V$TFC   000314 A V$TJCP
000344 A V$TNN   000343 A V$TMS   000304 A V$UTB   000001 A VORTEX
000001 A X       003426 R ZCT     000420 A ZERO    000722 R ZTY
  0 ERRORS ASSEMBLY COMPLETE

  306  APIM      316   317
  331  B         388   410   513   689   692   694   736   741   750
                 755   769   774   778   783   818   824   829   842
                 926   949   950  1095  1104  1130  1142  1145  1201
                1229  1237  1271  1274  1276  1277  1278  1285  1290
                1297  1302  1309  1314  1361  1376  1426  1434  1447
                1455  1458  1464  1466  1467  1470  1499  1506  1508
                1509  1743  1746  1774  1780  1783  1796  1806  1815
                1822  1886  1894  1897
  275  B0        688  1742  1773
  286  B11      1468
  279  B4       1011
 1940  BASE     1634  1648  1655
    0  BIFCB    1325  1330
  254  BM377     645   648   656
  252  BM77     1525
    0  BOFCB     759  1326  1331
  229  BR11     1477
  230  BR12      357  1172
  233  BR15     1465
  213  BS11     1469
  214  BS12     1176
  205  BS3      1012
  206  BS4       893  1026
  208  BS6       938   995  1183
  210  BS8       395  1722  1724
  708  BUFLIM    665   679   682   696   701
 1583  CHPTR     349   405   566   669   673   684   700   704  1115
                1117  1338  1340  1382  1384  1388  1422  1424  1440
                1442  1444  1698  1700  1737  1740  1852  1858
 1584  CHPTR2    416   791   874   958  1001  1768  1771
  299  CLOCK     301   302
 1577  COUNT     408   600  1064  1066  1082  1085  1151  1179  1186
                1189
 1561  D10000   1039
 1834  D101     1793
 1835  D79      1803
```

1945 D80 1857
1560 D9995 1037
1558 DBLK 387 766 923 944 948 1275 1507
1845 DLMCHK 431 441 809 983 1253 1387 1517 1673 1711
1860 DLMX 1845 1847 1849
1861 DLMY 803 805 1851
1899 DVTP1 1896
1901 DVTPA 1883 1899
1902 DVTPB 1889 1891
1904 DVTPCT 1898
1903 DVTPTY 1895
244 EIGHT 792 1647
1576 ERRN 372 584 598 932 1054 1078 1120 1148 1200
1236 1268 1380 1541 1613 1669 1728 1832 1862
241 FIVE 733 900 1035 1077
240 FOUR 369 509 965 1267 1357
335 GO 726 729 732 912
0 GOFCB 729 732 912 1328 1331
1593 H00 597
630 HASTR 629
1935 HB0 1642 1654 1694
1578 HCOMZ 609
1562 HMT 908 1056 1058 1096 1131 1133
1557 HSW 942
1579 HZERO 605
1580 HZF 762
1582 HZJ 795
1758 IGBLK 377 407 428 438 797 875 886 890 960
979 1112 1156 1167 1211 1241 1251 1279 1385
1390 1511 1533 1635 1671 1691 1709 1748 1754
343 JC01 340
345 JC02 342
354 JC03 362
363 JC05 355
1186 JC10A4 1184
1147 JC10B1 1139 1141 1143
1150 JC10D1 1132 1135 1146
1176 JC10D2 1164
1172 JC10D3 1158 1161 1169
1181 JC10E2 1144 1152 1155 1173 1174 1177 1178 1182 1190
1179 JC10E3 1175
376 JC11 370
1210 JC11C1 1206 1209
1249 JC11D0 1246
1251 JC11D1 1248
1267 JC11D2 1243 1259 1264
1270 JC11D3 1250 1256 1261 1266
1315 JC11E2 1287 1292 1299 1304 1311
1319 JC11E3 1231 1270 1284 1289 1296 1301 1308 1313 1315
1318
1379 JC12B3 1358 1360 1373 1449 1460
1382 JC12C1 1378
1426 JC12C3 1433
1434 JC12C4 1429
1420 JC12CA 1403 1405
1425 JC12CB 1414
1430 JC12CC 1437
1401 JC12CM 1398
1415 JC12CZ 1399
1439 JC12D1 1427
1447 JC12E3 1438
1479 JC12E4 1454 1463 1468
1485 JC12E5 1418
1511 JC12E6 1495 1502
1455 JC12ED 1452
1461 JC12EG 1457
1510 JC12EZ 1504
1652 JC13A4 1646
1647 JC13D2 1641
1649 JC13D3 1657
1642 JC13E1 1640 1651
1658 JC13E2 1643 1645
1674 JC13E3 1638 1659 1663 1665 1667
1671 JC13ED 1661
1668 JC13F2 475 490 989 1165 1171 1216
1677 JC13F4 1675
1703 JC14B2 1695 1697
1727 JC14B3 1226 1228 1230 1419 1714 1721 1723
1713 JC14C2 1718
1721 JC14D2 1702
1737 JC15A2 1751
1746 JC15D2 1742
1748 JC15F2 1745
1755 JC15F3 1749
1802 JC16C1 1794
1813 JC16C3 1804
1821 JC16D1 1801 1812
1780 JC16D2 1773
1783 JC16F2 1779
1831 JC16F4 1798 1808 1817
384 JC1A1 624
385 JC1A2 383 591 626
418 JC1A31 427

```
433   JC1A33    421   423
441   JC1A34    437
442   JC1A36    440   445
438   JC1A3X    435
446   JC1A4     430   432
463   JC1A41    452   455   458
478   JC1A42    465   468   471
492   JC1A43    480   483   486
498   JC1A45    511
476   JC1A46    473   488   491
508   JC1A5     501   504
512   JC1A6     507
401   JC1B1     380
388   JC1B2     391
399   JC1B3     400
400   JC1B4     400
494   JC1C1     462   477
583   JC2A4     413   499   765
613   JC3D1     601
614   JC3E2     612
622   JC3E4     618
769   JC4B1     772
777   JC4BC     785
789   JC4C1     763
798   JC4D1     816
810   JC4D2     801
812   JC4E1     799   849
823   JC4F1     831
848   JC4G1     807
895   JC5C4     889
899   JC5C5     896
913   JC5C6     909
926   JC5C66    929
875   JC5D1    1002
877   JC5D2     881
932   JC5D7     937
931   JC5D8     898
1013  JC5D9    1011
1003  JC5E1     878   988  1006
1007  JC5E11    951
1018  JC5F1     863   865   867   869   871   914   916   918   920
                922   930   939   941   943   945   946   996   998
               1559
1559  JC5PTR    956
936   JC5XC     903
961   JC6A2     978
975   JC6A25    962   966   970
979   JC6A3     964
982   JC6A4     968   972   974
990   JC6B1     981   986   994
995   JC6C1     990
1042  JC7C2    1036  1038
1077  JC8B2    1044  1067  1180  1185
1080  JC8B3    1076
1072  JC8E1    1068  1071  1073  1081  1086
1107  JC9D1    1097
1111  JC9D2    1106  1107  1110
1119  JC9D3    1101  1103  1105
1336  JCALT     574
1349  JCALT1   1343
1346  JCALT2   1350
1372  JCASS     572  1518
1760  JCCHAR    472   487   808   848   895   982   984  1159  1162
              1214  1756
1690  JCCKLN   1049  1091  1126  1195  1222  1336  1355  1372  1441
1615  JCCKT1   1609  1611
1605  JCCKTM   1034  1065  1524  1536
1629  JCCNVT   1033  1063  1150  1523  1534  1701
1025  JCDUMP    551
 764  JCEOF     400
1321  JCFCBS    397   614   619   651   659   727   730   740   754
               910  1104  1142  1229  1361  1503
1355  JCFILE    567
1366  JCFL1    1362  1365
 628  JCFLSH    459   476   492   590   625   764
1033  JCFOR     555
1759  JCGT1    1736  1755
1736  JCGTCH    378   411   418   429   439   676   800   877   887
               891   961   980  1113  1157  1168  1212  1242  1252
              1280  1286  1291  1298  1303  1310  1341  1344  1386
              1391  1394  1397  1409  1512  1636  1649  1672  1692
              1706  1710
1730  JCKLN1   1690  1725
1731  JCKLN2   1693  1703  1705  1707  1708  1717
1543  JCKPB    1537  1539
1533  JCKPMD    578
 676  JCLAB1    672   702
 694  JCLAB2    688   699
 695  JCLAB3    693
 700  JCLAB4    678
 703  JCLAB5    670   697
1946  JCLN1    1791  1797  1800  1802  1807  1810  1813  1816  1819
              1825  1827
```

1947 JCLN2 1792 1829
1791 JCLNDV 734 748 905 1051 1093 1128 1197 1233 1445
1474 1497
1523 JCMEM 576
839 JCMOV1 847
850 JCMOVC 836 841 846
1680 JCNVT1 1605 1616 1629 1677
1681 JCNVT2 1606 1615 1630 1678
1682 JCNVT3 1607 1637 1650 1653 1658
746 JCP1 739 743
760 JCP2 753 757
717 JCPCON 521 523 525
886 JCPEX 543
1222 JCPFI 565
956 JCPLD 553
1592 JCPMSG 599 606 610 611 613
629 JCPOUT 384
654 JCPR1 650
711 JCPRB 638 705
662 JCPRE 658
637 JCPRT 494 594
712 JCPRTF 495 592 596
710 JCPRX 637 706
1937 JCPT1 1765 1784
1938 JCPT2 1767 1777 1782
1765 JCPTCH 425 443 812 879 976 992 1004
862 JCPTSK 527 529 531 533 535 537 539 541 545
547 549
938 JCPXQT 367 901
766 JCRER 400 400
381 JCRET 493 580 840 1028 1041 1084 1114 1188 1213
1217 1320 1348 1367 1513 1515 1528 1550
1091 JCREW 559 1118
595 JCRMS1 593
590 JCRMSG 375 935 1061 1079 1121 1149 1205 1240 1269
1381 1542 1614 1670 1729 1833 1863
1062 JCSF1 1057 1060
1049 JCSFI 557
1126 JCSRE 561
1587 JCT1 1050 1070 1092 1098 1109 1127 1136 1154 1196
1208 1223 1232 1317 1337 1346 1374 1450 1461
1486 1493 1535 1546
1588 JCT2 1244 1249 1254 1257 1262 1273 1282 1288 1294
1300 1306 1312 1393 1395 1396 1415 1428 1488
1491
1589 JCT3 1408 1412 1413 1421 1436
1590 JCT4 1389 1439
851 JCTA 646 649 657 720 723 780 782 793 813
815 826 828
520 JCTAB 451 454 457 464 467 470 479 482 485
498 502 505 512
1020 JCTBUF 450 453 456 463 466 469 478 481 484
500 503 506 761 794 862 864 866 1570
1570 JCTPTR 414
1206 JCWE1 1204
1195 JCWE0 563
853 JFCBI 837
125 LC 126 127 128 129 130 131 132 133 134
135 136 137 138 139 140 141 142 143
144 146 147 148 149 150 151 152 153
154 155 156 157 158 159 161 162 163
164 168 169 170 171 172 173 174 179
180 181 184 189 190 191
100 LCJP 101 102 103 110 111 112 113 114 117
235 LHW 690 719 779 825 1069 1108 1153 1207 1272
1316 1490 1776 1781
334 LO 346 611 613 621 642 655 661 745
0 LOFCB 616 621 653 661 745 1324 1330
320 MP 321 322 323 324 325 326
200 MT 201 202 203 204 205 206 207 208 209
210 211 212 213 214 215 216 217 218
219 220 221 222 223 224 225 226 227
228 229 230 231 232 233 234 235 236
237 238 239 240 241 242 243 244 245
246 247 248 249 250 251 252 253 254
255 256
1552 N101 868 919
632 N12024 448 683
631 N13064 460
1942 N14 1662
1556 N1411 940
1553 N1425 870 921 997 1347
1567 N17760 1435
1941 N21 804 1664 1848
1575 N240 434 436 442 798 810 963 991 1283 1295
1307 1608 1660 1750 1752
1573 N244 1255
1595 N254 985 1245
1761 N256 474 489 677 897 1160 1170 1215
1568 N257 379 412
1598 N260 1258 1402 1410 1639
1596 N300 1080
1571 N301 420 1263

1555 N304 738 752 888 1203 1239 1501
1572 N32 422 1265
1597 N322 1163
1574 N333 424
1563 N340 1074 1075
1594 N50 386 768 925
1599 N60000 1448
1581 NAMPTR 789
245 NINE 1102 1140 1227
1939 NUM 1632 1652 1656 1674
237 ONE 401 902 1451 1462 1538
1864 PERPTR 671 675 1854
0 PIFCB 838 1319 1323 1330
0 POFCB 1329 1331
264 RA0 688 1742 1773
265 RA1 1468
266 RB0 1011
236 RHW 394 722 1473 1544 1747 1766 1823 1887 1926
1929
709 SAVECP 667 703
243 SEVEN 747 971 1119 1147 1379 1727 1831
332 SI 344 384 399 647
0 SIFCB 392 399 1321 1330 1510
242 SIX 365 371 417 936 959 1359
333 SO 616 644 653
1933 SOLO1 1923 1931
1934 SOLO2 1927 1930
0 SSFCB 1327 1331
246 TEN 603 608 969 1260 1404 1406 1633 1644 1696
239 THREE 1053 1199 1235 1483
238 TWO 366 381 622 931 987 1099 1137 1224 1453
1494 1496 1540 1612 1668 1861
114 V$CRDM 717 721 724 1543 1545 1548 1549
158 V$DSTB 353 1425 1480 1828 1892
1883 V$DVTP 382 623
181 V$JCB 339 385 403 409 446 639 662 767 872
924 947 999 1855
103 V$JCFG 364 368 374 892 894 899 934 1007 1008
1013 1025 1027
339 V$JCP 11 329 1948
117 V$JCTM 1010 1015 1527
101 V$JNAM 1581
170 V$JOP 402 787
102 V$LCNT 833 1040 1043
150 V$LUNT 1712
171 V$LUT1 643 654 773 817 1375 1471 1485 1795 1799
1884 1924
172 V$LUT2 1805 1809
173 V$LUT3 1814 1818
112 V$PLCT 832 1042
1923 V$SOLO 617
330 X 354 356 358 378 382 396 411 418 425
429 431 439 441 443 449 461 494 498
502 505 512 594 617 623 644 647 655
676 707 734 748 800 809 812 843 877
879 887 891 905 907 961 976 980 983
992 1004 1033 1034 1049 1051 1055 1063 1065
1091 1093 1113 1126 1128 1150 1157 1168 1195
1197 1212 1222 1233 1242 1252 1253 1280 1286
1291 1298 1303 1310 1336 1341 1344 1355 1372
1386 1387 1391 1394 1397 1409 1441 1445 1472
1474 1476 1478 1489 1492 1497 1512 1517 1523
1524 1534 1536 1617 1636 1649 1672 1673 1679
1692 1701 1706 1710 1711 1713 1720 1726 1757
1785 1830 1860 1909 1925 1928 1932
1586 ZCT 1459
627 ZTY 1456

```
000001 A     1 VORTEX SET     1                PUT LAST FOR VORTEX                    V2  04 00001
             2 *THIS IS A COPYRIGHTED PROGRAM.COPYRIGHT 1972 BY VARIAN DATA MACHINEV2  04 00002
             3 *                                                                        04 00003
             4 *     V.D.M.  PART  NO.        92L0205-003D                              04 00004
             5 *                                                                        04 00005
             6 *                                          RELEASED    03/01/74          04 00006
             7 *                                                                        04 00007
             8 *               VSFMAIN                                                  04 00008
             9 *                                                                        04 00009
            10 *                                                                        04 00010
            11         TITLE   VSFMAIN                                                 04 00011
            12 ************************************************************************ 04 00012
            13 *                                                                      * 04 00013
            14 *             F I L E   M A I N T E N A N C E ( F M A I N )            * 04 00014
            15 *                                                                      * 04 00015
            16 * FUNCTION: THIS IS THE FILE MAINTENANCE PROGRAM OF THE VARIAN         * 04 00016
            17 *           VDM 620/F REAL-TIME OPERATING SYSTEM. IT ACCEPTS THE       * 04 00017
            18 *           FOLLOWING COMMANDS FROM THE SI DEVICE:                     * 04 00018
            19 *                                                                      * 04 00019
            20 *              CREATE,LUN,KEY,NAME,RECORD SIZE(WORDS),FILE SIZE(RECS)  * 04 00020
            21 *              DELETE,LUN,KEY,NAME                                     * 04 00021
            22 *              RENAME,LUN,KEY,OLD NAME,NEW NAME                        * 04 00022
            23 *              ENTER ,LUN,KEY,OLD NAME,NEW NAME                        * 04 00023
            24 *              LIST  ,LUN,KEY                                          * 04 00024
            25 *              INIT  ,LUN,KEY                                          * 04 00025
            26 *              ADD   ,LUN,KEY                                            04 00026
            27 *              INPUT ,LUN,KEY,NAME                                       04 00027
            28 *                                                                      * 04 00028
            29 * ENTRY: NO SPECIAL CONDITIONS                                        * 04 00029
            30 *                                                                      * 04 00030
            31 * EXIT : TO JCP UPON ENTRY OF A RECORD WITH 1ST CHAR='/'               * 04 00031
            32 *                                                                      * 04 00032
            33 * ERRORS: ERROR N PRINTS 'FMON' ON SO DEVICE, WHERE N MEANS:          * 04 00033
            34 *                                                                      * 04 00034
            35 *          N=1 INVALID MAINTENANCE COMMAND                             * 04 00035
            36 *             2 NAME ALREADY IN DIRECTORY                              * 04 00036
            37 *             3 NAME NOT FOUND IN DIRECTORY                            * 04 00037
            38 *             4 INSUFFICIENT SPACE FOR ENTRY                           * 04 00038
            39 *             5 I/O ERROR                                              * 04 00039
            40 *             6 DIRECTORY STRUCTURE ERROR                              * 04 00040
            41 *             7 CHECK-SUM ERROR                                          04 00041
            42 *             8 NO ENTRY NAME                                            04 00042
            43 *             9 RECORD SIZE ERROR                                        04 00043
            44 *             10 LOADER CODE ERROR                                       04 00044
            45 *             11 SEQUENCE ERROR                                          04 00045
            46 *             12 STRUCTOR ERROR                                          04 00046
            47 *             13 INPUT LUN NOT SPECIFIED                                 04 00047
            48 *             14 SPACE IN MEMORY EXHAUSTED                               04 00048
            49 *                                                                      * 04 00049
            50 *          FMAIN THEN INPUTS A RECORD FROM THE SO DEVICE, TESTS THE    * 04 00050
            51 *          1ST CHARACTER, AND EXITS THUS:                              * 04 00051
            52 *                                                                      * 04 00052
            53 *               '/'  EXIT TO JCP                                       * 04 00053
            54 *               'C' CONTINUE FMAIN COMMAND INPUT FROM SI DEVICE        * 04 00054
            55 *                                                                      * 04 00055
            56 *          I/O ERRORS DURING ERROR PROCESSING FORCE A RETURN TO THE    * 04 00056
            57 *          SYSTEM THRU VORTEX MACRO 'ABORT'.                           * 04 00057
            58 *                                                                      * 04 00058
            59 ************************************************************************ 04 00059
            61 ***********                                                             04 00061
            62 * ENTRIES *                                                             04 00062
            63 ***********                                                             04 00063
            64         NAME    FMAIN                                                  04 00064
            65         NAME    FMBA                                                   04 00065
            66         NAME    FMBF                                                   04 00066
            67         NAME    FMCR                                                   04 00067
            68         NAME    FMEN                                                   04 00068
            69         NAME    FMLF                                                   04 00069
            70         NAME    FMMV                                                   04 00070
            71         NAME    FMPT                                                   04 00071
            72         NAME    FMRR                                                   04 00072
            73         NAME    FMVH                                                   04 00073
            74         NAME    FMWL                                                   04 00074
            75         NAME    FMWLI          INITIALIZE LO OUTPUT                    04 00075
            76         NAME    FMWR                                                   04 00076
            78 *************                                                           04 00078
            79 * EXTERNALS *                                                          04 00079
            80 *************                                                           04 00080
            81         EXT     VSEXEC         SYSTEM ENTRY                            04 00081
            82         EXT     VSIOC          IOCS ENTRY ADDRESS                      04 00082
            83         EXT     VSIOST                                                 04 00083
            85 *************                                                           04 00085
            86 * SET BLOCK *                                                          04 00086
            87 *************                                                           04 00087
000002 A    88 B       SET     2              B-REGISTER                              04 00088
000001 A    89 X       SET     1              X-REGISTER                              04 00089
            90         FJEC                                                           04 00090
            91 ************************************************************************ 04 00091
            92 ****     TIDB SETUP                                                 *** 04 00092
            93 *                                                                      04 00093
            94 ************************************************************************ 04 00094
000000 A    96 TBTRD   EQU     0              TASK THREAD                             04 00096
000001 A    97 TBST    EQU     1              TASK STATUS                             04 00097
```

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000002 A    98 TBPL    EQU      2                                                                    04 00098
000003 A    99 TBEVNT  EQU      3                                                                    04 00099
000004 A   100 TBRSA   EQU      4                                                                    04 00100
000005 A   101 TBRSB   EQU      5                                                                    04 00101
000006 A   102 TBRSX   EQU      6                                                                    04 00102
000007 A   103 TBRSP   EQU      7                                                                    04 00103
000010 A   104 TBRSTS  EQU      8                                                                    04 00104
000011 A   105 TBENTY  EQU      9                                                                    04 00105
000012 A   106 TBTMS   EQU      10                                                                   04 00106
000013 A   107 TBTMIN  EQU      11                                                                   04 00107
000014 A   108 TBISA   EQU      12                                                                   04 00108
000015 A   109 TBISB   EQU      13                                                                   04 00109
000016 A   110 TBISX   EQU      14                                                                   04 00110
000017 A   111 TBISP   EQU      15                                                                   04 00111
000020 A   112 TBISRS  EQU      16                                                                   04 00112
000021 A   113 TBID    EQU      17                                                                   04 00113
000022 A   114 TBKN1   EQU      18                                                                   04 00114
000023 A   115 TBKN2   EQU      19                                                                   04 00115
000024 A   116 TBKN3   EQU      20                                                                   04 00116
000025 A   117 TBTLC   EQU      21                                                                   04 00117
000026 A   118 TBCPTH  EQU      22                                                                   04 00118
000027 A   119 TBATSK  EQU      23                                                                   04 00119
000030 A   120 TBRSE   EQU      24                                                                   04 00120
           121         EJEC                                                                         04 00121
           122 ********************************************************************************     04 00122
           123 *                                                                                    04 00123
           124 ****     TASK STATUS DESCRIPTION  (BIT SET WORD 1)                              ***  04 00124
           125 *                                                                                    04 00125
           126 ********************************************************************************     04 00126
000017 A   128 TBS15   EQU      15              INTERRUPT SUSPEND                                    04 00128
000016 A   130 TBS14   EQU      14              TASK SUSPEND                                         04 00130
000015 A   131 TBS13   EQU      13              TASK ABORT                                           04 00131
000014 A   132 TBS12   EQU      12              TASK EXIT                                            04 00132
000013 A   134 TBS11   EQU      11              TIDB CORE RESIDENT                                   04 00134
000012 A   135 TBS10   EQU      10              CORE RESIDENT TASK                                   04 00135
000011 A   136 TBS9    EQU      9               FOREGROUND TASK                                      04 00136
000010 A   138 TBS8    EQU      8               TASK PROTECTED                                       04 00138
000007 A   139 TBS7    EQU      7               TASK SCHEDULED BY TIME DELAY                         04 00139
000006 A   140 TBS6    EQU      6               TIME DELAY ACTIVE                                    04 00140
000005 A   142 TBS5    EQU      5               TASK WAITING TO BE LOADED                            04 00142
000004 A   143 TBS4    EQU      4               TASK ERROR                                           04 00143
000003 A   144 TBS3    EQU      3               TASK INTERRUPT EXPECTED                              04 00144
000002 A   146 TBS2    EQU      2               OVERLAY TASK                                         04 00146
000001 A   147 TBS1    EQU      1               UPON TERMINATION ACTIVATE TASK SCHED TASK            04 00147
000000 A   148 TBS0    EQU      0               TASK SEARCH-ALLOCATED-LOADED                         04 00148
           149         EJEC                                                                         04 00149
           150 ********************************************************************************     04 00150
           151 *                                                                                    04 00151
           152 ***      TASK STATUS DESCRIPTION  (BIT SET WORD 2)                              ***  04 00152
           153 *                                                                                    04 00153
           154 ********************************************************************************     04 00154
           156 *        BIT 15   -  TASK OPENED                                                     04 00156
           158 *        BIT 14   -  UNUSED                                                          04 00158
           159 *        BIT 13   -  OVERLAY LOAD                                                    04 00159
           160 *        BIT 12   -  TASK WAITING FOR BACKGROUND TASK I/O TO COMPLETE                04 00160
           161 *                    TASK LOCKED-OUT UNTIL BG I/O COMPLETE OR BIT 11                 04 00161
           162 *                    IS SET  (ALLOCATABLE SPACE AVAILABLE)                           04 00162
           164 *        BIT 11   -  DEFINES THAT ALLOCATABLE SPACE IS AVAILABLE, TRY                04 00164
           165 *                    ALLOCATING TASK AGAIN.  OVERRIDES BIT 12 SET OR                 04 00165
           166 *                    BIT 5 IN STATUS WORD.                                           04 00166
           167 *        BIT 10   -  BACKGROUND TASK BEING WRITTEN ON CHECKPOINT FILE.               04 00167
           168 *        BIT  9   -  TASK WAITING FOR A TIDB TO COME AVAILABLE FOR                   04 00168
           169 *                    SCHEDULING.                                                     04 00169
           171 *        BIT  8 TO 6  - UNUSED                                                       04 00171
           172         EJEC                                                                         04 00172
           173 ********************************************************************************     04 00173
           174 *                                                                                    04 00174
           175 ***      JOB PROCESSOR LOW CORE EQUATES                                         **   04 00175
           176 *                                                                                    04 00176
           177 ********************************************************************************     04 00177
000050 A   179 LCJP    EQU      050                                                                  04 00179
000050 A   180 V$JNAM  EQU      LCJP            JCP NAME                                             04 00180
000054 A   181 V$LCNT  EQU      LCJP+4          LINE COUNT                                           04 00181
000055 A   182 V$JCFG  EQU      LCJP+5          JCP FLAGS                                            04 00182
           183 *                                BIT 2-0    = LOAD AND GO FLAGS                       04 00183
           184 *                                BIT  3     = DUMP FLAG  1=DUMP, 0=NO DUMP            04 00184
           185 *                                BIT  4     = DUMP FLAG IF LOAD AND GO                04 00185
           186 *                                BIT 9-5    = UNUSED                                  04 00186
           187 *                                BIT 15-10  = BG EXTRA CORE BLOCKS TO ALLOC           04 00187
000056 A   189 V$BIC1  EQU      LCJP+6          BIC INTERRUPT ADDRESS TABLE  (10 WORDS)              04 00189
000070 A   190 V$DATE  EQU      LCJP+16         JCP DATE RECORD                                      04 00190
000074 A   191 V$PLCT  EQU      LCJP+20         PERMINATE LINE COUNT                                 04 00191
000075 A   192 V$BGLB  EQU      LCJP+21         JCP LIB KEY AND LU NO. (BACKGROUND LIB)              04 00192
000076 A   193 V$CRDM  EQU      LCJP+22         CARD KEYPUNCH TYPE, 0=026, 1=029                     04 00193
           194 *                                BIT 0 = SYSTEM NOMINAL KEYPUNCH MODE.                04 00194
           195 *                                BIT 9 = CURRENT JOB KEYPUNCH MODE.                   04 00195
000077 A   196 V$JCTM  EQU      LCJP+23         TEMP. STORAGE FOR /MEM BLOCK                         04 00196
           197         EJEC                                                                         04 00197
           198 ********************************************************************************     04 00198
           199 *                                                                                    04 00199
           200 ****     LOW CORE DESCRIPTION                                                   ***  04 00200
           201 *                                                                                    04 00201
           202 ********************************************************************************     04 00202
```

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000300 A  204 LC      EQU     0300                                                    04 00204
000300 A  205 V$CTL   EQU     LC                CURRENT TASK TIDB LOCATION            04 00205
000301 A  206 V$CPL   EQU     LC+1              CURRENT PRIORITY LEVEL                04 00206
000302 A  207 V$CRS   EQU     LC+2              CURRENT REENTRANT STACK POINTER       04 00207
000303 A  208 V$TB    EQU     LC+3              POINTER TO HIGHEST PRIORITY TIDB      04 00208
000304 A  209 V$UTB   EQU     LC+4              POINTER TO UNUSED TASK TIDB           04 00209
000305 A  210 V$PTVB  EQU     LC+5              POINTER TO NEXT ENTRY IN REENTRANT STACK 04 00210
000306 A  211 V$FLRS  EQU     LC+6              FIRST LOC. OF REENTRANT STACK         04 00211
000307 A  212 V$LRSK  EQU     LC+7              LAST LOC. OF REENTRANT STACK+1        04 00212
000310 A  213 V$CKPT  EQU     LC+8              CHECKPOINT FLAG 1=ON, 0=OFF           04 00213
000311 A  214 V$OPCL  EQU     LC+9              LOC. OF TIDB FOR OPCOM TASK           04 00214
000312 A  215 V$LSAL  EQU     LC+10             LOC. OF TIDB FOR SYSTEM SAL TASK      04 00215
000313 A  216 V$LER   EQU     LC+11             LOC. OF TIDB FOR SYSTEM ERROR TASK    04 00216
000314 A  217 V$TJCP  EQU     LC+12             LOC. OF TIDB FOR JOB CONTROL PROCESSOR TAS 04 00217
000315 A  218 V$BTB   EQU     LC+13             LOC. OF CURRENT ACTIVE BACKGROUND TSK TIDB 04 00218
000316 A  219 V$LUP   EQU     LC+14             LOC. OF 1ST UNPROTECTED WORD          04 00219
000317 A  220 V$LLUP  EQU     LC+15             LOC. OF LAST UNPROTECTED WORD         04 00220
000320 A  221 V$IM    EQU     LC+16             INTERRUPT MASK  (8 WORDS)             04 00221
000330 A  222 V$MPM   EQU     LC+24             MEMORY PROTECT MASK  (4 WORDS)        04 00222
000334 A  223 V$CAM   EQU     LC+28             CORE ALLOCATION MASK  (4 WORDS)       04 00223
          224 *       EQU     LC+32             UNUSED                                04 00224
000341 A  225 V$CRDR  EQU     LC+33             CORE RESIDENT DIRECTORY LOCATION      04 00225
000342 A  226 V$TBGT  EQU     LC+34             TOP OF THREAD OF BG TSK WAITING TO BE ALLO 04 00226
000343 A  227 V$TMS   EQU     LC+35             TIME OF DAY IN 5 MILLISECOND INCREMENTS 04 00227
000344 A  228 V$TMN   EQU     LC+36             TIME OF DAY IN MINUTE INCREMENTS      04 00228
000345 A  229 V$LUNT  EQU     LC+37             ADDR. OF LOGICAL UNIT NAME TABLE      04 00229
000346 A  230 V$OPCF  EQU     LC+38             OPCOM LOCKOUT FLAG                    04 00230
000347 A  231 V$FGLB  EQU     LC+39             KEY AND LU NO. FOR FOREGROUND LIB     04 00231
000350 A  232 V$FREE  EQU     LC+40             FREE RUNNING COUNTER INCR. IN MICROSECONDS 04 00232
000351 A  233 V$CTMS  EQU     LC+41             CLOCK RESOLUTION IN 5 MILLISECOND INCR. 04 00233
000352 A  234 V$SCV   EQU     LC+42             CLOCK SELECTED COUNT VALUE (1 TO 4095) 04 00234
000353 A  235 V$CKB   EQU     LC+43             BASIC CLOCK INTERRUPT RATE IN MICROSECONDS 04 00235
000354 A  236 V$CRM   EQU     LC+44             CLOCK RESOLUTION INCR. FOR 1 MINUTE.  04 00236
000355 A  237 V$DSTB  EQU     LC+45             BASE ADDR. FOR DST BLOCK              04 00237
000356 A  238 V$LIT   EQU     LC+46             LAST LOCATION OF BACKGROUND LITERAL TABLE 04 00238
          239 *       EQU     LC+47             UNUSED                                04 00239
000360 A  240 V$CTAD  EQU     LC+48             BASE ADDR. FOR CONTROLLER ADDR. TABLE  04 00240
000361 A  241 V$SCTL  EQU     LC+49             CURRENT CONTROLLER IN SCAN            04 00241
000362 A  242 V$NCTR  EQU     LC+50             NO. OF CONTROLLERS                    04 00242
000363 A  243 V$PIMN  EQU     LC+51             EXTERNAL DEVICE ADDRESS TABLE FOR PIMS 04 00243
          244 *                                 (8 WORDS DEFINED IN PIM NO ORDER)     04 00244
          245 *       EQU     LC+59             UNUSED                                04 00245
          246 *       EQU     LC+60             UNUSED                                04 00246
000375 A  247 V$SLFG  EQU     LC+61             SAL TASK BUSY FLAG     1=BUSY, 0=NOT BUSY 04 00247
000376 A  248 V$ERFG  EQU     LC+62             ERROR TASK BUSY FLAG   1=BUSY, 0=NOT BUSY 04 00248
000377 A  249 V$JOP   EQU     LC+63             JCP OPERATING FLAG                    04 00249
000400 A  250 V$LUT1  EQU     LC+64             START LUN ADDR FOR JCP/OPCOM ASSIGNABLE 04 00250
000401 A  251 V$LUT2  EQU     LC+65             START LUN ADDR FOR UNASSIGNABLE       04 00251
000402 A  252 V$LUT3  EQU     LC+66             START LUN ADDR FOR OPCOM ASSIGNABLE   04 00252
000403 A  253 V$1MIN  EQU     LC+67             32767 - (60000/(5*V$CTMS)) + 1        04 00253
          254 *       EQU     LC+68             UNUSED                                04 00254
          255 *       EQU     LC+69             UNUSED                                04 00255
          256 *       EQU     LC+70             UNUSED                                04 00256
          257 *       EQU     LC+71             UNUSED                                04 00257
000410 A  258 V$IOA   EQU     LC+72             I/O ALGORITHM                         04 00258
000411 A  259 V$CKIT  EQU     LC+73             CLOCK INT. IN PIM BEFORE LOCKOUT FLAG. 04 00259
000412 A  260 V$JCB   EQU     LC+74             ALL SYSTEM BACKGROUND PROGRAMS AND JCP USE 04 00260
          261 *                                 THIS SYSTEM BUFFER TO READ DIRECTIVES AND 04 00261
          262 *                                 SOURCE RECORDS IN.                    04 00262
000413 A  263 V$OCB   EQU     LC+75             OPCOM WILL READ OPERATOR KEY-IN REQUESTS 04 00263
          264 *                                 IN THIS BUFFER.  IF JCP IS SET NOT ACTIVE 04 00264
          265 *                                 AND A 1 DIRECTIVE IS INPUTED, OPCOM   04 00265
          266 *                                 WILL MOVE THE DIRECTIVE TO V$JCB BEFORE 04 00266
          267 *                                 SCHEDULING JCP.                       04 00267
000414 A  268 V$BVN   EQU     LC+76             BOTTOM OF VORTEX NUCLEUS              04 00268
000415 A  269 V$BFC   EQU     LC+77             TOP OF FG RES. AREA/BOTTOM OF FG BLK COMM. 04 00269
000416 A  270 V$TFC   EQU     LC+78             TOP OF FG BLK COMMON/TOP OF VORTEX CORE. 04 00270
          271 *       EQU     LC+79             UNUSED                                04 00271
          272         EJEC                                                          04 00272
          273 ********************************************************************** 04 00273
          274 *                                                                     04 00274
          275 ****    MASK TABLE DESCRIPTION                                   *** 04 00275
          276 *                                                                     04 00276
          277 ********************************************************************** 04 00277
000420 A  279 MT      SET     0420                                                  04 00279
000420 A  280 ZERO    EQU     MT                ZERO WORD                           04 00280
000421 A  281 BS0     EQU     MT+1              BIT MASK CONTENTS 000001            04 00281
000422 A  282 BS1     EQU     MT+2                                000002            04 00282
000423 A  283 BS2     EQU     MT+3                                000004            04 00283
000424 A  284 BS3     EQU     MT+4                                000010            04 00284
000425 A  285 BS4     EQU     MT+5                                000020            04 00285
000426 A  286 BS5     EQU     MT+6                                000040            04 00286
000427 A  287 BS6     EQU     MT+7                                000100            04 00287
000430 A  288 BS7     EQU     MT+8                                000200            04 00288
000431 A  289 BS8     EQU     MT+9                                000400            04 00289
000432 A  290 BS9     EQU     MT+10                               001000            04 00290
000433 A  291 BS10    EQU     MT+11                               002000            04 00291
000434 A  292 BS11    EQU     MT+12                               004000            04 00292
000435 A  293 BS12    EQU     MT+13                               010000            04 00293
000436 A  294 BS13    EQU     MT+14                               020000            04 00294
000437 A  295 BS14    EQU     MT+15                               040000            04 00295
000440 A  296 BS15    EQU     MT+16                              0100000            04 00296
000441 A  297 BR0     EQU     MT+17             BIT MASK CONTENTS  0177776          04 00297
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000442 A  298 BR1     EQU     MT+18                0177775                 04 00298
000443 A  299 BR2     EQU     MT+19                0177773                 04 00299
000444 A  300 BR3     EQU     MT+20                0177767                 04 00300
000445 A  301 BR4     EQU     MT+21                0177757                 04 00301
000446 A  302 BR5     EQU     MT+22                0177737                 04 00302
000447 A  303 BR6     EQU     MT+23                0177677                 04 00303
000450 A  304 BR7     EQU     MT+24                0177577                 04 00304
000451 A  305 BR8     EQU     MT+25                0177377                 04 00305
000452 A  306 BR9     EQU     MT+26                0176777                 04 00306
000453 A  307 BR10    EQU     MT+27                0175777                 04 00307
000454 A  308 BR11    EQU     MT+28                0173777                 04 00308
000455 A  309 BR12    EQU     MT+29                0167777                 04 00309
000456 A  310 BR13    EQU     MT+30                0157777                 04 00310
000457 A  311 BR14    EQU     MT+31                0137777                 04 00311
000460 A  312 BR15    EQU     MT+32                0077777                 04 00312
000461 A  313 NEG     EQU     MT+33  SET ALL BITS                          04 00313
000462 A  314 LHW     EQU     MT+34  LEFT HALF WORD MASK 0177400           04 00314
000463 A  315 RHW     EQU     MT+35  RIGHT HALF WORD MASK    0377          04 00315
000421 A  316 ONE     EQU     MT+1   CONTAINS NUMBER  1                    04 00316
000422 A  317 TWO     EQU     MT+2   CONTAINS NUMBER  2                    04 00317
000464 A  318 THREE   EQU     MT+36  CONTAINS NUMBER  3                    04 00318
000423 A  319 FOUR    EQU     MT+3   CONTAINS NUMBER  4                    04 00319
000465 A  320 FIVE    EQU     MT+37  CONTAINS NUMBER  5                    04 00320
000466 A  321 SIX     EQU     MT+38  CONTAINS NUMBER  6                    04 00321
000467 A  322 SEVEN   EQU     MT+39  CONTAINS NUMBER  7                    04 00322
000424 A  323 EIGHT   EQU     MT+4   CONTAINS NUMBER  8                    04 00323
000470 A  324 NINE    EQU     MT+40  CONTAINS NUMBER  9                    04 00324
000471 A  325 TEN     EQU     MT+41  CONTAINS NUMBER 10                    04 00325
000421 A  326 BM1     EQU     MT+1   BIT MASK WORD 00001                   04 00326
000464 A  327 BM3     EQU     MT+36  BIT MASK WORD  00003                  04 00327
000467 A  328 BM7     EQU     MT+39  BIT MASK WORD  00007                  04 00328
000472 A  329 BM17    EQU     MT+42  BIT MASK WORD  00017                  04 00329
000473 A  330 BM37    EQU     MT+43  BIT MASK WORD  00037                  04 00330
000474 A  331 BM77    EQU     MT+44  BIT MASK WORD  00077                  04 00331
000475 A  332 BM177   EQU     MT+45  BIT MASK WORD  00177                  04 00332
000463 A  333 BM377   EQU     MT+35  BIT MASK WORD  00377                  04 00333
000476 A  334 BM777   EQU     MT+46  BIT MASK WORD  00777                  04 00334
000477 A  335 BM1777  EQU     MT+47  BIT MASK WORD  01777                  04 00335
          336         EJEC                                               04 00336
          337 ********************************************************** 04 00337
          338 *                                                          04 00338
          339 ****    BIT TEST BIT DESIGNATION                       *** 04 00339
          340 *                                                          04 00340
          341 ********************************************************** 04 00341
000040 A  343 RA0     EQU     040            BT JUMPS WHEN A REGISTER IS 0 04 00343
000000 A  344 RA1     EQU     000            BT JUMPS WHEN A REGISTER IS 1 04 00344
000060 A  345 RB0     EQU     060            BT JUMPS WHEN B REGISTER IS 0 04 00345
000020 A  346 RB1     EQU     020            BT JUMPS WHEN B REGISTER IS 1 04 00346
          348 ********************************************************** 04 00348
          349 *                                                          04 00349
          350 **      THE BIT CHECKED                                     04 00350
          351 *                                                          04 00351
          352 ********************************************************** 04 00352
000000 A  354 B0      EQU     0                                          04 00354
000001 A  355 B1      EQU     1                                          04 00355
000002 A  356 B2      EQU     2                                          04 00356
000003 A  357 B3      EQU     3                                          04 00357
000004 A  358 B4      EQU     4                                          04 00358
000005 A  359 B5      EQU     5                                          04 00359
000006 A  360 B6      EQU     6                                          04 00360
000007 A  361 B7      EQU     7                                          04 00361
000010 A  362 B8      EQU     8                                          04 00362
000011 A  363 B9      EQU     9                                          04 00363
000012 A  364 B10     EQU     10                                         04 00364
000013 A  365 B11     EQU     11                                         04 00365
000014 A  366 B12     EQU     12                                         04 00366
000015 A  367 B13     EQU     13                                         04 00367
000016 A  368 B14     EQU     14                                         04 00368
000017 A  369 B15     EQU     15                                         04 00369
          370         EJEC                                               04 00370
          371 ********************************************************** 04 00371
          372 *                                                          04 00372
          373 ****    DEVICE AND FUNCTION CODES                      *** 04 00373
          374 *                                                          04 00374
          375 ********************************************************** 04 00375
          377 ****    REAL TIME CLOCK                                *** 04 00377
000047 A  378 CLOCK   EQU     047            DEVICE NUMBER 047           04 00378
          379 *                                                          04 00379
000747 A  380 DISCLK  EQU     0700+CLOCK     DISABLE CLOCK               04 00380
000147 A  381 ENACLK  EQU     0100+CLOCK     ENABLE CLOCK                04 00381
          383 *                                                          04 00383
          384 ****    PIM                                            *** 04 00384
000044 A  385 APIM    EQU     044            ALL PIMS DEVICE NUMBER      04 00385
000040 A  386 PIM1    EQU     040                                        04 00386
000041 A  387 PIM2    EQU     041                                        04 00387
000042 A  388 PIM3    EQU     042                                        04 00388
000043 A  389 PIM4    EQU     043                                        04 00389
000040 A  390 PIM5    EQU     040                                        04 00390
000040 A  391 PIM6    EQU     040                                        04 00391
000040 A  392 PIM7    EQU     040                                        04 00392
000040 A  393 PIM8    EQU     040                                        04 00393
          394 *                                                          04 00394
000444 A  395 DISPIM  EQU     0400+APIM                                  04 00395
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000244 A   396 ENAPIM EQU     0200+APIM                                                          04 00396
           398 ****      MEMORY PROTECT                                                  ***  04 00398
000045 A   399 MP      EQU     045            DEVICE ADDRESS 045                           04 00399
000745 A   400 DISMP   EQU     0700+MP        DISABLE MEMORY PROTECT                       04 00400
000645 A   401 ENAMP   EQU     0600+MP        ENABLE MEMORY PROTECT                        04 00401
000045 A   402 MPMR0   EQU     0000+MP        SELECT MASK REGISTER 0                       04 00402
000145 A   403 MPMR1   EQU     0100+MP        SELECT MASK REGISTER 1                       04 00403
000245 A   404 MPMR2   EQU     0200+MP        SELECT MASK REGISTER 2                       04 00404
000345 A   405 MPMR3   EQU     0300+MP        SELECT MASK REGISTER 3                       04 00405
           406         EJEC                                                               04 00406
           407 ***************************************************************************04 00407
           408 *                                                                         * 04 00408
           409 *            F I L E   M A I N T E N A N C E ( F M A I N )                * 04 00409
           410 *                                                                         * 04 00410
           411 * FUNCTION: FMAIN INPUTS/EXECUTES COMMANDS FROM THE SI DEVICE            * 04 00411
           412 *                                                                         * 04 00412
           413 * ENTRY: DIRECT FROM JCP                                                  * 04 00413
           414 *                                                                         * 04 00414
           415 * EXIT : DIRECT TO JCP                                                    * 04 00415
           416 *                                                                         * 04 00416
           417 * ERRORS: FM01 ON INVALID COMMAND                                         * 04 00417
           418 *         FM05 ON I/O ERROR                                               * 04 00418
           419 *                                                                         * 04 00419
           420 ***************************************************************************04 00420
           422 ***************                                                            04 00422
           423 * INITIALIZE *                                                            04 00423
           424 ***************                                                            04 00424
000000 006030 A   425 FMAIN  LDXI    SIFCB          POINT X AT SI SYSTEM FCB             04 00425
000001 000000 E
000002 015005 A   426        LDA     5,X                                                 04 00426
000003 001010 A   427        JAZ     FMA            IS SYSTEM SI FCB ACTIVE ?            04 00427
000004 000016 R
000005 074053 A   428        STX     FM1+4          YES. STORE ADDRESS IN READ CALL      04 00428
000006 014504 A   429        LDA     FMSII                                               04 00429
000007 055000 A   430        STA     0,X            STORE BUFFER SIZE=40 WORDS IN FCB    04 00430
000010 014503 A   431        LDA     FMSII+1                                             04 00431
000011 055001 A   432        STA     1,X            STORE BUFFER ADDRESS IN SYSTEM FCB   04 00432
000012 015002 A   433        LDA     2,X                                                 04 00433
000013 150463 A   434        ANA     RHW            SET MODE =1                      C   04 00434
000014 110431 A   435        ORA     BS8                                             C   04 00435
000015 055002 A   436        STA     2,X                                                 04 00436
000016 006505 A   437 FMA    JSR     FMVHI,X        INITIALIZE HEADER                    04 00437
000017 005120 R
000020 000472 R   438        DATA    FMLC                                                04 00438
000021 006505 A   439        JSR     FMWLI,X        INITIALIZE LO OUTPUT                 04 00439
000022 005166 R
000023 006505 A   440        JSR     V$SOLO,X       CHECK IF SO=LO                       04 00440
000024 005651 R
000025 054724 A   441        STA     FMSLSW         LOAD SO/LO SWITCH                    04 00441
000026 010422 A   442        LDA     TWO                                                 04 00442
000027 006505 A   443        JSR     V$DVTP,X       CHECK IF SI IS TTY OR CRT            04 00443
000030 005621 R
000031 054443 A   444        STA     FMTFL          LOAD TTY/CRT FLAG                    04 00444
           445 ******************                                                       04 00445
           446 * NORMAL REENTRY *                                                       04 00446
           447 ******************                                                       04 00447
000032 002000 A   448 FML1   CALL    FMHC           HEADER CHECK                         04 00448
000033 000444 R
000034 014440 A   449        LDA     FMTFL                                               04 00449
000035 001016 A   450        JANZ    FM1            IS SI TTY OR CRT ?                   04 00450
000036 000055 R
           451 FM0     WRITE   FMTDCB,2,0,1   YES. OUTPUT 'FM**'                        04 00451
000037 006505 A
000040 000404 A
000041 100000 A
000042 010402 A
000043 000505 R
000044 000000 A
000045 000000 A
           452         STAT    FM0,FME5,FME5,FME5,FME5                                  04 00452
000046 006505 A
000047 000373 A
000050 000037 A
000051 000441 R
000052 000441 R
000053 000441 R
000054 000441 R
           453 FM1     READ    FMSII,2,0,1            READ/COMPLETE/ASCII/SI            04 00453
000055 006505 A
000056 000404 A
000057 100000 A
000060 010002 A
000061 000513 R
000062 000000 A
000063 000000 A
           454         STAT    FM1,FME5,FME5,FME5,FME5                                  04 00454
000064 006505 A
000065 000373 A
000066 000055 R
000067 000441 R
000070 000441 R
000071 000441 R
000072 000441 R
```

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                        455 ************************                                                    04 00455
                        456 * TEST FOR '/' RECORD *                                                    04 00456
                        457 ************************                                                    04 00457
000073 017000 I         458         LDA     FMBF        GET 1ST BUFFER WORD                           04 00458
000074 004550 A         459         LLSR    8           GET FIRST CHAR IN A                           04 00459
000075 006140 A         460         SUBI    '/'                                                       04 00460
000076 000257 A
000077 027000 I         461         LDB     FM1+5       GET INPUT WORD COUNT                          04 00461
000100 001010 A         462         JAZ     FMEXIT      EXIT ON A '/' COMMAND                         04 00462
000101 000677 R
                        463 ******************                                                          04 00463
                        464 * ERROR REENTRY *                                                         04 00464
                        465 ******************                                                          04 00465
000102 064416 A         466 FME     STB     FMBSZ       STORE INPUT WORD COUNT                        04 00466
000103 005122 A         467         IBR                                                               04 00467
000104 064411 A         468         STB     FMLOE       STORE WORD COUNT IN ECHO DCB                  04 00468
000105 005001 A         469         TZA                                                               04 00469
000106 054414 A         470         STA     FMBP        CLEAR BUFFER POINTER FMBP                     04 00470
                        471 ********************************                                        04 00471
                        472 * ECHO COMMAND ON LO DEVICE *                                            04 00472
                        473 ********************************                                        04 00473
000107 014642 A         474         LDA     FMSLSW                                                    04 00474
000110 001010 A         475         JAZ     FMI         DON'T ECHO IF SO=LO                           04 00475
000111 000120 R
000112 006505 A         476         JSR     FMWL,X                                                    04 00476
000113 005342 R
000114 000516 R         477         DATA    FMLOE                                                     04 00477
000115 000472 R         478         DATA    FMLC                                                      04 00478
000116 001016 A         479         JANZ    FMER        CHECK I/O ERROR                               04 00479
000117 000570 R
                        480 ********************************                                        04 00480
                        481 * INPUT AND IDENTIFY COMMAND *                                           04 00481
                        482 ********************************                                        04 00482
000120 017000 I         483 FMI     LDA     FMBF                                                      04 00483
000121 004550 A         484         LLSR    8           GET 1ST CHAR                                  04 00484
000122 006140 A         485         SUBI    0240                                                      04 00485
000123 000240 A
000124 001010 A         486         JAZ     FME1        ERROR 1/1ST CHAR BLANK/                       04 00486
000125 000436 R
000126 006505 A         487         JSR     FMNA,X      INPUT NAME INTO BLOCK FMP1                    04 00487
000127 004076 R
000130 000521 R         488         DATA    FMSCB                                                     04 00488
000131 000557 R         489         DATA    FMP1                                                      04 00489
000132 006010 A         490         LDAI    FMIDT-3                                                   04 00490
000133 000522 R
000134 054014 A         491         STA     FMII2       INITIALIZE ID TABLE POINTER                   04 00491
000135 005301 A         492         DECR    1                                                         04 00492
000136 054330 A         493         STA     FMCI        INITIALIZE COMMAND INDEX                      04 00493
000137 044327 A         494 FMIIL1  INR     FMCI        BUMP INDEX                                    04 00494
000140 014010 A         495         LDA     FMII2                                                     04 00495
000141 120464 A         496         ADD     THREE       BUMP TABLE POINTER                            04 00496
000142 054006 A         497         STA     FMII2                                                     04 00497
000143 006140 A         498         SUBI    FMIDE       TEST FOR END OF TABLE                         04 00498
000144 000555 R
000145 001002 A         499         JAP     FME1        ERROR 1/INVALID COMMAND/                      04 00499
000146 000436 R
000147 006505 A         500         JSR     FMCN,X      COMPARE COMMAND WITH ID TABLE                 04 00500
000150 001132 R
000151                  501 FMII2   BSS     1           POINTER TO ID TABLE                           04 00501
000152 000557 R         502         DATA    FMP1        POINTER TO NAME                               04 00502
000153 001007 A         503         JOFN    FMIIL1      LOOP TILL DONE                                04 00503
000154 000137 R
                        504 ********************************                                        04 00504
                        505 * INPUT LOGICAL UNIT NUMBER *                                           04 00505
                        506 ********************************                                        04 00506
000155 006505 A         507         JSR     FMNB,X      SLEW TO NON-BLANK                             04 00507
000156 004133 R
000157 000521 R         508         DATA    FMSCB                                                     04 00508
000160 064312 A         509         STB     FMT         SAVE 1ST CHAR                                 04 00509
000161 014341 A         510         LDA     FMBP                                                      04 00510
000162 005311 A         511         DAR                 BACK UP SCAN                                  04 00511
000163 054337 A         512         STA     FMBP                                                      04 00512
000164 054307 A         513         STA     FMT+1                                                     04 00513
000165 006505 A         514         JSR     FMNA,X      INPUT LUN STRING TO FMP3                      04 00514
000166 004076 R
000167 000521 R         515         DATA    FMSCB                                                     04 00515
000170 000565 R         516         DATA    FMP3                                                      04 00516
000171 014301 A         517         LDA     FMT                                                       04 00517
000172 006140 A         518         SUBI    0260                                                      04 00518
000173 000260 A
000174 001004 A         519         JAN     *+5                                                       04 00519
000175 000201 R
000176 140471 A         520         SUB     TEN                                                       04 00520
000177 001004 A         521         JAN     FM2         IS LUN FIELD NUMERIC ?                        04 00521
000200 000221 R
000201 030345 A         522         LDX     V$LUNT      NO. PROCESS AS NAME                           04 00522
                        523 ************************************                                    04 00523
                        524 * LOG UNIT IS NAME - SCAN TABLE *                                       04 00524
                        525 ************************************                                    04 00525
000202 015000 A         526 FML3    LDA     0,X         GET NAME FROM TABLE                           04 00526
000203 001010 A         527         JAZ     FME1        ERROR 1/NO SUCH NAME/                         04 00527
000204 000436 R
000205 006617 A         528         SRE     FMP3,7,010  COMPARE WITH DIRECTIVE                        04 00528
```

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000206 000565 R
000207 001000 A  529          JMP     *+6             EQUAL ?                                  04 00529
000210 000215 R
000211 015001 A  530          LDA     1,X             YES. GET LUN IN BINARY                   04 00530
000212 054342 A  531          STA     FMLUN           STORE IN COMMAND BLOCK                   04 00531
000213 001000 A  532          JMP     FMK                                                      04 00532
000214 000227 R
000215 005144 A  533          IXR                     NOT EQUAL                                04 00533
000216 005144 A  534          IXR                     BUMP TABLE POINTER X                     04 00534
000217 001000 A  535          JMP     FML3            CONTINUE COMPARE LOOP                    04 00535
000220 000202 R
                 536 **************************                                               04 00536
                 537 * LOG UNIT IS NUMBER *                                                   04 00537
                 538 **************************                                               04 00538
000221 014252 A  539 FM2      LDA     FMT+1                                                    04 00539
000222 054300 A  540          STA     FMBP            RESTORE SCAN POINTER                     04 00540
000223 006505 A  541          JSR     FMNU,X          INPUT NUMERIC FIELD                      04 00541
000224 004253 R
000225 000521 R  542          DATA    FMSCB                                                    04 00542
000226 000555 R  543          DATA    FMLUN                                                    04 00543
                 544 **************                                                           04 00544
                 545 * INPUT KEY *                                                           04 00545
                 546 **************                                                           04 00546
000227 005001 A  547 FMK      TZA                                                              04 00547
000230 054325 A  548          STA     FMKEY           INITIALIZE KEY TO ZERO                   04 00548
000231 006505 A  549          JSR     FMNB,X          INPUT NON-BLANK                          04 00549
000232 004133 R
000233 000521 R  550          DATA    FMSCB                                                    04 00550
000234 001016 A  551          JANZ    FME1            ERROR 1/ILLEGAL CHAR/                    04 00551
000235 000436 R
000236 005021 A  552          TBA                                                              04 00552
000237 001004 A  553          JAN     FM4             EXIT ON EOL                              04 00553
000240 000300 R
000241 144226 A  554          SUB     FMCOM                                                    04 00554
000242 001010 A  555          JAZ     FM3             COMMA ?                                  04 00555
000243 000264 R
000244 144224 A  556          SUB     FMEQMC                                                   04 00556
000245 001010 A  557          JAZ     FM3             '=' ?                                    04 00557
000246 000264 R
000247 064306 A  558          STB     FMKEY           NO. STORE KEY                            04 00558
000250 006505 A  559          JSR     FMNB,X          SCAN PAST KEY                            04 00559
000251 004133 R
000252 000521 R  560          DATA    FMSCB                                                    04 00560
000253 005021 A  561          TBA                                                              04 00561
000254 001004 A  562          JAN     FM4             TEST FOR EOL                             04 00562
000255 000300 R
000256 144211 A  563          SUB     FMCOM                                                    04 00563
000257 001010 A  564          JAZ     FM3             TEST FOR COMMA                           04 00564
000260 000264 R
000261 144207 A  565          SUB     FMEQMC          TEST FOR '='                             04 00565
000262 001016 A  566          JANZ    FME1            ERROR 1/ILLEGAL TERMINATOR/              04 00566
000263 000436 R
                 567 ********************************                                         04 00567
                 568 * INPUT FILE NAME AFTER KEY *                                           04 00568
                 569 ********************************                                         04 00569
000264 006505 A  570 FM3      JSR     FMNA,X          INPUT FILE NAME INTO FMP1                04 00570
000265 004078 R
000266 000521 R  571          DATA    FMSCB                                                    04 00571
000267 000557 R  572          DATA    FMP1                                                     04 00572
000270 001016 A  573          JANZ    FME1            ERROR 1/ILLEGAL CHAR/                    04 00573
000271 000436 R
000272 001007 A  574          JOFN    FM6             TEST COMMAND END                         04 00574
000273 000317 R
000274 014172 A  575          LDA     FMCI                                                     04 00575
000275 140467 A  576          SUB     SEVEN                                                    04 00576
000276 001010 A  577          JAZ     FME1            ERROR 1/'INPUT'/                         04 00577
000277 000436 R
                 578 ************************************                                     04 00578
                 579 * COMMAND BLANK AFTER KEY FIELD *                                       04 00579
                 580 ************************************                                     04 00580
000300 014166 A  581 FM4      LDA     FMCI                                                     04 00581
000301 140423 A  582          SUB     FOUR                                                     04 00582
000302 001016 A  583          JAZ     FMZ             'LIST' OK                                04 00583
000303 000417 R
000304 005311 A  584          DAR                                                              04 00584
000305 001010 A  585          JAZ     FMZ             'INIT' OK                                04 00585
000306 000417 R
000307 005311 A  586          DAR                                                              04 00586
000310 001010 A  587          JAZ     FMZ             'ADD' OK                                 04 00587
000311 000417 R
000312 005311 A  588          DAR                                                              04 00588
000313 001010 A  589          JAZ     FMZ             'INPUT' OK                               04 00589
000314 000417 R
000315 001000 A  590          JMP     FME1            ERROR 1/ILLEGAL COMMAND/                 04 00590
000316 000436 R
                 591 ************************************                                     04 00591
                 592 * PARAMETERS FOLLOW KEY FIELD *                                         04 00592
                 593 ************************************                                     04 00593
000317 014147 A  594 FM6      LDA     FMCI                                                     04 00594
000320 001010 A  595          JAZ     FMIIC           'CREATE' ?                               04 00595
000321 000362 R
000322 005311 A  596          DAR                     NO                                       04 00596
000323 001010 A  597          JAZ     FM7             'DELETE' ?                               04 00597
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000324 000340 R
000325 140464 A  598        SUB     THREE           NO                                  04 00598
000326 001004 A  599        JAN     FM8             'RENAME'/'ENTER' ?                  04 00599
000327 000345 R
000330 001010 A  600        JAZ     FME1            ERROR 1/'LIST'/                     04 00600
000331 000436 R
000332 005311 A  601        DAR                                                         04 00601
000333 001010 A  602        JAZ     FME1            ERROR 1/'INIT'/                     04 00602
000334 000436 R
000335 005311 A  603        DAR                                                         04 00603
000336 001010 A  604        JAZ     FME1            ERROR 1/'ADD'                       04 00604
000337 000436 R
000340 005021 A  605 FM7    TBA                     'DELETE'/'INPUT'                    04 00605
000341 001002 A  606        JAP     FME1            ERROR 1/ILLEGAL TERMINATION/        04 00606
000342 000436 R
000343 001000 A  607        JMP     FM7                                                 04 00607
000344 000417 R
                 608 ****************************************                           04 00608
                 609 * ENTER/RENAME - INPUT 2ND FILE NAME *                           04 00609
                 610 ****************************************                           04 00610
000345 006505 A  611 FM8    JSR     FMNA,X          INPUT NAME INTO BLOCK FMP2          04 00611
000346 004076 R
000347 000521 R  612        DATA    FMSCB                                               04 00612
000350 000562 R  613        DATA    FMP2                                                04 00613
000351 001016 A  614        JANZ    FME1            ERROR 1/ILLEGAL CHAR/               04 00614
000352 000436 R
000353 001001 A  615        JOF     FME1            ERROR 1/NO NAME/                    04 00615
000354 000436 R
000355 005021 A  616        TBA                                                         04 00616
000356 001002 A  617        JAP     FME1            ERROR 1/ILLEGAL TERMINATION/        04 00617
000357 000436 R
000360 001000 A  618        JMP     FM7                                                 04 00618
000361 000417 R
                 619 ****************************************                           04 00619
                 620 * INPUT TWO NUMERIC FIELDS FOR 'CREATE' *                         04 00620
                 621 ****************************************                           04 00621
000362 006505 A  622 FM11C  JSR     FMNU,X          GET RECORD SIZE IN WORDS            04 00622
000363 004253 R
000364 000521 R  623        DATA    FMSCB                                               04 00623
000365 000473 R  624        DATA    FMT                                                 04 00624
000366 001016 A  625        JANZ    FME1            ERROR 1/ILLEGAL NUMERIC FIELD/      04 00625
000367 000436 R
000370 001001 A  626        JOF     FME1            ERROR 1/NO NUMBER/                  04 00626
000371 000436 R
000372 006505 A  627        JSR     FMNU,X          GET FILE SIZE(RECORDS)              04 00627
000373 004253 R
000374 000521 R  628        DATA    FMSCB                                               04 00628
000375 000562 R  629        DATA    FMSCN                                               04 00629
000376 001016 A  630        JANZ    FME1            ERROR 1/ILLEGAL NUMERIC FIELD/      04 00630
000377 000436 R
000400 001001 A  631        JOF     FME1            ERROR 1/NO NUMBER/                  04 00631
000401 000436 R
                 632 ******************************                                   04 00632
                 633 * GET 'CREATE' RECORD COUNT *                                    04 00633
                 634 ******************************                                   04 00634
000402 005001 A  635        TZA                                                         04 00635
000403 054157 A  636        STA     FMSCN+1         DISABLE 'CREATE' FCB POINTER        04 00636
000404 024066 A  637        LDB     FMT             GET SPECIFIED RECORD SIZE           04 00637
000405 174070 A  638        DIV     FMK120          GET COUNT OF 120-WORD SECTORS       04 00638
000406 001010 A  639        JAZ     *+3                                                 04 00639
000407 000411 R
000410 005122 A  640        IBR                     CORRECT IF NOT EXACT MULTIPLE       04 00640
000411 005001 A  641        TZA                                                         04 00641
000412 164147 A  642        MUL     FMSCN           GET TOTAL SECTOR COUNT              04 00642
000413 064146 A  643        STB     FMSCN           SAVE SECTOR COUNT IN FMSCN          04 00643
000414 014107 A  644        LDA     FMTC                                                04 00644
000415 001002 A  645        JAP     FME1            ERROR 1/ILLEGAL TERMINATION/        04 00645
000416 000436 R
                 646 **********************                                           04 00646
                 647 * EXIT TO PROCESSORS *                                          04 00647
                 648 **********************                                           04 00648
000417 014047 A  649 FMZ    LDA     FMCI                                                04 00649
000420 006120 A  650        ADDI    FM11J                                               04 00650
000421 000457 R
000422 005012 A  651        TAB                                                         04 00651
000423 016000 A  652        LDA     0,B                                                 04 00652
000424 054001 A  653        STA     *+2                                                 04 00653
000425 006505 A  654        JSR     0,X             JUMP TO PROCESSOR                   04 00654
000426 000000 A
000427 000555 R  655        DATA    FMCB                                                04 00655
000430 000476 R  656        DATA    FMFCB                                               04 00656
000431 000472 R  657        DATA    FMLC                                                04 00657
000432 001010 A  658        JAZ     FML1            LOOP BACK FOR NEXT COMMAND IF NO ERROR  04 00658
000433 000032 R
000434 001000 A  659        JMP     FMER            /PROCESSOR ERROR/                   04 00659
000435 000570 R
                 660 **********                                                       04 00660
                 661 * ERRORS *                                                      04 00661
                 662 **********                                                       04 00662
000436 005101 A  663 FME1   INCR    1                                                   04 00663
000437 001000 A  664        JMP     FMER                                                04 00664
000440 000570 R
000441 010465 A  665 FME5   LDA     FIVE                                                04 00665
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000442 001000 A   666          JMP      FMER                                                    04 00666
000443 000570 R
                  667 ********************                                                      04 00667
                  668 * HEADER CHECK *                                                        04 00668
                  669 ********************                                                      04 00669
000444 000000 A   670 FMHC     ENTR                                                            04 00670
000445 014024 A   671          LDA      FMLC                                                   04 00671
000446 001002 A   672          JAP*     FMHC          END OF PAGE ?                            04 00672
000447 100444 R
000450 006505 A   673          JSR      FMVH,X        YES. OUTPUT HEADER                       04 00673
000451 005115 R
000452 000472 R   674          DATA     FMLC                                                   04 00674
000453 001016 A   675          JANZ     FMER          CHECK I/O ERROR                          04 00675
000454 000570 R
000455 001000 A   676          JMP*     FMHC          EXIT                                     04 00676
000456 100444 R
                  677 ********************************                                        04 00677
                  678 * FMAIN COMMAND JUMP TABLE *                                           04 00678
                  679 ********************************                                        04 00679
000457 001451 R   680 FMIIJ    DATA     FMCR          PROCESS 'CREATE'                         04 00680
000460 002052 R   681          DATA     FMDE          PROCESS 'DELETE'                         04 00681
000461 004645 R   682          DATA     FMRE          PROCESS 'RENAME'                         04 00682
000462 002330 R   683          DATA     FMEN          PROCESS 'ENTER'                          04 00683
000463 003620 R   684          DATA     FMLI          PROCESS 'LIST'                           04 00684
000464 003276 R   685          DATA     FMIN          PROCESS 'INIT'                           04 00685
000465 006611 R   686          DATA     FMAD          PROCESS 'ADD'                            04 00686
000466 007247 R   687          DATA     FMIP          PROCESS 'INPUT'                          04 00687
                  688 *                                                                        04 00688
000467            689 FMCI     BSS      1             COMMAND INDEX                            04 00689
000470 000254 A   690 FMCOM    DATA     0254          COMMA                                    04 00690
000471 000021 A   691 FMEQMC   DATA     021           '=' - ','                                04 00691
000472            692 FMLC     BSS      1             LO LINE COUNTER                          04 00692
000473            693 FMT      BSS      2             TEMP                                     04 00693
000475            694 FMTFL    BSS      1             ZERO IF SI=TTY OR CRT                    04 00694
                  695 ******************                                                       04 00695
                  696 * DIRECTORY FCB *                                                       04 00696
                  697 ******************                                                       04 00697
000476 000170 A   698 FMFCB    DATA     120           RECORD LENGTH IN WORDS                   04 00698
000477 005667 R   699          DATA     FMBF          RMD BUFFER ADDRESS                       04 00699
000500 000000 A   700          DATA     0             ACCESS METHOD/KEY                        04 00700
000501            701          BSS      1             CURRENT ADDRESS                          04 00701
000502            702          BSS      1             CURRENT EOF                              04 00702
000503            703          BSS      1             1ST FILE ADDRESS                         04 00703
000504            704          BSS      1             LAST FILE ADDRESS                        04 00704
          000476 R705 FMK120   EQU      FMFCB                                                  04 00705
                  706 ********************************                                        04 00706
                  707 * FMAIN PROMPT MESSAGE DCB *                                           04 00707
                  708 ********************************                                        04 00708
000505 000003 A   709 FMTDCB   DATA     3                                                      04 00709
000506 000510 R   710          DATA     *+2                                                    04 00710
000507 000001 A   711          DATA     1                                                      04 00711
000510 120306 A   712          DATA     ' FM** '                                               04 00712
000511 146652 A
000512 125240 A
                  713 ********************************                                        04 00713
                  714 * FMAIN COMMAND INPUT DCB *                                           04 00714
                  715 ********************************                                        04 00715
000513 000050 A   716 FMSII    DATA     40            RECORD LENGTH IN WORDS                   04 00716
000514 005667 R   717          DATA     FMBF          BUFFER                                   04 00717
000515 000001 A   718          DATA     1             COUNT                                    04 00718
                  719 ********************************                                        04 00719
                  720 * FMAIN COMMAND ECHO DCB *                                            04 00720
                  721 ********************************                                        04 00721
000516 000050 A   722 FMLOE    DATA     40            RECORD LENGTH IN WORDS                   04 00722
000517 005666 R   723          DATA     FMBF-1        BUFFER                                   04 00723
000520 000001 A   724          DATA     1             COUNT                                    04 00724
                  725 **********************                                                04 00725
                  726 * SCAN CONTROL BLOCK *                                                04 00726
                  727 **********************                                                04 00727
          000521 R728 FMSCB    EQU      *                                                      04 00728
000521            729 FMBSZ    BSS      1             INPUT WORD COUNT                         04 00729
000522 005667 R   730          DATA     FMBF          BUFFER                                   04 00730
000523            731 FMBP     BSS      1             BUFFER POINTER                           04 00731
000524            732 FMTC     BSS      1             INPUT CHARACTER                          04 00732
                  733 **********************                                                04 00733
                  734 * COMMAND ID TABLE *                                                  04 00734
                  735 **********************                                                04 00735
000525 141722 A   736 FMIDT    DATA     'CREATE'                                               04 00736
000526 142701 A
000527 152305 A
000530 142305 A   737          DATA     'DELETE'                                               04 00737
000531 146305 A
000532 152305 A
000533 151305 A   738          DATA     'RENAME'                                               04 00738
000534 147301 A
000535 146705 A
000536 142716 A   739          DATA     'ENTER '                                               04 00739
000537 152305 A
000540 151240 A
000541 146311 A   740          DATA     'LIST  '                                               04 00740
000542 151724 A
000543 120240 A
000544 144716 A   741          DATA     'INIT  '                                               04 00741
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000545 144724 A
000546 120240 A
000547 140704 A   742          DATA     'ADD   '                                                    04 00742
000550 142240 A
000551 120240 A
000552 144716 A   743          DATA     'INPUT '                                                    04 00743
000553 150325 A
000554 152240 A
       000555 R   744 FMIDE    EQU      *                                                           04 00744
                  745 ************************                                                    04 00745
                  746 * FMAIN COMMAND BLOCK *                                                      04 00746
                  747 ************************                                                    04 00747
       000555 R   748 FMCB     EQU      *                                                           04 00748
000555            749 FMLUN    BSS      1              LOGICAL UNIT NUMBER                          04 00749
000556            750 FMKEY    BSS      1              KEY                                          04 00750
000557            751 FMP1     BSS      3              1ST FILE NAME                                04 00751
       000562 R   752 FMSCN    EQU      *              'CREATE' SECTOR COUNT                        04 00752
000562            753 FMP2     BSS      3              2ND FILE NAME                                04 00753
000565            754 FMP3     BSS      3              LUN STRING                                   04 00754
                  755          EJEC                                                                04 00755
                  756 ********************************************************************************04 00756
                  757 *                                                                            * 04 00757
                  758 *              E R R O R   P R O C E S S O R ( F M E R )                      * 04 00758
                  759 *                                                                            * 04 00759
                  760 * FUNCTION: TO PROCESS FMAIN ERRORS                                          * 04 00760
                  761 *                                                                            * 04 00761
                  762 * ENTRY: A=ERROR NUMBER                                                      * 04 00762
                  763 *                                                                            * 04 00763
                  764 * EXIT : THROUGH MACRO 'EXIT' IF I/O ERROR                                   * 04 00764
                  765 *        THROUGH MACRO 'EXIT' IF 1ST INPUT CHAR IS '/'                       * 04 00765
                  766 *        TO FMAIN LABEL FML1 IF 1ST INPUT CHAR IS 'C'                        * 04 00766
                  767 *        OTHERWISE TO FMAIN REENTRY LABEL FME                                * 04 00767
                  768 *                                                                            * 04 00768
                  769 ********************************************************************************04 00769
000570 005012 A   771 FMER     TAB                                                                 04 00771
000571 005001 A   772          TZA                                                                 04 00772
000572 170471 A   773          DIV      TEN                                                        04 00773
000573 004050 A   774          LRLB     8                                                          04 00774
000574 005031 A   775          MERG     031                                                        04 00775
000575 006120 A   776          ADDI     '00'           CONVERT TO ASCII ERROR NUMBER               04 00776
000576 130260 A
000577 054160 A   777          STA      FMERB+5        STORE IN ERROR BUFFER                       04 00777
000600 014006 A   778          LDA      FMERW+3                                                    04 00778
000601 150462 A   779          ANA      LHW            CLEAR LUN FIELD IN IOC CALL                 04 00779
000602 110464 A   780          ORA      THREE              SET TO 50                               04 00780
000603 054003 A   781          STA      FMERW+3                                                    04 00781
                  782 FMERW    WRITE    FMERB,3,0,1                    WRITE/COMPLETE/ASCII/50      04 00782
000604 006505 A
000605 000404 A
000606 100000 A
000607 010403 A
000610 000753 R
000611 000000 A
000612 000000 A
                  783          STAT     FMERW,FMERX,FMERX,FMERX,FMERX     CHECK STATUS              04 00783
000613 006505 A
000614 000373 A
000615 000604 R
000616 000744 R
000617 000744 R
000620 000744 R
000621 000744 R
000622 014127 A   784          LDA      FMSLSW                                                     04 00784
000623 001010 A   785          JAZ      FMERR2         DOES SO=LO ?                                04 00785
000624 000634 R
000625 017000 I   786          LDA      FMERW+3        NO                                          04 00786
000626 120422 A   787          ADD      TWO            BUMP SO TO LO                               04 00787
000627 057000 I   788          STA      FMERW+3                                                    04 00788
000630 005111 A   789          IAR                                                                 04 00789
000631 150467 A   790          ANA      SEVEN                                                      04 00790
000632 001016 A   791          JANZ     FMERW          DO LO OUTPUT IF NOT DONE                    04 00791
000633 000604 R
                  792 FMERR2   WRITE    FMTDCB,3,0,1   OUTPUT ' FM** ' TO 50                      04 00792
000634 006505 A
000635 000404 A
000636 100000 A
000637 010403 A
000640 000505 R
000641 000000 A
000642 000000 A
                  793          STAT     FMERR2,FMERX,FMERX,FMERX,FMERX                             04 00793
000643 006505 A
000644 000370 A
000645 000634 R
000646 000744 R
000647 000744 R
000650 000744 R
000651 000744 R
                  794 FMERR    READ     FMSII,3,0,1                    READ/COMPLETE/ASCII/50       04 00794
000652 006505 A
000653 000404 A
000654 100000 A
000655 010003 A
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000656 000513 R
000657 000000 A
000660 000000 A
                    795          STAT    FMERR,FMERX,FMERX,FMERX,FMERX                                  04 00795
000661 006505 A
000662 000373 A
000663 000652 R
000664 000744 R
000665 000744 R
000666 000744 R
000667 000744 R
000670 017000 I     796          LDA     FMBF          GET 1ST BUFFER WORD                              04 00796
000671 004350 A     797          LSRA    8             GET FIRST CHAR                                   04 00797
000672 006140 A     798          SUBI    '/'                                                            04 00798
000673 000257 A
000674 001016 A     799          JANZ    FMER2         PROCESS AS FMAIN COMMAND IF NOT '/'              04 00799
000675 000724 R
000676 027000 I     800          LDB     FMERR+5       GET INPUT WORD COUNT                             04 00800
000677 064051 A     801 FMEXIT   STB     FMERT         SAVE MESSAGE WORD COUNT                          04 00801
000700 005021 A     802          TBA                                                                    04 00802
000701 006505 A     803          JSR     FMMV,X        MOVE '/' RECORD TO JCP BUFFER                    04 00803
000702 003735 R
000703 005667 R     804          PZE     FMBF                                                           04 00804
000704 100412 A     805          MZE     V$JCB         JCP BUFFER ADDRESS                               04 00805
000705 014043 A     806          LDA     FMERT                                                          04 00806
000706 120412 A     807          ADD     V$JCB                                                          04 00807
000707 005014 A     808          TAX                   POINT X AT JCP BUFFER                            04 00808
000710 010000 L     809          LDA     =40                                                            04 00809
000711 144037 A     810          SUB     FMERT                                                          04 00810
000712 005012 A     811          TAB                   GET REMAINING WORD COUNT IN B                    04 00811
000713 006010 A     812          LDAI    '  '          LOAD A WITH BLANKS                               04 00812
000714 120240 A
000715 001020 A     813 FMEXLP   JBZ     FMERX         LOOP TO BLANK BUFFER                             04 00813
000716 000744 R
000717 055000 A     814          STA     0,X           LOOP TO BLANK BUFFER                             04 00814
000720 005144 A     815          IXR                   BUMP BUFFER POINTER                              04 00815
000721 005322 A     816          DBR                   DECREMENT LOOP COUNT                             04 00816
000722 001000 A     817          JMP     FMEXLP        CONTINUE BLANK LOOP                              04 00817
000723 000715 R
000724 017000 I     818 FMER2    LDA     FMBF                                                           04 00818
000725 006140 A     819          SUBI    'CR'                                                           04 00819
000726 141722 A
000727 001010 A     820          JAZ     FMER4         PROCESS 'CREATE'                                 04 00820
000730 000737 R
000731 017000 I     821          LDA     FMBF                                                           04 00821
000732 004350 A     822          LSRA    8                                                              04 00822
000733 006140 A     823          SUBI    'C'                                                            04 00823
000734 000303 A
000735 001010 A     824          JAZ     FML1          IF 'C', INPUT NEXT COMMAND FROM SI               04 00824
000736 000032 R
000737 002000 A     825 FMER4    CALL    FMHC          OTHERWISE CHECK HEADER                           04 00825
000740 000444 R
000741 027000 I     826          LDB     FMERR+5       GET INPUT WORD COUNT                             04 00826
000742 001000 A     827          JMP     FME           PROCESS AS FMAIN COMMAND                         04 00827
000743 000102 R
000744 006505 A     828 FMERX    JSR     FMWLT,X       TERMINATE LD                                     04 00828
000745 005243 R
                    829          EXIT                                                                   04 00829
000746 006505 A
000747 000406 A
000750 000200 A
000751              830 FMERT    BSS     1             MESSAGE WORD COUNT                               04 00830
000752              831 FMSLSW   BSS     1             ZERO IF SO=LO                                    04 00831
                    832 ********************                                                           04 00832
                    833 * ERROR OUT DCB *                                                            04 00833
                    834 ********************                                                           04 00834
000753 000003 A     835 FMERB    DATA    3                                                              04 00835
000754 000756 R     836          DATA    *+2                                                            04 00836
000755 000001 A     837          DATA    1                                                              04 00837
000756 120240 A     838          DATA    '  FM00'                                                       04 00838
000757 143315 A
000760 130260 A
                    839          EJEC                                                                   04 00839
                    840 ************************************************************************      04 00840
                    841 *                                                                      *      04 00841
                    842 *      C O N V E R T   B I N A R Y   T O   A S C I I ( F M B A )      *      04 00842
                    843 *                                                                      *      04 00843
                    844 * FUNCTION: TO CONVERT A BINARY NUMBER TO A PACKED ASCII NUMERIC      *      04 00844
                    845 *           STRING, RIGHT-JUSTIFIED,WITH BLANK FILL.                 *      04 00845
                    846 *                                                                      *      04 00846
                    847 * CALLING SEQUENCE: JSR   FMBA,X                                      *      04 00847
                    848 *                   DATA  ADDRESS OF BINARY NUMBER                   *      04 00848
                    849 *                                                                      *      04 00849
                    850 * ENTRY: A.EQ.0 OCTAL CONVERSION                                      *      04 00850
                    851 *        A.NE.0 DECIMAL COVERSION                                    *      04 00851
                    852 *                                                                      *      04 00852
                    853 * EXIT : X=ADDRESS OF PACKED STRING                                   *      04 00853
                    854 *                                                                      *      04 00854
                    855 ************************************************************************      04 00855
000761 034104 A     857 FMBA1    LDX     FMBAPP                                                         04 00857
000762 025000 A     858          LDB     0,X           GET BINARY NUMBER IN B                           04 00858
000763 005004 A     859          TZX                                                                    04 00859
000764 074117 A     860          STX     FMBAZ         CLEAR ZERO SUPPRESS SWITCH                       04 00860
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000765 001010 A   861          JAZ      FMBAD                                                    04 00861
000766 001016 R
                  862 ************************
                  863 * DECIMAL CONVERSION *                                                     04 00862
                  864 ************************                                                 04 00863
                                                                                                04 00864
000767 014100 A   865          LDA      FMBABL                                                   04 00865
000770 054105 A   866          STA      FMBAS     BLANK 1ST CHAR                                 04 00866
000771 006030 A   867          LDXI     FMBAT     POINT X AT POWER OF 10 TABLE                   04 00867
000772 001071 R
                  868 ******************************                                           04 00868
                  869 * DECIMAL CONVERSION LOOP *                                              04 00869
                  870 ******************************                                           04 00870
000773 005001 A   871 FMBAL1 TZA                                                               04 00871
000774 175000 A   872          DIV      0,X       GET DECIMAL DIGIT                              04 00872
000775 065006 A   873          STB      6,X       STORE                                          04 00873
000776 001020 A   874          JBZ      *+4       ZERO ?                                         04 00874
000777 001002 R
001000 020425 A   875          LDB      BS4       NO. SET ZERO SUPPRESS SWITCH                   04 00875
001001 064102 A   876          STB      FMBAZ                                                    04 00876
001002 005012 A   877          TAB                REMAINDER TO B                                 04 00877
001003 015006 A   878          LDA      6,X                                                      04 00878
001004 124063 A   879          ADD      FMBABL    CONVERT DIGIT TO ASCII                         04 00879
001005 124076 A   880          ADD      FMBAZ     SUPPRESS LEADING ZEROS                         04 00880
001006 055006 A   881          STA      6,X                                                      04 00881
001007 005145 A   882          INCR     045       BUMP POINTER                                   04 00882
001010 006140 A   883          SUBI     FMBAT+5                                                  04 00883
001011 001076 R
001012 001004 A   884          JAN      FMBAL1    TEST CONVERSION FINISH                         04 00884
001013 000773 R
001014 001000 A   885          JMP      FMBAP                                                    04 00885
001015 001043 R
                  886 ********************
                  887 * OCTAL CONVERSION *                                                      04 00886
                  888 ********************                                                     04 00887
                                                                                                04 00888
001016 006030 A   889 FMBAO   LDXI     FMBAS-6   INITIALIZE STRING POINTER X                    04 00889
001017 001070 R
001020 004441 A   890          LLRL     1         ROTATE 1ST BIT INTO A                          04 00890
                  891 ************************                                               04 00891
                  892 * OCTAL CONVERSION LOOP *                                               04 00892
                  893 ************************                                               04 00893
001021 001010 A   894 FMBAL2 JAZ      *+6       DIGIT = 0 ?                                    04 00894
001022 001027 R
001023 065006 A   895          STB      6,X       NO. SAVE B                                   04 00895
001024 020425 A   896          LDB      BS4                                                    04 00896
001025 064056 A   897          STB      FMBAZ     CLEAR ZERO SUPPRESS                          04 00897
001026 025006 A   898          LDB      6,X       RESTORE B                                    04 00898
001027 124040 A   899          ADD      FMBABL    CONVERT DIGIT TO ASCII                       04 00899
001030 124053 A   900          ADD      FMBAZ     SUPPRESS LEADING ZEROS                       04 00900
001031 055006 A   901          STA      6,X       STORE CHAR IN STRING                         04 00901
001032 005145 A   902          INCR     045       BUMP STRING POINTER                          04 00902
001033 006140 A   903          SUBI     FMBAS                                                  04 00903
001034 001076 R
001035 001002 A   904          JAP      FMBAP     EXIT AFTER 6 CHARS                           04 00904
001036 001043 R
001037 005001 A   905          TZA                                                             04 00905
001040 004443 A   906          LLRL     3         SHIFT NEXT OCTAL DIGIT INTO A                04 00906
001041 001000 A   907          JMP      FMBAL2    LOOP BACK                                    04 00907
001042 001021 R
                  908 **************
                  909 * PACK CHARS *                                                           04 00908
                  910 **************                                                           04 00909
                                                                                                04 00910
001043 015000 A   911 FMBAP   LDA      0,X       DIGIT 1                                      04 00911
001044 004250 A   912          LRLA     8                                                      04 00912
001045 115001 A   913          ORA      1,X       DIGIT 2                                      04 00913
001046 055000 A   914          STA      0,X                                                    04 00914
001047 015002 A   915          LDA      2,X       DIGIT 3                                      04 00915
001050 004250 A   916          LRLA     8                                                      04 00916
001051 115003 A   917          ORA      3,X       DIGIT 4                                      04 00917
001052 055001 A   918          STA      1,X                                                    04 00918
001053 015004 A   919          LDA      4,X       DIGIT 5                                      04 00919
001054 004250 A   920          LRLA     8                                                      04 00920
001055 115005 A   921          ORA      5,X       DIGIT 6                                      04 00921
001056 055002 A   922          STA      2,X                                                    04 00922
001057 001000 A   923          JMP*     FMBAXX                                                 04 00923
001060 101064 R
001061 074002 A   924 FMBA    STX      FMBAXX    STORE EXIT                                   04 00924
001062 006505 A   925          JSP      FMPT,X    XFER PARAMETER                               04 00925
001063 004457 R
001064            926 FMBAXX  BSS      1         EXIT ADDRESS                                 04 00926
001065 000001 A   927          DATA     1         1 PARAMETER                                  04 00927
001066            928 FMBAPP  BSS      1         POINTER TO BINARY NUMBER                     04 00928
001067 000761 R   929          DATA     FMBA1     FMB^ START ADDRESS                           04 00929
001070 000240 A   930 FMBABL  DATA     0240      BLANK                                        04 00930
001071 023420 A   931 FMBAT   DATA     10000     POWER OF 10 TABLE                            04 00931
001072 001750 A   932          DATA     1000                                                   04 00932
001073 000144 A   933          DATA     100                                                    04 00933
001074 000012 A   934          DATA     10                                                     04 00934
001075 000001 A   935          DATA     1                                                      04 00935
001076            936 FMBAS   BSS      6         WORKING STORE                                04 00936
001104            937 FMBAZ   BSS      1         ZERO SUPPRESS SWITCH                         04 00937
                  938          EJEC                                                           04 00938
                  939 ***************************************************************************** 04 00939
                  940 *                                                                       * 04 00940
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                                941 *                C O M P A R E   N A M E S ( F M C N )                  * 04 00941
                                942 *                                                                       * 04 00942
                                943 * FUNCTION: TO COMPARE TWO 3-WORD FIELDS                               * 04 00943
                                944 *                                                                       * 04 00944
                                945 * ENTRY: NO SPECIAL CONDITIONS                                         * 04 00945
                                946 *                                                                       * 04 00946
                                947 * CALLING SEQUENCE : JSR   FMCN,X                                      * 04 00947
                                948 *                       DATA  ADDRESS OF FIELD 1                      * 04 00948
                                949 *                       DATA  ADDRESS OF FIELD 2                      * 04 00949
                                950 *                                                                       * 04 00950
                                951 * EXIT : OVFL SET IF EQUAL, RESET IF NOT                               * 04 00951
                                952 *                                                                       * 04 00952
                                953 ***************************************************************************** 04 00953
001105 024031 A                 955 FMCN1   LDB     FMCNF1          POINT B AT FIELD 1                      04 00955
001106 034031 A                 956         LDX     FMCNF2          POINT X AT FIELD 2                      04 00956
001107 006010 A                 957         LDAI    077775                                                  04 00957
001110 077775 A.
001111 034030 A                 958         STA     FMCNC           SET LOOP COUNT TO -3                    04 00958
001112 013000 A                 959 FMCNL   LDA     0,X             COMPARE LOOP                            04 00959
001113 146000 A                 960         SUB     0,B                                                     04 00960
001114 001016 A                 961         JANZ    FMCNX           EQUAL ?                                 04 00961
001115 001127 R
001116 005144 A                 962         IXR                     YES                                     04 00962
001117 005122 A                 963         IBR                     CONTINUE COMPARE                        04 00963
001120 007400 A                 964         ROF                                                             04 00964
001121 044020 A                 965         INR     FMCNC           BUMP LOOP COUNT                         04 00965
001122 001007 A                 966         JOFN    FMCNL           FINISHED ?                              04 00966
001123 001112 R
001124 007401 A                 967         SOF                     YES. SET OVFL TO FLAG EQUAL             04 00967
001125 001000 A                 968         JMP*    FMCNXX                                                  04 00968
001126 101135 R
001127 007400 A                 969 FMCNX   ROF                     RESET OVFL TO FLAG NOT EQUAL            04 00969
001130 001000 A                 970         JMP*    FMCNXX                                                  04 00970
001131 101135 R
001132 074002 A                 971 FMCN    STX     FMCNXX          STORE EXIT                              04 00971
001133 006505 A                 972         JSR     FMPT,X          XFER PARAMETERS                         04 00972
001134 004457 R
001135                          973 FMCNXX  BSS     1               EXIT ADDRESS                            04 00973
001136 000002 A                 974         DATA    2               2 PARAMETERS                            04 00974
001137                          975 FMCNF1  BSS     1               ADDRESS OF FIELD 1                      04 00975
001140                          976 FMCNF2  BSS     1               ADDRESS OF FIELD 2                      04 00976
001141 001105 R                 977         DATA    FMCN1                                                   04 00977
001142                          978 FMCNC   BSS     1               LOOP COUNTER                            04 00978
                                979         EJEC                                                            04 00979
                                980 ***************************************************************************** 04 00980
                                981 *                                                                       * 04 00981
                                982 *                P R O C E S S   C R E A T E ( F M C R )                * 04 00982
                                983 *                                                                       * 04 00983
                                984 * FUNCTION: TO ENTER A NEW FILE NAME IN THF DIRECTORY WITH A           * 04 00984
                                985 *           SPECIFIED RMD (120-WORD)RECORD COUNT SIZE.                 * 04 00985
                                986 *                                                                       * 04 00986
                                987 *                                                                       * 04 00987
                                988 * ENTRY: NO SPECIAL CONDITIONS                                         * 04 00988
                                989 *                                                                       * 04 00989
                                990 * CALLING SEQUENCE: JSR   FMCR,X                                       * 04 00990
                                991 *                       DATA  ADDRESS OF COMMAND BLOCK                * 04 00991
                                992 *                       DATA  ADDRESS OF DIRECTORY FCB(FMCR LOADS IT) * 04 00992
                                993 *                       DATA  0                                       * 04 00993
                                994 *                                                                       * 04 00994
                                995 * COMMAND BLOCK: WORD 0: LOGICAL UNIT NUMBER(LUN)                      * 04 00995
                                996 *                WORD 1: KEY                                            * 04 00996
                                997 *                WORDS 2-4: FILE NAME                                   * 04 00997
                                998 *                WORD 5: SECTOR COUNT                                   * 04 00998
                                999 *                WORD 6: ADDRESS OF FILE NAME FCB(FMCR LOADS THIS)      * 04 00999
                               1000 *                        0 IF FILE NAME FCB NOT TO BE LOADED            * 04 01000
                               1001 *                                                                       * 04 01001
                               1002 * EXIT : A=0 IF NO ERRORS                                               * 04 01002
                               1003 *                                                                       * 04 01003
                               1004 * ERRORS:   A=2 IF NAME ALREADY IN DIRECTORY                            * 04 01004
                               1005 *           A=4 IF INSUFFICIENT SPACE FOR ENTRY                        * 04 01005
                               1006 *           A=5 IF I/O ERROR                                           * 04 01006
                               1007 *           A=6 IF DIRECTORY STRUCTURE ERROR                           * 04 01007
                               1008 *                                                                       * 04 01008
                               1009 ***************************************************************************** 04 01009
001143 005001 A                1011 FMCR1   TZA                                                             04 01011
001144 054323 A                1012         STA     FMCREF          CLEAR ERROR FLAG                        04 01012
001145 010422 A                1013         LDA     TWO                                                     04 01013
001146 054313 A                1014         STA     FMCRAA          INITIALIZE NEXT AVAIL SECTOR TO 2       04 01014
                               1015 ************************                                                04 01015
                               1016 * GET FILE PARAMETERS *                                                04 01016
                               1017 ************************                                                04 01017
001147 006505 A                1018         JSR     FMFA,X          MAKE FILE ACCESS/LOAD DIRECTORY FCB     04 01018
001150 002433 R
001151 101456 R                1019         MZE     FMCRCB                                                  04 01019
001152 101457 R                1020         MZE     FMCRFC                                                  04 01020
001153 074320 A                1021         STX     FMCRPB          SAVE ADDRESS OF POINTER BLOCK           04 01021
001154 001010 A                1022         JAZ     *+5             ERROR ?                                 04 01022
001155 001161 R
001156 044311 A                1023         INR     FMCREF          YES, SET FLAG AND EXIT                  04 01023
001157 001000 A                1024         JMP     FMCRX2                                          E.1 ********
001160 001437 R
001161 014274 A                1025         LDA     FMCRCB                                                  04 01025
001162 120402 A                1026         ADD     TWO                                                     04 01026
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001163 054307 A 1027          STA     FMCRNA          GET ADDRESS OF FILE NAME                        04 01027
001164 024271 A 1028          LDB     FMCRCB                                                          04 01028
001165 016005 A 1029          LDA     5,B             GET RECORD COUNT REQUEST                        04 01029
001166 054306 A 1030          STA     FMCRRC          SAVE                                            04 01030
001167 016006 A 1031          LDA     6,B             GET FILE FCB POINTER                            04 01031
001170 054300 A 1032          STA     FMCRFB          SAVE IT IN FMCRFB                               04 01032
001171 001010 A 1033          JAZ     FMCR2           IS THERE ONE ?                                  04 01033
001172 001212 R
001173 005014 A 1034          TAX                     YES                                             04 01034
001174 120467 A 1035          ADD     SEVEN                                                           04 01035
001175 054274 A 1036          STA     FMCRFB+1        SAVE ADDRESS OF FCB NAME FIELD                  04 01036
001176 005101 A 1037          INCR    1                                                               04 01037
001177 055003 A 1038          STA     3,X             SET CURRENT RECORD NO TO 1                      04 01038
001200 024255 A 1039          LDB     FMCRCB                                                          04 01039
001201 015002 A 1040          LDA     2,X             GET KEY WORD FROM FCB                           04 01040
001202 150462 A 1041          ANA     LHW             CLEAR KEY FIELD                                 04 01041
001203 116001 A 1042          ORA     1,B             OR IN KEY                                       04 01042
001204 055002 A 1043          STA     2,X             RESTORE IN FCB                                  04 01043
001205 010464 A 1044          LDA     THREE                                                           04 01044
001206 006505 A 1045          JSR     FMMV,X          MOVE FILE NAME TO FCB                           04 01045
001207 003735 R
001210 101473 R 1046          MZE     FMCRNA                                                          04 01046
001211 101472 R 1047          MZE     FMCRFB+1                                                        04 01047
                1048 **********************************************                                    04 01048
                1049 * TEST FOR NAME ALREADY IN DIRECTORY *                                          04 01049
                1050 **********************************************                                    04 01050
001212 006505 A 1051 FMCR2    JSR     FMRW,X          REWIND DIRECTORY                                04 01051
001213 004745 R
001214 101456 R 1052          MZE     FMCRCB                                                          04 01052
001215 101457 R 1053          MZE     FMCRFC                                                          04 01053
001216 001467 R 1054          PZE     FMCRBP                                                          04 01054
001217 001016 A 1055          JANZ    FMCRE           CHECK FOR ERROR                                 04 01055
001220 001446 R
001221 006505 A 1056          JSR     FMSD,X          SEARCH DIRECTORY FOR NAME                       04 01056
001222 005032 R
001223 101473 R 1057          MZE     FMCRNA                                                          04 01057
001224 101456 R 1058          MZE     FMCRCB                                                          04 01058
001225 101457 R 1059          MZE     FMCRFC                                                          04 01059
001226 101474 R 1060          MZE     FMCRPB                                                          04 01060
001227 001467 R 1061          PZE     FMCRBP                                                          04 01061
001230 001462 R 1062          PZE     FMCRAA                                                          04 01062
001231 001016 A 1063          JANZ    FMCRE           CHECK FOR ERROR                                 04 01063
001232 001446 R
001233 001001 A 1064          JOF     FMCRE2          ERROR 2/NAME ALREADY IN DIRECTORY/              04 01064
001234 001442 R
                1065 **********************                                                          04 01065
                1066 * SEARCH FOR BLANK ENTRY *                                                      04 01066
                1067 **********************                                                          04 01067
001235 006505 A 1068          JSR     FMRW,X          REWIND DIRECTORY                                04 01068
001236 004745 R
001237 101456 R 1069          MZE     FMCRCB                                                          04 01069
001240 101457 R 1070          MZE     FMCRFC                                                          04 01070
001241 001467 R 1071          PZE     FMCRBP                                                          04 01071
001242 001016 A 1072          JANZ    FMCRE           CHECK FOR ERROR                                 04 01072
001243 001446 R
001244 006505 A 1073 FMCRL1   JSR     FMSD,X          SEARCH FOR BLANK SLOT                           04 01073
001245 005032 R
001246 001464 R 1074          PZE     FMCRAS                                                          04 01074
001247 101456 R 1075          MZE     FMCRCB                                                          04 01075
001250 101457 R 1076          MZE     FMCRFC                                                          04 01076
001251 101474 R 1077          MZE     FMCRPB                                                          04 01077
001252 001467 R 1078          PZE     FMCRBP                                                          04 01078
001253 001462 R 1079          PZE     FMCRAA                                                          04 01079
001254 001016 A 1080          JANZ    FMCRE           CHECK FOR ERROR                                 04 01080
001255 001446 R
001256 001007 A 1081          JOFN    FMCRNB          EXIT IF NO BLANK SLOT BIG ENOUGH                04 01081
001257 001350 R
                1082 ************************************************                                04 01082
                1083 * BLANK ENTRY FOUND - TEST IF LARGE ENOUGH *                                    04 01083
                1084 ************************************************                                04 01084
001260 015005 A 1085          LDA     5,X                                                             04 01085
001261 145004 A 1086          SUB     4,X             GET RECORD COUNT OF BLANK ENTRY                 04 01086
001262 144212 A 1087          SUB     FMCRRC          COMPARE WITH REQUEST                            04 01087
001263 001004 A 1088          JAN     FMCRL1          CONTINUE SCAN IF BLANK FILE TOO SMALL           04 01088
001264 001244 R
                1089 ************************                                                        04 01089
                1090 * ASSIGN ENTRY TO BLANK SLOT *                                                  04 01090
                1091 ************************                                                        04 01091
001265 024203 A 1092          LDB     FMCRFB                                                          04 01092
001266 054207 A 1093          STA     FMCRRC+1        SAVE REMAINDER COUNT                            04 01093
001267 015005 A 1094          LDA     5,X                                                             04 01094
001270 054172 A 1095          STA     FMCRAA+1        SAVE END ADDRESS+1                              04 01095
001271 015004 A 1096          LDA     4,X                                                             04 01096
001272 001020 A 1097          JBZ     *+3             IS THERE A FILE NAME FCB ?                      04 01097
001273 001275 R
001274 056005 A 1098          STA     5,B             YES. LOAD START ADDRESS                         04 01098
001275 124177 A 1099          ADD     FMCRRC                                                          04 01099
001276 055005 A 1100          STA     5,X             STORE END ADDRESS+1 IN ENTRY                    04 01100
001277 055003 A 1101          STA     3,X             STORE AS CURRENT EOF                            04 01101
001300 001020 A 1102          JBZ     *+4             IS THERE A FILE NAME FCB ?                      04 01102
001301 001304 R
001302 056004 A 1103          STA     4,B             YES. STORE END ADDRESS+1                        04 01103
001303 056006 A 1104          STA     6,B                                                             04 01104
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001304 010464 A 1105          LDA     THREE                                                   04 01105
001305 006505 A 1106          JSR     FMMV,X          MOVE NAME TO ENTRY                      04 01106
001306 003735 R
001307 101473 R 1107          MZE     FMCRNA                                                  04 01107
001310 101467 R 1108          MZE     FMCRBP                                                  04 01108
001311 014164 A 1109          LDA     FMCRRC+1                                                04 01109
001312 001010 A 1110          JAZ     FMCRW           EXIT IF NO REMAINING RMD SPACE          04 01110
001313 001424 R
001314 006505 A 1111          JSR     FMWR,X          WRITE OUT SECTOR TO RMD                 04 01111
001315 005611 R
001316 101456 R 1112          MZE     FMCRCB                                                  04 01112
001317 101457 R 1113          MZE     FMCRFC                                                  04 01113
001320 001016 A 1114          JANZ    FMCRE           EXIT IF ERROR                           04 01114
001321 001446 R
                1115 ****************************************                                  04 01115
                1116 * CREATE NEW BLANK ENTRY FOR REMAINDER *                                  04 01116
                1117 ****************************************                                  04 01117
001322 006505 A 1118          JSR     FMGD,K          GET A DIRECTORY SLOT                    04 01118
001323 002732 R
001324 101456 R 1119          MZE     FMCRCB                                                  04 01119
001325 101457 R 1120          MZE     FMCRFC                                                  04 01120
001326 101474 R 1121          MZE     FMCRPB                                                  04 01121
001327 001462 R 1122          PZE     FMCRAA                                                  04 01122
001330 074136 A 1123          STX     FMCRBP                                                  04 01123
001331 001016 A 1124          JANZ    FMCRE           EXIT IF ERROR                           04 01124
001332 001446 R
001333 005001 A 1125          TZA                                                             04 01125
001334 055003 A 1126          STA     3,X             SET CURRENT POSITION=0                  04 01126
001335 014125 A 1127          LDA     FMCRAA+1                                                04 01127
001336 055005 A 1128          STA     5,X             STORE END ADDR+1                        04 01128
001337 144136 A 1129          SUB     FMCRRC+1                                                04 01129
001340 055004 A 1130          STA     4,X             STORE START ADDRESS                     04 01130
001341 010464 A 1131          LDA     THREE                                                   04 01131
001342 006505 A 1132          JSR     FMMV,X          MOVE '*******' TO NAME FIELD            04 01132
001343 003735 R
001344 001464 R 1133          PZE     FMCRAS                                                  04 01133
001345 101467 R 1134          MZE     FMCRBP                                                  04 01134
001346 001000 A 1135          JMP     FMCRW           WRITE SECTOR TO RMD                     04 01135
001347 001424 R
                1136 ************************************************                        04 01136
                1137 * NO BLANK ENTRY LARGE ENOUGH - ALLOCATE NEW SPACE *                      04 01137
                1138 ************************************************                        04 01138
001350 006505 A 1139 FMCRNB JSR       FMGD,X          GET DIRECTORY SLOT                      04 01139
001351 002732 R
001352 101456 R 1140          MZE     FMCRCB                                                  04 01140
001353 101457 R 1141          MZE     FMCRFC                                                  04 01141
001354 101474 R 1142          MZE     FMCRPB                                                  04 01142
001355 001462 R 1143          PZE     FMCRAA                                                  04 01143
001356 074110 A 1144          STX     FMCRBP                                                  04 01144
001357 001016 A 1145          JANZ    FMCRE           CHECK FOR ERROR                         04 01145
001360 001446 R
001361 034112 A 1146          LDX     FMCRPB                                                  04 01146
001362 025002 A 1147          LDB     2,X             POINT B AT PST ENTRY                    04 01147
001363 016003 A 1148          LDA     3,B                                                     04 01148
001364 146000 A 1149          SUB     0,B             GET PARTITION TRACK COUNT               04 01149
001365 146002 A 1150          SUB     2,B             GET GOOD TRACK COUNT                    04 01150
001366 054110 A 1151          STA     FMCRT           SAVE                                    04 01151
001367 035001 A 1152          LDX     1,X             POINT X AT PST                          04 01152
001370 015001 A 1153          LDA     1,X             GET RECORDS/TRACK                       04 01153
001371 150463 A 1154          ANA     RHW                                                     04 01154
001372 004560 A 1155          LLSR    16                                                      04 01155
001373 164103 A 1156          MUL     FMCRT           GET GOOD RECORD COUNT                   04 01156
001374 005121 A 1157          INCR    021                                                     04 01157
001375 144064 A 1158          SUB     FMCRAA          SUBTRACT OFF CURRENT ALLOCATION         04 01158
001376 144076 A 1159          SUB     FMCRRC          COMPARE WITH REQUEST                    04 01159
001377 001004 A 1160          JAN     FMCRE4          ERROR 4/RMD SPACE EXHAUSTED/            04 01160
001400 001445 R
001401 024067 A 1161          LDB     FMCRFB          POINT B AT FILE NAME FCB                04 01161
001402 034064 A 1162          LDX     FMCRBP          POINT X AT SLOT                         04 01162
001403 014056 A 1163          LDA     FMCRAA          GET START ADDRESS OF RMD ALLOCATION     04 01163
001404 055004 A 1164          STA     4,X             STORE IN FILE NAME ENTRY                04 01164
001405 001020 A 1165          JBZ     *+3                                                     04 01165
001406 001410 R
001407 056005 A 1166          STA     5,B             STORE IN FILE NAME FCB                  04 01166
001410 124064 A 1167          ADD     FMCRRC          GET END ADDRESS+1 OF ALLOC              04 01167
001411 055003 A 1168          STA     3,X             STORE AS CURRENT EOF                    04 01168
001412 055005 A 1169          STA     5,X             STORE IN ENTRY                          04 01169
001413 001020 A 1170          JBZ     *+4                                                     04 01170
001414 001417 R
001415 056004 A 1171          STA     4,B             STORE IN FILE NAME FCB                  04 01171
001416 056006 A 1172          STA     6,B                                                     04 01172
001417 010464 A 1173          LDA     THREE                                                   04 01173
001420 006505 A 1174          JSR     FMMV,X          MOVE NAME TO BUFFER                     04 01174
001421 003735 R
001422 101473 R 1175          MZE     FMCRNA                                                  04 01175
001423 101467 R 1176          MZE     FMCRBP                                                  04 01176
001424 006505 A 1177 FMCRW    JSR     FMWR,X          WRITE SECTOR TO RMD                     04 01177
001425 005611 R
001426 101456 R 1178          MZE     FMCRCB                                                  04 01178
001427 101457 R 1179          MZE     FMCRFC                                                  04 01179
001430 001016 A 1180          JANZ    FMCRE           CHECK FOR ERROR                         04 01180
001431 001446 R
                1181 ********************************                                        04 01181
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                    1182 * CLEAR LOCKOUT BIT IN DST *                                                                    04 01182
                    1183 ****************************                                                                    04 01183
001432 034041 A     1184 FMCRX   LDX      FMCRPB                                                                       04 01184
001433 035000 A     1185         LDX      0,X          POINT X AT DST                                                  04 01185
001434 015002 A     1186         LDA      2,X                                                                          04 01186
001435 150455 A     1187         ANA      BR12         CLEAR LOCKOUT BIT                                               04 01187
001436 055002 A     1188         STA      2,X                                                                          04 01188
001437 014030 A     1189 FMCRX2  LDA      FMCREF       LOAD A WITH ERROR FLAG                                  E.1  ********
001440 001000 A     1190         JMP*     FMCRXX       EXIT                                                            04 01190
001441 101454 R
                    1191 **********                                                                                   04 01191
                    1192 * ERRORS *                                                                                   04 01192
                    1193 **********                                                                                   04 01193
001442 010422 A     1194 FMCRE2  LDA      TWO                                                                          04 01194
001443 001000 A     1195         JMP      FMCRE                                                                        04 01195
001444 001446 R
001445 010423 A     1196 FMCRE4  LDA      FOUR                                                                         04 01196
001446 054021 A     1197 FMCRE   STA      FMCREF       LOAD ERROR FLAG                                                 04 01197
001447 001000 A     1198         JMP      FMCRX                                                                        04 01198
001450 001432 R
                    1199 *********                                                                                    04 01199
                    1200 * ENTRY *                                                                                    04 01200
                    1201 *********                                                                                    04 01201
001451 074002 A     1202 FMCR    STX      FMCRXX       SAVE EXIT                                                       04 01202
001452 006505 A     1203         JSR      FMPT,X       XFER PARAMETERS                                                 04 01203
001453 004457 R
001454              1204 FMCRXX  BSS      1            EXIT ADDRESS                                                    04 01204
001455 000003 A     1205         DATA     3            3 PARAMETERS                                                    04 01205
001456              1206 FMCRCB  BSS      1            ADDRESS OF COMMAND BLOCK                                        04 01206
001457              1207 FMCRFC  BSS      2            FCB ADDRESS                                                     04 01207
001461 001143 R     1208         DATA     FMCR1        FMCR START ADDRESS                                              04 01208
001462              1209 FMCRAA  BSS      2            ALLOCATE ADDRESSES                                              04 01209
001464 125252 A     1210 FMCRAS  DATA     '******'                                                                     04 01210
001465 125252 A
001466 125252 A
001467              1211 FMCRBP  BSS      1            BUFFER POINTER                                                  04 01211
001470              1212 FMCREF  BSS      1            ERROR FLAG                                                      04 01212
001471              1213 FMCRFB  BSS      2            POINTERS TO FILE NAME FCB                                       04 01213
001473              1214 FMCRNA  BSS      1            ADDRESS OF FILE NAME                                            04 01214
001474              1215 FMCRPB  BSS      1            ADDRESS OF POINTER BLOCK                                        04 01215
001475              1216 FMCRRC  BSS      2            RECORD COUNTS                                                   04 01216
001477              1217 FMCRT   BSS      1            TEMP STORE                                                      04 01217
                    1218         EJEC                                                                                 04 01218
                    1219 ********************************************************************************************* 04 01219
                    1220 *                                                                                           * 04 01220
                    1221 *                  P R O C E S S   D E L E T E ( F M D E )                                  * 04 01221
                    1222 *                                                                                           * 04 01222
                    1223 * FUNCTION: TO DELETE A FILE NAME FROM A DIRECTORY                                          * 04 01223
                    1224 *                                                                                           * 04 01224
                    1225 * ENTRY: NO SPECIAL CONDITIONS                                                             * 04 01225
                    1226 *                                                                                           * 04 01226
                    1227 * CALLING SEQUENCE: JSR    FMDE,X                                                          * 04 01227
                    1228 *                   DATA   ADDRESS OF COMMAND BLOCK(CB)                                    * 04 01228
                    1229 *                   DATA   FCB ADDRESS                                                     * 04 01229
                    1230 *                   DATA   ADDRESS OF LINE COUNTER(0 FOR NO LISTING)                       * 04 01230
                    1231 *                                                                                           * 04 01231
                    1232 * COMMAND BLOCK: WORD 0: LOGICAL UNIT NUMBER                                               * 04 01232
                    1233 *                WORD 1: KEY                                                               * 04 01233
                    1234 *                WORDS 2-4: FILE NAME                                                      * 04 01234
                    1235 *                                                                                           * 04 01235
                    1236 * EXIT : A=0 IF NO ERRORS                                                                  * 04 01236
                    1237 *        ENTRY CONVERTED TO BLANK                                                          * 04 01237
                    1238 *        PRECEDING AND FOLLOWING BLANK ENTRIES ATTACHED                                    * 04 01238
                    1239 *        ATTACHED AND EQUIVALENT ENTRIES CONVERTED TO ZEROS                                * 04 01239
                    1240 *                                                                                           * 04 01240
                    1241 * ERRORS: A=1 ON LUN OR KEY ERROR                                                          * 04 01241
                    1242 *         A=3 IF NAME NOT FOUND                                                            * 04 01242
                    1243 *         A=5 ON I/O ERROR                                                                 * 04 01243
                    1244 *         A=6 ON DIRECTORY STRUCTURE ERROR                                                 * 04 01244
                    1245 *                                                                                           * 04 01245
                    1246 ********************************************************************************************* 04 01246
001500 003001 A     1248 FMDE1   TZA                                                                                  04 01248
001501 054363 A     1249         STA      FMDEEF       CLEAR ERROR FLAG                                                04 01249
001502 010422 A     1250         LDA      TWO                                                                          04 01250
001503 054357 A     1251         STA      FMDEAA       INITIALIZE NEXT AVAIL ADDRESS TO 2                              04 01251
                    1252 **********************                                                                       04 01252
                    1253 * GET FILE PARAMETERS *                                                                     04 01253
                    1254 **********************                                                                       04 01254
001504 006505 A     1255         JSR      FMFA,X       MAKE FILE ACCESS                                                04 01255
001505 002433 R
001506 102057 R     1256         MZE      FMDECB                                                                       04 01256
001507 102060 R     1257         MZE      FMDEFC                                                                       04 01257
001510 074356 A     1258         STX      FMDEPB       SAVE ADDRESS OF POINTER BLOCK                                   04 01258
001511 001013 A     1259         JAZ      *+5          ERROR ?                                                         04 01259
001512 001516 R
001513 044351 A     1260         INA      FMDEEF       YES. SET FLAG AND EXIT                                          04 01260
001514 001000 A     1261         JMP      FMDEX2                                                                E.1  ********
001515 001765 R
001516 034340 A     1262         LDX      FMDECB                                                                       04 01262
001517 015010 A     1263         LDA      8,X                                                                          04 01263
001520 054375 A     1264         STA      FMDEH2       LOAD LUN TEXT                                                   04 01264
001521 015011 A     1265         LDA      9,X                                                                          04 01265
001522 054374 A     1266         STA      FMDEH2+1                                                                     04 01266
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001523 002080 A 1267          CALL    FMDECI          OUTPUT DELETE HEADER                    04 01267
001524 001777 R
                1268 ********************************                                        04 01268
                1269 * TEST IF NAME IN DIRECTORY *                                          04 01269
                1270 ********************************                                        04 01270
001525 014331 A 1271          LDA     FMDECB                                                  04 01271
001526 120422 A 1272          ADD     TWO                                                     04 01272
001527 054336 A 1273          STA     FMDENA          LOAD ADDRESS OF FILE NAME               04 01273
001530 006505 A 1274          JSR     FMRW,X          REWIND DIRECTORY                        04 01274
001531 004745 R
001532 102057 R 1275          MZE     FMDECB                                                  04 01275
001533 102060 R 1276          MZE     FMDEFC                                                  04 01276
001534 002064 R 1277          PZE     FMDEBP                                                  04 01277
001535 001016 A 1278          JANZ    FMDEE           EXIT IF ERROR                           04 01278
001536 001774 R
001537 006505 A 1279          JSR     FMSD,X          SEARCH DIRECTORY                        04 01279
001540 005032 R
001541 102066 R 1280          MZE     FMDENA                                                  04 01280
001542 102057 R 1281          MZE     FMDECB                                                  04 01281
001543 102060 R 1282          MZE     FMDEFC                                                  04 01282
001544 102067 R 1283          MZE     FMDEPB                                                  04 01283
001545 002064 R 1284          PZE     FMDEBP                                                  04 01284
001546 002063 R 1285          PZE     FMDEAA                                                  04 01285
001547 001016 A 1286          JANZ    FMDEE           CHECK FOR ERROR                         04 01286
001550 001774 R
001551 001007 A 1287          JOFN    FMDEE3          ERROR 3/NAME NOT IN DIRECTORY/          04 01287
001552 001773 R
                1288 ********************************                                        04 01288
                1289 * NAME FOUND - SAVE EXTENT *                                           04 01289
                1290 ********************************                                        04 01290
001553 015004 A 1291          LDA     4,X                                                     04 01291
001554 054317 A 1292          STA     FMDESA          SAVE STARTING RMD ADDRESS OF FILE       04 01292
001555 015005 A 1293          LDA     5,X                                                     04 01293
001556 054316 A 1294          STA     FMDEEA          SAVE ENDING RMD ADDRESS OF FILE         04 01294
                1295 ************************************************                        04 01295
                1296 * SCAN DIRECTORY FOR EQUIV(SAME RMD SPACE) NAMES *                       04 01296
                1297 ************************************************                        04 01297
001557 002000 A 1298          CALL    FMDECH          CHECK HEADER                            04 01298
001560 002014 R
001561 006505 A 1299          JSR     FMRW,X          REWIND FILE DIRECTORY                   04 01299
001562 004745 R
001563 102057 R 1300          MZE     FMDECB                                                  04 01300
001564 102060 R 1301          MZE     FMDEFC                                                  04 01301
001565 002064 R 1302          PZE     FMDEBP                                                  04 01302
001566 001016 A 1303          JANZ    FMDEE           CHECK ERROR                             04 01303
001567 001774 R
001570 006505 A 1304 FMDEL1   JSR     FMFF,X          GET NEXT FILE NAME FROM DIRECTORY       04 01304
001571 002604 R
001572 102057 R 1305          MZE     FMDECB                                                  04 01305
001573 102060 R 1306          MZE     FMDEFC                                                  04 01306
001574 102067 R 1307          MZE     FMDEPB                                                  04 01307
001575 002064 R 1308          PZE     FMDEBP                                                  04 01308
001576 002063 R 1309          PZE     FMDEAA                                                  04 01309
001577 001016 A 1310          JANZ    FMDEE           CHECK FOR ERROR                         04 01310
001600 001774 R
001601 001001 A 1311          JOF     FMDEX1          EXIT AT END OF DIRECTORY                04 01311
001602 001642 R
001603 005021 A 1312          TBA                                                             04 01312
001604 001010 A 1313          JAZ     FMDEL1          SKIP ZERO ENTRIES                       04 01313
001605 001570 R
001606 001002 A 1314          JAP     FMDEL1          SKIP BLANK ENTRIES                      04 01314
001607 001570 R
001610 015004 A 1315          LDA     4,X                                                     04 01315
001611 144262 A 1316          SUB     FMDESA          COMPARE START ADDRESSES                 04 01316
001612 001016 A 1317          JANZ    FMDEL1          CONTINUE SCAN IF UNEQUAL                04 01317
001613 001570 R
                1318 ****************************                                            04 01318
                1319 * EQUIVALENT NAME FOUND *                                             04 01319
                1320 ****************************                                            04 01320
001614 034244 A 1321          LDX     FMDELC                                                  04 01321
001615 001040 A 1322          JXZ     FMDENL          TEST LIST SWITCH                        04 01322
001616 001627 R
                1323 ************************                                                04 01323
                1324 * LIST DELETED ENTRY *                                                 04 01324
                1325 ************************                                                04 01325
001617 002000 A 1326          CALL    FMDECH          CHECK HEADER                            04 01326
001620 002014 R
001621 006505 A 1327          JSR     FMOF,X          OUTPUT FILE NAME AND EXTENT             04 01327
001622 004422 R
001623 102064 R 1328          MZE     FMDEBP                                                  04 01328
001624 102061 R 1329          MZE     FMDELC                                                  04 01329
001625 001016 A 1330          JANZ    FMDEE           CHECK FOR ERROR                         04 01330
001626 001774 R
                1331 ****************************************                                04 01331
                1332 * CONVERT EQUIV ENTRY TO ZERO ENTRY *                                   04 01332
                1333 ****************************************                                04 01333
001627 034234 A 1334 FMDENL   LDX     FMDEBP                                                  04 01334
001630 005001 A 1335          TZA                                                             04 01335
001631 055000 A 1336          STA     0,X             MAKE DELETED ENTRY INTO A ZERO ENTRY    04 01336
001632 006505 A 1337          JSR     FMWR,X          WRITE SECTOR TO RMD                     04 01337
001633 005611 R
001634 102057 R 1338          MZE     FMDECB                                                  04 01338
001635 102060 R 1339          MZE     FMDEFC                                                  04 01339
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001636 001016 A 1340          JANZ    FMDEE                                                    04 01340
001637 001774 R
001640 001000 A 1341          JMP     FMDEL1          CONTINUE SCAN                            04 01341
001641 001570 R
                1342 ********************************************                               04 01342
                1343 * END OF EQUIVALENCES - TRY TO EXTEND BLANK *                               04 01343
                1344 ********************************************                               04 01344
001642 006505 A 1345 FMDEX1 JSR       FMRW,X          REWIND DIRECTORY                         04 01345
001643 004745 R
001644 102057 R 1346          MZE     FMDECB                                                   04 01346
001645 102060 R 1347          MZE     FMDEFC                                                   04 01347
001646 002064 R 1348          PZE     FMDEBP                                                   04 01348
001647 001016 A 1349          JANZ    FMDEE           CHECK FOR ERROR                          04 01349
001650 001774 R
                1350 ***************************************                                    04 01350
                1351 * SEARCH FOR ADJOINING BLANK ENTRIES *                                    04 01351
                1352 ***************************************                                    04 01352
001651 006505 A 1353 FMDEL2 JSR       FMSD,X          SEARCH FOR BLANK ENTRY                   04 01353
001652 005032 R
001653 002070 R 1354          PZE     FMDEAS                                                   04 01354
001654 102057 R 1355          MZE     FMDECB                                                   04 01355
001655 102060 R 1356          MZE     FMDEFC                                                   04 01356
001656 102067 R 1357          MZE     FMDEPB                                                   04 01357
001657 002064 R 1358          PZE     FMDEBP                                                   04 01358
001660 002063 R 1359          PZE     FMDEAA                                                   04 01359
001661 001016 A 1360          JANZ    FMDEE           CHECK FOR ERROR                          04 01360
001662 001774 R
001663 001007 A 1361          JDFN    FMDEWB          EXIT AT END OF DIRECTORY                 04 01361
001664 001715 R
                1362 ***********************************************                            04 01362
                1363 * TEST IF BLANK ADJOINS DELETE ENTRY ON LEFT *                            04 01363
                1364 ***********************************************                            04 01364
001665 015005 A 1365          LDA     5,X             GET BLANK END ADDR+1                     04 01365
001666 144205 A 1366          SUB     FMDESA          COMPARE WITH START OF DELETED FILE       04 01366
001667 001016 A 1367          JANZ    FMDER           ADJOINING ?                              04 01367
001670 001675 R
001671 015004 A 1368          LDA     4,X             YES. EXTEND BLANK TO LEFT                04 01368
001672 054201 A 1369          STA     FMDESA                                                   04 01369
001673 001000 A 1370          JMP     FMDEWZ          WRITE OUT ZERO ENTRY                     04 01370
001674 001703 R
                1371 ************************************************                           04 01371
                1372 * TEST IF BLANK ADJOINS DELETE ENTRY ON RIGHT *                           04 01372
                1373 ************************************************                           04 01373
001675 014177 A 1374 FMDER  LDA       FMDEEA          GET END ADDR+1 OF DELETED ITEM           04 01374
001676 145004 A 1375          SUB     4,X                                                      04 01375
001677 001016 A 1376          JANZ    FMDEL2          CONTINUE SCAN IF NON-ADJOINONG           04 01376
001700 001651 R
001701 015005 A 1377          LDA     5,X             ADJOINING                                04 01377
001702 054172 A 1378          STA     FMDEEA          EXTEND BLANK TO RIGHT                    04 01378
001703 005001 A 1379 FMDEWZ TZA                                                                04 01379
001704 055000 A 1380          STA     0,X             CONVERT BLANK TO ZERO ENTRY              04 01380
001705 006505 A 1381          JSR     FMWR,X          WRITE OUT ZERO ENTRY                     04 01381
001706 005611 R
001707 102057 R 1382          MZE     FMDECB                                                   04 01382
001710 102060 R 1383          MZE     FMDEFC                                                   04 01383
001711 001016 A 1384          JANZ    FMDEE           CHECK FOR ERRORS                         04 01384
001712 001774 R
001713 001000 A 1385          JMP     FMDEL2          CONTINUE SCAN OF DIRECTORY               04 01385
001714 001651 R
                1386 ******************                                                         04 01386
                1387 * SCAN FINISHED *                                                         04 01387
                1388 ******************                                                         04 01388
001715 014157 A 1389 FMDEWB LDA       FMDEEA          GET END ADDR OF BLANK                    04 01389
001716 144144 A 1390          SUB     FMDEAA          COMPARE WITH PART NEXT AVAIL             04 01390
001717 001016 A 1391          JANZ    FMDEX4          IS BLANK AT END OF ALLOCATED SPACE ?     04 01391
001720 001734 R
001721 014152 A 1392          LDA     FMDESA          YES. GET START ADDRESS OF BLANK          04 01392
001722 140422 A 1393          SUB     TWO             COMPARE WITH START OF PARTITION          04 01393
001723 001016 A 1394          JANZ    FMDEX           IS DIRECTORY ALL DELETED ?               04 01394
001724 001760 R
001725 006505 A 1395          JSR     FMIN,X          YES. INITIALIZE DIRECTORY                04 01395
001726 003276 R
001727 102057 R 1396          MZE     FMDECB                                                   04 01396
001730 102060 R 1397          MZE     FMDEFC                                                   04 01397
001731 000000 A 1398          DATA    0                                                        04 01398
001732 001000 A 1399          JMP     FMDEX           EXIT                                     04 01399
001733 001760 R
001734 006505 A 1400 FMDEX4 JSR       FMGD,X          GET DIRECTORY SPACE                      04 01400
001735 002732 R
001736 102057 R 1401          MZE     FMDECB                                                   04 01401
001737 102060 R 1402          MZE     FMDEFC                                                   04 01402
001740 102067 R 1403          MZE     FMDEPB                                                   04 01403
001741 002063 R 1404          PZE     FMDEAA                                                   04 01404
001742 001016 A 1405          JANZ    FMDEE           CHECK FOR ERROR                          04 01405
001743 001774 R
001744 074117 A 1406          STX     FMDEBP                                                   04 01406
001745 010466 A 1407          LDA     SIX                                                      04 01407
001746 006505 A 1408          JSR     FMMV,X          MOVE ENTRY INTO BUFFER                   04 01408
001747 003735 R
001750 002070 R 1409          PZE     FMDEAS                                                   04 01409
001751 102064 R 1410          MZE     FMDEBP                                                   04 01410
001752 006505 A 1411 FMDEWR JSR       FMWR,X          WRITE TO RMD                             04 01411
001753 005611 R
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001754 102057 R 1412          MZE     FMDECB                                                    04 01412
001755 102060 R 1413          MZE     FMDEFC                                                    04 01413
001756 001016 A 1414          JANZ    FMDEE           CHECK FOR ERROR                           04 01414
001757 001774 R
                1415 ******************************                                            04 01415
                1416 * CLEAR LOCKOUT BIT IN DST *                                              04 01416
                1417 ******************************                                            04 01417
001760 034106 A 1418 FMDEX    LDX     FMDEPB                                                    04 01418
001761 035000 A 1419          LDX     0,X             POINT X AT DST                            04 01419
001762 015002 A 1420          LDA     2,X                                                       04 01420
001763 150455 A 1421          ANA     BR12                                                      04 01421
001764 055002 A 1422          STA     2,X                                                       04 01422
001765 006505 A 1423 FMDEX2   JSR     FMLF,X          LINE FEED LD                        E.1 ********
001766 003320 R
001767 102061 R 1424          MZE     FMDELC                                                    04 01424
001770 014074 A 1425          LDA     FMDEEF          LOAD A WITH ERROR FLAG AT EXIT            04 01425
001771 001000 A 1426          JMP*    FMDEXX          EXIT                                      04 01426
001772 102055 R
                1427 **********                                                                04 01427
                1428 * ERRORS *                                                                04 01428
                1429 **********                                                                04 01429
001773 010464 A 1430 FMDEE3   LDA     THREE                                                     04 01430
001774 054070 A 1431 FMDEE    STA     FMDEEF          LOAD ERROR FLAG                           04 01431
001775 001000 A 1432          JMP     FMDEX2                                              E.2********
001776 001765 R
                1433 ****************                                                          04 01433
                1434 * CHECK HEADER *                                                          04 01434
                1435 ****************                                                          04 01435
001777 000000 A 1436 FMDECI   ENTR                    INITIALIZE ENTRY                          04 01436
002000 006017 A 1437          LDAE    FMDECI                                                    04 01437
002001 001777 R
002002 054011 A 1438          STA     FMDECH          LOAD EXIT                                 04 01438
002003 034055 A 1439          LDX     FMDELC                                                    04 01439
002004 001040 A 1440          JXZ*    FMDECH          EXIT IF NO LIST                           04 01440
002005 102014 R
002006 015000 A 1441          LDA     0,X                                                       04 01441
002007 140423 A 1442          SUB     FOUR                                                      04 01442
002010 001004 A 1443          JAN     FMDECJ          TEST PAGE END                             04 01443
002011 002023 R
002012 001000 A 1444          JMP     FMDEC2          PRINT DELETE HEADER                       04 01444
002013 002030 R
002014 000000 A 1445 FMDECH   ENTR                                                            04 01445
002015 034043 A 1446          LDX     FMDELC                                                    04 01446
002016 001040 A 1447          JXZ*    FMDECH          EXIT IF NO LIST                           04 01447
002017 102014 R
002020 015000 A 1448          LDA     0,X             GET LINE COUNT                            04 01448
002021 001002 A 1449          JAP*    FMDECH          END OF PAGE ?                             04 01449
002022 102014 R
002023 006505 A 1450 FMDECJ   JSR     FMVH,X          YES, OUTPUT VORTEX HEADER                 04 01450
002024 005115 R
002025 102061 R 1451          MZE     FMDELC                                                    04 01451
002026 001016 A 1452          JANZ    FMDEE           CHECK ERROR                               04 01452
002027 001774 R
002030 006505 A 1453 FMDEC2   JSR     FMWL,X          WRITE '  DELETE LISTING'                  04 01453
002031 005342 R
002032 002076 R 1454          PZE     FMDEH1                                                    04 01454
002033 102061 R 1455          MZE     FMDELC                                                    04 01455
002034 001016 A 1456          JANZ    FMDEE           CHECK FOR ERROR                           04 01456
002035 001774 R
002036 006505 A 1457          JSR     FMLF,X          LINE FEED                                 04 01457
002037 003320 R
002040 102061 R 1458          MZE     FMDELC                                                    04 01458
002041 001016 A 1459          JANZ    FMDEE           CHECK FOR ERROR                           04 01459
002042 001774 R
002043 006505 A 1460          JSR     FMDC,X          WRITE COLUMN HEADER                       04 01460
002044 004302 R
002045 102061 R 1461          MZE     FMDELC                                                    04 01461
002046 001016 A 1462          JANZ    FMDEE           CHECK FOR ERROR                           04 01462
002047 001774 R
002050 001000 A 1463          JMP*    FMDECH          EXIT                                      04 01463
002051 102014 R
                1464 **********                                                                04 01464
                1465 * ENTRY *                                                                 04 01465
                1466 **********                                                                04 01466
002052 074002 A 1467 FMDE     STX     FMDEXX          STORE EXIT                                04 01467
002053 006505 A 1468          JSR     FMPT,X          XFER PARAMETERS                           04 01468
002054 004457 R
002055          1469 FMDEXX   BSS     1               EXIT ADDRESS                              04 01469
002056 000003 A 1470          DATA    3               3 PARAMETERS                              04 01470
002057          1471 FMDECB   BSS     1               COMMAND BLOCK ADDRESS                     04 01471
002060          1472 FMDEFC   BSS     1               FCB ADDRESS                               04 01472
002061          1473 FMDELC   BSS     1               ADDRESS OF LINE COUNTER                   04 01473
002062 001500 R 1474          DATA    FMDE1           FMDE START ADDRESS                        04 01474
002063          1475 FMDEAA   BSS     1               NEXT AVAILABLE ADDRESS                    04 01475
002064          1476 FMDEBP   BSS     1               BUFFER POINTER                            04 01476
002065          1477 FMDEEF   BSS     1               ERROR FLAG                                04 01477
002066          1478 FMDENA   BSS     1               ADDRESS OF FILE NAME                      04 01478
002067          1479 FMDEPB   BSS     1               ADDRESS OF POINTER BLOCK                  04 01479
002070 125252 A 1480 FMDEAS   DATA    '******'                                                  04 01480
002071 125252 A
002072 125252 A
002073 000000 A 1481          DATA    0                                                         04 01481
002074          1482 FMDESA   BSS     1               BLANK START ADDRESS                       04 01482
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002075           1483 FMDEEA BSS     1              BLANK END ADDRESS                                  04 01483
002076 000017 A  1484 FMDEH1 DATA    15             DELETE TITLE DCB                                   04 01484
002077 002101 R  1485        DATA    *+2                                                               04 01485
002100 000001 A  1486        DATA    1                                                                 04 01486
002101 130240 A  1487        DATA    '0 DELETE LISTING FOR LUN '                                       04 01487
002102 142305 A
002103 146305 A
002104 152305 A
002105 120314 A
002106 144723 A
002107 152311 A
002110 147307 A
002111 120306 A
002112 147722 A
002113 120314 A
002114 152716 A
002115 120240 A
002116 120240 A  1488 FMDEH2 DATA    '  '           LUN TEXT                                           04 01488
002117 120240 A
                 1489        EJEC                                                                     04 01489
                 1490 ********************************************************************************* 04 01490
                 1491 *    M O D I F Y   A S C I I   D I G I T   S T R I N G (F M D S )       *        04 01491
                 1492 *                                                                       *        04 01492
                 1493 * FUNCTION: TO INCREMENT A 4-CHARACTER ASCII DECIMAL DIGIT FIELD        *        04 01493
                 1494 *           WITH LEADING BLANKS.                                       *        04 01494
                 1495 *                                                                      *        04 01495
                 1496 * ENTRY: NO SPECIAL CONDITIONS                                         *        04 01496
                 1497 *                                                                      *        04 01497
                 1498 * CALLING SEQUENCE: JSR   FMDS,X                                       *        04 01498
                 1499 *                  DATA  ASCII FIELD ADDRESS                          *        04 01499
                 1500 *                                                                      *        04 01500
                 1501 * EXIT : ASCII DECIMAL STRING INCREMENTED                              *        04 01501
                 1502 *                                                                      *        04 01502
                 1503 ********************************************************************************* 04 01503
002120 034036 A  1505 FMDS1  LDX     FMDSP          POINT X AT ASCII STRING                            04 01505
002121 025000 A  1506        LDB     0,X            CHARS 1-2 TO B                                     04 01506
002122 015001 A  1507        LDA     1,X            CHARS 3-4 TO A                                     04 01507
002123 005111 A  1508        IAR                    INCREMENT CHAR 4                                   04 01508
002124 002000 A  1509        CALL    FMDSS          PROPAGATE CHAR 4 OVERFLOW TO CHAR 3                04 01509
002125 002140 R
002126 004470 A  1510        LLRL    24             CHARS 2-3 TO A                                     04 01510
002127 002000 A  1511        CALL    FMDSS          PROPAGATE CHAR 3 OVERFLOW TO CHAR 2                04 01511
002130 002140 R
002131 004470 A  1512        LLRL    24             CHARS 1-2 TO A                                     04 01512
002132 002000 A  1513        CALL    FMDSS          PROPAGATE CHAR 2 OVERFLOWS TO CHAR 1               04 01513
002133 002140 R
002134 055000 A  1514        STA     0,X            RESTORE CHARS 1-2                                  04 01514
002135 065001 A  1515        STB     1,X            RESTORE CHARS 3-4                                  04 01515
002136 001000 A  1516        JMP*    FMDSXX         EXIT                                               04 01516
002137 102155 R
                 1517 ********************************************                                     04 01517
                 1518 * SERVICE SUBROUTINE TO PROPAGATE OVERFLOWS  *                                   04 01518
                 1519 ********************************************                                     04 01519
002140 000006 A  1520 FMDSS  ENTR                   IF OVERFLOW, LOW BYTE OF A=0272                    04 01520
002141 124017 A  1521        ADD     FMDSO          ADDING 0106 BUMPS HIGH BYTE,MAKES LOW=0            04 01521
002142 004250 A  1522        LRLA    8              SWAP BYTES                                         04 01522
002143 001004 A  1523        JAN     *+3            OVERFLOW ?                                         04 01523
002144 002146 R
002145 114014 A  1524        ORA     FMDST          YES, OR HI BYTE WITH 0366, LOW WITH '0'            04 01524
002146 004250 A  1525        LRLA    8              RESTORE BYTES                                      04 01525
002147 144011 A  1526        SUB     FMDSO          RESTORE LOW BYTE TO '0'                            04 01526
002150 001000 A  1527        JMP*    FMDSS                                                             04 01527
002151 102140 R
                 1528 *********                                                                       04 01528
                 1529 * ENTRY *                                                                       04 01529
                 1530 *********                                                                       04 01530
002152 074002 A  1531 FMDS   STX     FMDSXX         STORE EXIT                                         04 01531
002153 006505 A  1532        JSR     FMPT,X         TRANSFER PARAMETER                                 04 01532
002154 004457 R
002155           1533 FMDSXX BSS     1              EXIT ADDRESS                                       04 01533
002156 000001 A  1534        DATA    1              1 PARAMETER                                        04 01534
002157           1535 FMDSP  BSS     1              ADDRESS OF ASCII STRING                            04 01535
002160 002120 R  1536        DATA    FMDS1          FMDS START ADDRESS                                 04 01536
                 1537 *                                                                               04 01537
002161 000106 A  1538 FMDSO  DATA    0106                                                              04 01538
002162 173260 A  1539 FMDST  DATA    0173260        16-BIT MASK                                        04 01539
                 1540        EJEC                                                                     04 01540
                 1541 ********************************************************************************* 04 01541
                 1542 *                                                                      *        04 01542
                 1543 *                  P R O C E S S   E N T E R (F M E N )                *        04 01543
                 1544 *                                                                      *        04 01544
                 1545 * FUNCTION: TO ATTACH ANOTHER NAME TO AN EXISTING FILE                 *        04 01545
                 1546 *                                                                      *        04 01546
                 1547 * ENTRY: NO SPECIAL CONDITIONS                                         *        04 01547
                 1548 *                                                                      *        04 01548
                 1549 * CALLING SEQUENCE: JSR   FMEN,X                                      *        04 01549
                 1550 *                   DATA  ADDRESS OF COMMAND BLOCK(CB)                 *        04 01550
                 1551 *                   DATA  FCB ADDRESS                                  *        04 01551
                 1552 *                   DATA  0                                            *        04 01552
                 1553 *                                                                      *        04 01553
                 1554 * COMMAND BLOCK: WORD 0: LOGICAL UNIT NUMBER                          *        04 01554
                 1555 *                 WORD 1: KEY                                        *        04 01555
                 1556 *                 WORDS 2-4: OLD(EXISTING) FILE NAME                 *        04 01556
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                    1557 *                  WORDS 5-7: NEW FILE NAME                                    * 04 01557
                    1558 *                                                                              * 04 01558
                    1559 * EXIT : A=0 IF NO ERRORS                                                       * 04 01559
                    1560 *                                                                              * 04 01560
                    1561 * ERRORS: A=1 ON LUN OR KEY ERROR                                               * 04 01561
                    1562 *         A=2 IF NEW NAME ALREADY IN DIRECTORY                                 * 04 01562
                    1563 *         A=3 IF OLD NAME NOT IN DIRECTORY                                     * 04 01563
                    1564 *         A=5 ON I/O ERROR                                                     * 04 01564
                    1565 *         A=6 ON DIRECTORY STRUCTURE ERROR                                     * 04 01565
                    1566 *                                                                              * 04 01566
                    1567 ********************************************************************************** 04 01567
002163 005001 A     1569 FMEN1   TZA                                                                      04 01569
002164 054156 A     1570         STA      FMENEF        CLEAR ERROR FLAG                                  04 01570
002165 010422 A     1571         LDA      TWO                                                             04 01571
002166 054152 A     1572         STA      FMENAA        INITIALIZE NEXT AVAIL ADDRESS TO 2                04 01572
                    1573 ************************                                                        04 01573
                    1574 * GET FILE PARAMETERS *                                                        04 01574
                    1575 ************************                                                        04 01575
002167 006505 A     1576         JSR      FMFA,X        MAKE FILE ACCESS                                  04 01576
002170 002433 R
002171 102333 R     1577         MZE      FMENCB                                                          04 01577
002172 102336 R     1578         MZE      FMENFC                                                          04 01578
002173 074152 A     1579         STX      FMENPB        SAVE ADDRESS OF POINTER BLOCK                     04 01579
002174 001010 A     1580         JAZ      *+5           ERROR ?                                           04 01580
002175 002201 R
002176 044144 A     1581         INR      FMENEF        YES. SET FLAG AND EXIT                            04 01581
002177 001000 A     1582         JMP      FMENX2                                                  E.1 ********
002200 002325 R
                    1583 ************************************                                            04 01583
                    1584 * CHECK THAT NEW NAME NOT IN FILE *                                            04 01584
                    1585 ************************************                                            04 01585
002201 006505 A     1586         JSR      FMRW,X        REWIND DIRECTORY                                  04 01586
002202 004745 R
002203 102335 R     1587         MZE      FMENCB                                                          04 01587
002204 102336 R     1588         MZE      FMENFC                                                          04 01588
002205 002342 R     1589         PZE      FMENBP                                                          04 01589
002206 001016 A     1590         JANZ     FMENE         CHECK FOR ERROR                                   04 01590
002207 002317 R
002210 014124 A     1591         LDA      FMENCB                                                          04 01591
002211 120422 A     1592         ADD      TWO                                                             04 01592
002212 054131 A     1593         STA      FMENNA        LOAD ADDRESS OF OLD NAME                          04 01593
002213 120464 A     1594         ADD      THREE                                                           04 01594
002214 054130 A     1595         STA      FMENNA+1      LOAD ADDRESS OF NEW NAME                          04 01595
002215 006505 A     1596         JSR      FMSD,X        SEARCH DIRECTORY FOR NEW NAME                     04 01596
002216 005032 R
002217 102345 R     1597         MZE      FMENNA+1                                                        04 01597
002220 102335 R     1598         MZE      FMENCB                                                          04 01598
002221 102336 R     1599         MZE      FMENFC                                                          04 01599
002222 102346 R     1600         MZE      FMENPB                                                          04 01600
002223 002342 R     1601         PZE      FMENBP                                                          04 01601
002224 002341 R     1602         PZE      FMENAA                                                          04 01602
002225 001016 A     1603         JANZ     FMENE         CHECK FOR ERROR                                   04 01603
002226 002317 R
002227 001001 A     1604         JOF      FMENE2        ERROR 2/NEW NAME IN FILE/                         04 01604
002230 002313 R
                    1605 ********************************                                                04 01605
                    1606 * NEW NAME OK. FIND OLD NAME *                                                 04 01606
                    1607 ********************************                                                04 01607
002231 006505 A     1608         JSR      FMRW,X        REWIND DIRECTORY                                  04 01608
002232 004745 R
002233 102335 R     1609         MZE      FMENCB                                                          04 01609
002234 102336 R     1610         MZE      FMENFC                                                          04 01610
002235 002342 R     1611         PZE      FMENBP                                                          04 01611
002236 001016 A     1612         JANZ     FMENE         CHECK FOR ERROR                                   04 01612
002237 002317 R
002240 006505 A     1613         JSR      FMSD,X        SEARCH DIRECTORY FOR OLD NAME                     04 01613
002241 005032 R
002242 102344 R     1614         MZE      FMENNA                                                          04 01614
002243 102335 R     1615         MZE      FMENCB                                                          04 01615
002244 102336 R     1616         MZE      FMENFC                                                          04 01616
002245 102346 R     1617         MZE      FMENPB                                                          04 01617
002246 002342 R     1618         PZE      FMENBP                                                          04 01618
002247 002341 R     1619         PZE      FMENAA                                                          04 01619
002250 001016 A     1620         JANZ     FMENE         CHECK FOR ERROR                                   04 01620
002251 002317 R
002252 001007 A     1621         JOFN     FMENE3        ERROR 3/OLD NAME NOT IN FILE/                     04 01621
002253 002316 R
002254 074065 A     1622         STX      FMENBP        SAVE BUFFER POINTER                               04 01622
                    1623 ********************************                                                04 01623
                    1624 * SAVE OLD NAME PARAMS IN TEMP *                                                04 01624
                    1625 ********************************                                                04 01625
002255 010466 A     1626         LDA      SIX                                                             04 01626
002256 006505 A     1627         JSR      FMMV,X                                                          04 01627
002257 003735 R
002260 102342 R     1628         MZE      FMENBP                                                          04 01628
002261 002347 R     1629         PZE      FMENT                                                           04 01629
                    1630 ****************************                                                  04 01630
                    1631 * MOVE NEW NAME INTO TEMP *                                                    04 01631
                    1632 ****************************                                                  04 01632
002262 010464 A     1633         LDA      THREE                                                           04 01633
002263 006505 A     1634         JSR      FMMV,X                                                          04 01634
002264 003735 R
002265 102345 R     1635         MZE      FMENNA+1                                                        04 01635
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002266 002347 R 1636          PZE     FMENT                                                  04 01636
                1637 **********************************                                   04 01637
                1638 * MAKE ENTRY IN DIRECTORY *                                           04 01638
                1639 **********************************                                   04 01639
002267 006505 A 1640          JSR     FMGD,X                                                 04 01640
002270 002732 R
002271 102335 R 1641          MZE     FMENCB                                                 04 01641
002272 102336 R 1642          MZE     FMENFC                                                 04 01642
002273 102346 R 1643          MZE     FMENPB                                                 04 01643
002274 002341 R 1644          PZE     FMENAA                                                 04 01644
002275 001016 A 1645          JANZ    FMENE           CHECK FOR ERRORS                       04 01645
002276 002317 R
002277 074042 A 1646          STX     FMENBP                                                 04 01646
002300 010466 A 1647          LDA     SIX                                                    04 01647
002301 006505 A 1648          JSR     FMMV,X          MOVE ENTRY FROM TEMP TO BUFFER         04 01648
002302 003735 R
002303 002347 R 1649          PZE     FMENT                                                  04 01649
002304 102342 R 1650          MZE     FMENBP                                                 04 01650
002305 006505 A 1651          JSR     FMWR,X          WRITE BUFFER TO RMD                    04 01651
002306 005611 R
002307 102335 R 1652          MZE     FMENCB                                                 04 01652
002310 102336 R 1653          MZE     FMENFC                                                 04 01653
002311 001010 A 1654          JAZ     FMENX                                                  04 01654
002312 002320 R
                1655 *********                                                               04 01655
                1656 * ERROR *                                                               04 01656
                1657 *********                                                               04 01657
002313 010422 A 1658 FMENE2   LDA     TWO                                                    04 01658
002314 001000 A 1659          JMP     FMENE                                                  04 01659
002315 002317 R
002316 010464 A 1660 FMENE3   LDA     THREE                                                  04 01660
002317 054023 A 1661 FMENE    STA     FMENEF          LOAD ERROR FLAG                        04 01661
                1662 ******************************                                       04 01662
                1663 * CLEAR LOCKOUT BIT IN DST *                                         04 01663
                1664 ******************************                                       04 01664
002320 034025 A 1665 FMENX    LDX     FMENPB                                                 04 01665
002321 035000 A 1666          LDX     0,X             POINT X AT DST                         04 01666
002322 015002 A 1667          LDA     2,X                                                    04 01667
002323 150455 A 1668          ANA     BR12            CLEAR LOCKOUT BIT                      04 01668
002324 055002 A 1669          STA     2,X                                                    04 01669
002325 014015 A 1670 FMENX2   LDA     FMENEF          LOAD A WITH ERROR FLAG                 E.1 ********
002326 001000 A 1671          JMP*    FMENXX                                                 04 01671
002327 102333 R
                1672 *********                                                               04 01672
                1673 * ENTRY *                                                              04 01673
                1674 *********                                                               04 01674
002330 074002 A 1675 FMEN     STX     FMENXX          STORE EXIT                             04 01675
002331 006505 A 1676          JSR     FMPT,X          XFER PARAMETERS                        04 01676
002332 004457 R
002333          1677 FMENXX   BSS     1               EXIT ADDRESS                           04 01677
002334 000003 A 1678          DATA    3               3 PARAMETERS                           04 01678
002335          1679 FMENCB   BSS     1               COMMAND BLOCK ADDRESS                  04 01679
002336          1680 FMENFC   BSS     2               FCB ADDRESS                            04 01680
002340 002163 R 1681          DATA    FMEN1           FMEN START ADDRESS                     04 01681
002341          1682 FMENAA   BSS     1               NEXT AVAIL ADDRESS                     04 01682
002342          1683 FMENBP   BSS     1               BUFFER POINTER                         04 01683
002343          1684 FMENEF   BSS     1               ERROR FLAG                             04 01684
002344          1685 FMENNA   BSS     2               NAME POINTERS                          04 01685
002346          1686 FMENPB   BSS     1               ADDRESS OF POINTER BLOCK               04 01686
002347          1687 FMENT    BSS     6               ENTRY                                  04 01687
                1688          EJEC                                                           04 01688
                1689 ********************************************************************** 04 01689
                1690 *                                                                      * 04 01690
                1691 *                  F I L E   A C C E S S ( F M F A )                   * 04 01691
                1692 *                                                                      * 04 01692
                1693 * FUNCTION: TO PROCESS FILE PARAMETERS,CHECK KEY, LOAD FCB, AND SET   * 04 01693
                1694 *           LOCKOUT BIT IN DST.                                       * 04 01694
                1695 *                                                                      * 04 01695
                1696 * ENTRY: NO SPECIAL CONDITIONS                                        * 04 01696
                1697 *                                                                      * 04 01697
                1698 * CALLING SEQUENCE: JSR   FMFA,X                                      * 04 01698
                1699 *                   DATA  ADDRESS OF COMMAND BLOCK                    * 04 01699
                1700 *                   DATA  ADDRESS OF FCB                              * 04 01700
                1701 *                                                                      * 04 01701
                1702 * COMMAND BLOCK: WORD 0: LUN                                          * 04 01702
                1703 *                WORD 1: KEY                                          * 04 01703
                1704 *                                                                      * 04 01704
                1705 * EXIT : A=0 IF NO ERRORS                                             * 04 01705
                1706 *        X=ADDRESS OF POINTER BLOCK(SEE FMGP)                         * 04 01706
                1707 *        LOCKOUT BIT(BIT 12 OF DST(2)) SET IF NO ERRORS               * 04 01707
                1708 *                                                                      * 04 01708
                1709 * ERRORS: A=1 IF ILLEGAL KEY OR LUN                                   * 04 01709
                1710 *                                                                      * 04 01710
                1711 ********************************************************************** 04 01711
002355 006505 A 1713 FMFA1    JSR     FMGP,X          GET POINTERS                           04 01713
002356 003110 R
002357 102440 R 1714          MZE     FMFACB                                                 04 01714
002360 001016 A 1715          JANZ    FMFAE1          ERROR ?                                04 01715
002361 002374 R
002362 025002 A 1716          LDB     2,X             NO. POINT B AT PST ENTRY               04 01716
002363 016001 A 1717          LDA     1,B                                                    04 01717
002364 150463 A 1718          ANA     RHW             GET KEY FROM PST                       04 01718
002365 054056 A 1719          STA     FMFAK           SAVE KEY                               04 01719
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002366 001010 A 1720          JAZ     FMFAX          OK IF ZERO                                          04 01720
002367 002377 R
002370 024047 A 1721          LDB     FMFACB         OTHERWISE MUST COMPARE KEYS                         04 01721
002371 146001 A 1722          SUB     1,B                                                                04 01722
002372 001010 A 1723          JAZ     FMFAX          EQUAL ?                                             04 01723
002373 002377 R
002374 005101 A 1724 FMFAE1   INCR    1              NO. SET A=1 TO FLAG ERROR                           04 01724
002375 001000 A 1725          JMP*    FMFAXX         EXIT                                                04 01725
002376 102436 R
                     1726 ************                                                                    04 01726
                     1727 * LOAD FCB *                                                                  04 01727
                     1728 ************                                                                    04 01728
002377 025002 A 1729 FMFAX    LDB     2,X            POINT B AT PST ENTRY                                04 01729
002400 016003 A 1730          LDA     3,B            GET END+1 TRACK ADDRESS                             04 01730
002401 146000 A 1731          SUB     0,B            SUBTRACT START TO GET PARTITION TRACK COUN          04 01731
002402 146002 A 1732          SUB     2,B            SUBTRACT OFF BAD TRACK COUNT                        04 01732
002403 054037 A 1733          STA     FMFAT          SAVE GOOD TRACK COUNT                               04 01733
002404 025001 A 1734          LDB     1,X            POINT B AT PST                                      04 01734
002405 016001 A 1735          LDA     1,B            GET COUNT OF RECORDS/TRACK                          04 01735
002406 150463 A 1736          ANA     RHW                                                                04 01736
002407 004560 A 1737          LLSR    16                                                                 04 01737
002410 164032 A 1738          MUL     FMFAT          GET PARTITION GOOD RECORD COUNT                     04 01738
002411 005121 A 1739          INCR    021                                                                04 01739
002412 024026 A 1740          LDB     FMFAFC         POINT B AT FCB                                      04 01740
002413 056004 A 1741          STA     4,B            STORE CURRENT EOF                                   04 01741
002414 056006 A 1742          STA     6,B            STORE EXTENT END                                    04 01742
002415 005101 A 1743          INCR    1                                                                  04 01743
002416 056003 A 1744          STA     3,B            STORE CURRENT RECORD                                04 01744
002417 056005 A 1745          STA     5,B            STORE EXTENT START                                  04 01745
002420 016002 A 1746          LDA     2,B                                                                04 01746
002421 150462 A 1747          ANA     LHW            CLEAR KEY FIELD                                     04 01747
002422 114021 A 1748          ORA     FMFAK          LOAD KEY                                            04 01748
002423 056002 A 1749          STA     2,B                                                                04 01749
                     1750 ************************                                                      04 01750
                     1751 * SET LOCKOUT BIT IN DST *                                                    04 01751
                     1752 ************************                                                      04 01752
002424 025000 A 1753          LDB     0,X            POINT B AT DST                                      04 01753
002425 016002 A 1754          LDA     2,B                                                                04 01754
002426 110435 A 1755          ORA     BS12           SET LOCKOUT BIT IN DST                              04 01755
002427 056002 A 1756          STA     2,B                                                                04 01756
002430 005001 A 1757          TZA                    SET A=0 TO FLAG OK                                  04 01757
002431 001000 A 1758          JMP*    FMFAXX         EXIT                                                04 01758
002432 102436 R
                     1759 *********                                                                     04 01759
                     1760 * ENTRY *                                                                     04 01760
                     1761 *********                                                                     04 01761
002433 074002 A 1762 FMFA     STX     FMFAXX         STORE EXIT                                          04 01762
002434 006505 A 1763          JSR     FMPT,X         XFER PARAMETER                                      04 01763
002435 004457 R
002436          1764 FMFAXX   BSS     1              EXIT ADDRESS                                        04 01764
002437 000002 A 1765          DATA    2              2 PARAMETERS                                        04 01765
002440          1766 FMFACB   BSS     1              CONTROL BLOCK ADDRESS                               04 01766
002441          1767 FMFAFC   BSS     1              ADDRESS OF FCB                                      04 01767
002442 002355 R 1768          DATA    FMFA1          FMFA START ADDRESS                                  04 01768
002443          1769 FMFAT    BSS     1              TEMP STORE                                          04 01769
002444          1770 FMFAK    BSS     1              PROTECT KEY                                         04 01770
                     1771          EJEC                                                               04 01771
                     1772 ********************************************************************************04 01772
                     1773 *                                                                            * 04 01773
                     1774 *          F I N D   N E X T   F I L E   N A M E ( F M F F )                 * 04 01774
                     1775 *                                                                            * 04 01775
                     1776 * FUNCTION: TO FIND THE NEXT FILE NAME IN THE FILE NAME DIRECTORY           * 04 01776
                     1777 *           AND MAINTAIN A NEXT AVAILABLE RMD ADDRESS COUNTER                * 04 01777
                     1778 *                                                                            * 04 01778
                     1779 * ENTRY: BUFFER HOLDS CURRENT SECTOR OF DIRECTORY                            * 04 01779
                     1780 *        BUFFER POINTER POINTS TO CURRENT NAME                               * 04 01780
                     1781 *                                                                            * 04 01781
                     1782 * CALLING SEQUENCE: JSR    FMFF,X                                           * 04 01782
                     1783 *                    DATA   ADDRESS OF LUN                                   * 04 01783
                     1784 *                    DATA   FCB ADDRESS                                      * 04 01784
                     1785 *                    DATA   ADDRESS OF POINTER BLOCK                         * 04 01785
                     1786 *                    DATA   BUFFER POINTER ADDRESS                           * 04 01786
                     1787 *                    DATA   ADDRESS OF PTR TO NEXT AVAIL ADDRESS             * 04 01787
                     1788 *                                                                            * 04 01788
                     1789 * EXIT : OVFL SET ON EOF                                                    * 04 01789
                     1790 *        A=0 IF NO ERRORS                                                    * 04 01790
                     1791 *        B.EQ.0 ZERO ENTRY                                                   * 04 01791
                     1792 *        B.GT.0 BLANK ENTRY                                                  * 04 01792
                     1793 *        B.LT.0 FILE NAME ENTRY                                              * 04 01793
                     1794 *        X=ADDRESS OF NEXT ENTRY(IN BUFFER)                                  * 04 01794
                     1795 *                                                                            * 04 01795
                     1796 * ERRORS: A=5 ON I/O ERROR                                                   * 04 01796
                     1797 *         A=6 ON DIRECTORY STRUCTURE ERROR                                   * 04 01797
                     1798 *                                                                            * 04 01798
                     1799 ********************************************************************************04 01799
                     1801 ************************                                                      04 01801
                     1802 * CHECK ZERO ENTRY COUNT *                                                    04 01802
                     1803 ************************                                                      04 01803
002445 034146 A 1804 FMFF1    LDX     FMFFBP         POINT X AT BUFFER POINTER                           04 01804
002446 024143 A 1805          LDB     FMFFFC         POINT B AT FCB                                      04 01805
002447 026001 A 1806          LDB     1,B            GET BUFFER ADDRESS                                  04 01806
002450 064146 A 1807          STB     FMFFT          SAVE                                                04 01807
002451 016000 A 1808          LDA     0,B            GET ENTRY COUNT                                     04 01808
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002458 001016 A 1809          JANZ    FMFF2          ENTRY COUNT = 0 ?                                  04 01809
002453 002464 R
002454 005021 A 1810          TBA                    YES                                                04 01810
002455 120465 A 1811          ADD     FIVE           SET BUFFER POINTER TO WORD 5                       04 01811
002456 055000 A 1812          STA     0,X                                                               04 01812
002457 005014 A 1813          TAX                    POINT X AT ENTRY                                   04 01813
002460 005001 A 1814          TZA                    SET A=0 TO FLAG NO ERROR                           04 01814
002461 007401 A 1815          SOF                    SET OVFL TO FLAG EOF                               04 01815
002462 001010 A 1816          JAZ*    FMFFXX         EOF IF ZERO ENTRY COUNT                            04 01816
002463 102607 R
                    1817 **************************                                                      04 01817
                    1818 * BUMP BUFFER POINTER *                                                       04 01818
                    1819 **************************                                                      04 01819
002464 001004 A 1820 FMFF2  JAN       FMFFE6         ERROR 6/NEG ENTRY COUNT/                           04 01820
002465 002570 R
002466 144131 A 1821          SUB     FMFF20                                                            04 01821
002467 001002 A 1822          JAP     FMFFE6         ERROR 6/MORE THAN 19 ENTRIES/                      04 01822
002470 002570 R
002471 015000 A 1823          LDA     0,X                                                               04 01823
002472 120466 A 1824          ADD     SIX            BUMP BUFFER POINTER BY 6                           04 01824
002473 055000 A 1825          STA     0,X                                                               04 01825
002474 005014 A 1826          TAX                    POINT X AT NEXT ENTRY                              04 01826
                    1827 **************************                                                      04 01827
                    1828 * IDENTIFY ENTRY TYPE *                                                       04 01828
                    1829 **************************                                                      04 01829
002475 015000 A 1830          LDA     0,X            GET WORD 1                                         04 01830
002476 005012 A 1831          TAB                    LOAD EXIT FLAG IN B                                04 01831
002477 007400 A 1832          ROF                    RESET OVFL TO FLAG OK                              04 01832
002500 001010 A 1833          JAZ*    FMFFXX         B=0 ON ZERO ENTRY                                  04 01833
002501 102607 R
002502 005311 A 1834          DAR                                                                       04 01834
002503 007401 A 1835          SOF                    SET OVFL TO FLAG EOF                               04 01835
002504 001010 A 1836          JAZ*    FMFFXX         EOF EXIT                                           04 01836
002505 102607 R
002506 005341 A 1837          DECR    041                                                               04 01837
002507 140423 A 1838          SUB     FOUR                                                              04 01838
002510 144106 A 1839          SUB     FMFFT          GET COUNT OF DATA WORDS IN SECTOR                  04 01839
002511 004560 A 1840          LLSR    16                                                                04 01840
002512 170466 A 1841          DIV     SIX            GET CURRENT ENTRY NUMBER                           04 01841
002513 005021 A 1842          TBA                                                                       04 01842
002514 024102 A 1843          LDB     FMFFT                                                             04 01843
002515 146000 A 1844          SUB     0,B            SUBTRACT TOTAL COUNT                               04 01844
002516 001010 A 1845          JAZ     FMFFX          LAST ENTRY ?                                       04 01845
002517 002544 R
002520 015000 A 1846          LDA     0,X            NO                                                 04 01846
002521 001002 A 1847          JAP     FMFFE6         ERROR 6/ENTRY NOT ASCII NAME/                      04 01847
002522 002570 R
002523 006140 A 1848          SUBI    '**'                                                              04 01848
002524 125252 A
002525 001016 A 1849          JANZ    *+5            BLANK ENTRY ?                                      04 01849
002526 002532 R
002527 005102 A 1850          INCR    2              YES. SET B=1 AS EXIT FLAG                          04 01850
002530 001000 A 1851          JMP     *+3                                                               04 01851
002531 002533 R
002532 005302 A 1852          DECR    2              NO. SET B.LT.0 FOR FILE NAME ENTRY                 04 01852
002533 064063 A 1853          STB     FMFFT          SAVE EXIT FLAG                                     04 01853
002534 015005 A 1854          LDA     5,X            GET FILE END ADDR+1                                04 01854
002535 002000 A 1855          CALL    FMFFTS         CHECK NEXT AVAILABLE ADDRESS                       04 01855
002536 002573 R
002537 024057 A 1856          LDB     FMFFT          RESTORE EXIT FLAG                                  04 01856
002540 005001 A 1857          TZA                    SET A=0 TO FLAG OK                                 04 01857
002541 007400 A 1858          ROF                    RESET OVFL TO FLAG NOT EOF                         04 01858
002542 001000 A 1859          JMP*    FMFFXX                                                            04 01859
002543 102607 R
                    1860 ******************************************                                      04 01860
                    1861 * READ IN NEXT DIRECTORY RECORD ON CHAIN *                                     04 01861
                    1862 ******************************************                                      04 01862
002544 015000 A 1863 FMFFX  LDA       0,X            GET RMD LINK ADDRESS                               04 01863
002545 005012 A 1864          TAB                    SAVE                                               04 01864
002546 034043 A 1865          LDX     FMFFFC         POINT X AT FCB                                     04 01865
002547 145003 A 1866          SUB     3,X                                                               04 01866
002550 005311 A 1867          DAR                                                                       04 01867
002551 001004 A 1868          JAN     FMFFE6         ERROR 6/CHAIN ADDRESSES NOT INCREASING/            04 01868
002552 002570 R
002553 065003 A 1869          STB     3,X            STORE NEXT CHAIN ADDRESS IN FCB                    04 01869
002554 005121 A 1870          INCR    021                                                               04 01870
002555 002000 A 1871          CALL    FMFFTS         CHECK NEXT AVAILABLE ADDRESS                       04 01871
002556 002573 R
002557 006505 A 1872          JSR     FMRR,X         READ NEXT DIRECTORY SECTOR                         04 01872
002560 004722 R
002561 102611 R 1873          MZE     FMFFLU                                                           04 01873
002562 102612 R 1874          MZE     FMFFFC                                                           04 01874
002563 102614 R 1875          MZE     FMFFBP                                                           04 01875
002564 001016 A 1876          JANZ*   FMFFXX         EXIT ON READ ERROR                                 04 01876
002565 102607 R
002566 001000 A 1877          JMP     FMFF1          CONTINUE SCAN                                      04 01877
002567 002445 R
                    1878 *********
                    1879 * ERROR *                                                                      04 01879
                    1880 *********                                                                     04 01880
002570 010466 A 1881 FMFFE6 LDA       SIX            SET A=6 AT EXIT                                    04 01881
002571 001000 A 1882          JMP*    FMFFXX         EXIT                                               04 01882
002572 102607 R
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                    1883 ****************************************                                                    04 01883
                    1884 * NEXT AVAILABLE ADDRESS SUBROUTINE *                                                    04 01884
                    1885 ****************************************                                                    04 01885
002573 000000 A     1886 FMFFTS ENTR                                                                              04 01886
002574 024020 A     1887        LDB     FMFFAA                                                                    04 01887
002575 146000 A     1888        SUB     0,B             COMPARE WITH NEXT AVAIL RMD ADDR                          04 01888
002576 001004 A     1889        JAN*    FMFFTS          EXIT IF NO CHANGE                                         04 01889
002577 102573 R
002600 126000 A     1890        ADD     0,B             UPDATE NEXT AVAIL ADDRESS                                 04 01890
002601 056000 A     1891        STA     0,B                                                                       04 01891
002602 001000 A     1892        JMP*    FMFFTS                                                                    04 01892
002603 102573 R
                    1893 *********                                                                                04 01893
                    1894 * ENTRY *                                                                                04 01894
                    1895 *********                                                                                04 01895
002604 074002 A     1896 FMFF   STX     FMFFXX          STORE EXIT                                                04 01896
002605 006505 A     1897        JSR     FMPT,X          XFER PARAMETERS                                           04 01897
002606 004457 R
002607              1898 FMFFXX BSS     1               EXIT ADDRESS                                              04 01898
002610 000005 A     1899        DATA    5               5 PARAMETERS                                              04 01899
002611              1900 FMFFLU BSS     1               ADDRESS OF LUN                                            04 01900
002612              1901 FMFFFC BSS     1               FCB ADDRESS                                               04 01901
002613              1902 FMFFPB BSS     1               ADDRESS OF POINTER BLOCK                                  04 01902
002614              1903 FMFFBP BSS     1               BUFFER POINTER ADDRESS                                    04 01903
002615              1904 FMFFAA BSS     1               ADDRESS OF NEXT AVAIL RMD ADDR                            04 01904
002616 002445 R     1905        DATA    FMFF1           FMFF START ADDRESS                                        04 01905
002617              1906 FMFFT  BSS     1               TEMP STORE                                                04 01906
002620 000024 A     1907 FMFF20 DATA    20                                                                        04 01907
                    1908        EJEC                                                                              04 01908
                    1909 ********************************************************************************       04 01909
                    1910 *                                                                              *       04 01910
                    1911 *            G E T   D I R E C T O R Y   S P A C E ( F M G D )                  *       04 01911
                    1912 *                                                                              *       04 01912
                    1913 * FUNCTION: TO GET SPACE FOR A NEW ENTRY IN FILE DIRECTORY                      *       04 01913
                    1914 *                                                                              *       04 01914
                    1915 * ENTRY: NO SPECIAL CONDITIONS                                                  *       04 01915
                    1916 *                                                                              *       04 01916
                    1917 * CALLING SEQUENCE: JSR   FMGD,X                                               *       04 01917
                    1918 *                   DATA  ADDRESS OF LUN                                       *       04 01918
                    1919 *                   DATA  ADDRESS OF FCB                                       *       04 01919
                    1920 *                   DATA  ADDRESS OF POINTER BLOCK(SEE FMGP)                   *       04 01920
                    1921 *                   DATA  ADDRESS OF NEXT AVAIL RMD ADDRESS                    *       04 01921
                    1922 *                                                                              *       04 01922
                    1923 * EXIT : A=0 IF NO ERRORS                                                      *       04 01923
                    1924 *        ZERO ENTRY USED IF PRESENT IN DIRECTORY                               *       04 01924
                    1925 *        EOF ENTRY MADE(IN BUFFER) IF NEW SECTOR ASSIGNED                      *       04 01925
                    1926 *        X=ENTRY ADDRESS(IN BUFFER)                                            *       04 01926
                    1927 *        IF NEW SECTOR, LINK IS WRITTEN OUT ON OLD SECTOR                      *       04 01927
                    1928 *                                                                              *       04 01928
                    1929 * ERRORS: A=4 IF PARTITION SPACE EXHAUSTED                                      *       04 01929
                    1930 *         A=5 ON I/O ERROR                                                    *       04 01930
                    1931 *         A=6 ON DIRECTORY STRUCTURE ERROR                                    *       04 01931
                    1932 *                                                                              *       04 01932
                    1933 ********************************************************************************       04 01933
                    1935 ********************                                                                  04 01935
                    1936 * REWIND DIRECTORY *                                                                  04 01936
                    1937 ********************                                                                  04 01937
002621 006505 A     1938 FMGD1  JSR     FMRW,X                                                                    04 01938
002622 004745 R
002623 102737 R     1939        MZE     FMGDLU                                                                    04 01939
002624 102740 R     1940        MZE     FMGDFC                                                                    04 01940
002625 002744 R     1941        PZE     FMGDBP                                                                    04 01941
002626 001016 A     1942        JANZ*   FMGDXX          EXIT ON I/O ERROR                                         04 01942
002627 102735 R
                    1943 ****************************                                                          04 01943
                    1944 * SEARCH FOR ZERO ENTRY *                                                            04 01944
                    1945 ****************************                                                          04 01945
002630 006505 A     1946 FMGDL  JSR     FMFF,X          GET NEXT DIRECTORY ENTRY                                  04 01946
002631 002604 R
002632 102737 R     1947        MZE     FMGDLU                                                                    04 01947
002633 102740 R     1948        MZE     FMGDFC                                                                    04 01948
002634 102741 R     1949        MZE     FMGDPB                                                                    04 01949
002635 002744 R     1950        PZE     FMGDBP                                                                    04 01950
002636 102742 R     1951        MZE     FMGDAA                                                                    04 01951
002637 001016 A     1952        JANZ*   FMGDXX          EXIT ON ERROR                                             04 01952
002640 102735 R
002641 001020 A     1953        JBZ*    FMGDXX          EXIT IF ZERO ENTRY FOUND                                  04 01953
002642 102735 R
002643 001007 A     1954        JOFN    FMGDL           OTHERWISE CONTINUE SCAN TO EOF                            04 01954
002644 002630 R
                    1955 ********************                                                                  04 01955
                    1956 * NO ZERO ENTRIES *                                                                  04 01956
                    1957 ********************                                                                  04 01957
002645 034072 A     1958        LDX     FMGDFC                                                                    04 01958
002646 014075 A     1959        LDA     FMGDBP                                                                    04 01959
002647 145001 A     1960        SUB     1,X             GET COUNT OF WORDS USED IN SECTOR                         04 01960
002650 006140 A     1961        SUBI    120             COMPARE WITH SECTOR SIZE                                  04 01961
002651 000170 A
002652 120466 A     1962        ADD     SIX                                                                       04 01962
002653 035001 A     1963        LDX     1,X             POINT X AT BUFFER                                         04 01963
002654 001004 A     1964        JAN     FMGDX           EXIT IF SECTOR NOT FULL                                   04 01964
002655 002723 R
                    1965 ********************************************************************************       04 01965
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                    1966 * SECTOR FULL - ALLOCATE NEW SECTOR TO DIRECTORY *                                  04 01966
                    1967 ***************************************************                                  04 01967
002656 034062 A     1968          LDX     FMGDPB                                                            04 01968
002657 025002 A     1969          LDB     2,X         POINT B AT PST ENTRY                                  04 01969
002660 016003 A     1970          LDA     3,B                                                               04 01970
002661 146000 A     1971          SUB     0,B         GET PARTITION TRACK COUNT                             04 01971
002662 146002 A     1972          SUB     2,B         GET GOOD TRACK COUNT                                  04 01972
002663 054074 A     1973          STA     FMGDT       SAVE                                                  04 01973
002664 035001 A     1974          LDX     1,X         POINT X AT PST                                        04 01974
002665 015001 A     1975          LDA     1,X         GET COUNT OF GOOD RECORDS IN PARTITION                04 01975
002666 150463 A     1976          ANA     RHW                                                               04 01976
002667 004560 A     1977          LLSR    16                                                                04 01977
002670 164067 A     1978          MUL     FMGDT                                                             04 01978
002671 005021 A     1979          TBA                                                                       04 01979
002672 034047 A     1980          LDX     FMGDAA                                                            04 01980
002673 145000 A     1981          SUB     0,X         COMPARE WITH NEXT AVAIL ADDRESS                       04 01981
002674 001004 A     1982          JAM     FMGDER      ERROR 4/PARTITION EXHAUSTED/                          04 01982
002675 002755 R
002676 015000 A     1983          LDA     0,X         ASSIGN NEXT AVAIL TO DIRECTORY                        04 01983
002677 034040 A     1984          LDX     FMGDFC                                                            04 01984
002700 035001 A     1985          LDX     1,X                                                               04 01985
002701 055167 A     1986          STA     119,X       LOAD LINK ADDRESS INTO PREVIOUS RECORD                04 01986
002702 006505 A     1987          JSR     FMWR,X      WRITE OUT CURRENT RECORD AND LINK                     04 01987
002703 005611 R
002704 102737 R     1988          MZE     FMGDLU                                                            04 01988
002705 102740 R     1989          MZE     FMGDFC                                                            04 01989
002706 001016 A     1990          JANZ*   FMGDXX      CHECK FOR ERROR                                       04 01990
002707 102735 R
002710 034031 A     1991          LDX     FMGDAA                                                            04 01991
002711 015000 A     1992          LDA     0,X         GET NEXT AVAIL RECORD ADDRESS                         04 01992
002712 045000 A     1993          INR     0,X         BUMP NEXT AVAIL ADDRESS                               04 01993
002713 034024 A     1994          LDX     FMGDFC      POINT X AT FCB                                        04 01994
002714 055003 A     1995          STA     3,X         SET CURRENT FCB ADDRESS TO NEXT LINK                  04 01995
002715 035001 A     1996          LDX     1,X         POINT X AT BUFFER                                     04 01996
002716 005001 A     1997          TZA                                                                       04 01997
002717 055000 A     1998          STA     0,X         CLEAR ENTRY COUNT                                     04 01998
002720 005041 A     1999          TXA                                                                       04 01999
002721 120465 A     2000          ADD     FIVE                                                              04 02000
002722 054021 A     2001          STA     FMGDBP      UPDATE BUFFER POINTER                                 04 02001
002723 045000 A     2002 FMGDX    INR     0,X         BUMP ENTRY COUNT                                      04 02002
002724 034017 A     2003          LDX     FMGDBP                                                            04 02003
002725 005101 A     2004          INCR    1                                                                 04 02004
002726 055006 A     2005          STA     6,X         STORE EOF IN BUFFER                                   04 02005
002727 005001 A     2006          TZA                 SET A=0 TO FLAG NO ERRORS                             04 02006
002730 001000 A     2007          JMP*    FMGDXX      EXIT                                                  04 02007
002731 102735 R
                    2008 *********                                                                           04 02008
                    2009 * ENTRY *                                                                           04 02009
                    2010 *********                                                                           04 02010
002732 074002 A     2011 FMGD     STX     FMGDXX      STORE EXIT                                            04 02011
002733 006505 A     2012          JSR     FMPT,X      XFER PARAMETERS                                       04 02012
002734 004457 R
002735              2013 FMGDXX   BSS     1           EXIT ADDRESS                                          04 02013
002736 000004 A     2014          DATA    4           4 PARAMETERS                                          04 02014
002737              2015 FMGDLU   BSS     1           ADDRESS OF LUN                                        04 02015
002740              2016 FMGDFC   BSS     1           FCB ADDRESS                                           04 02016
002741              2017 FMGDPB   BSS     1           ADDRESS OF POINTER BLOCK                              04 02017
002742              2018 FMGDAA   BSS     1           NEXT AVAILABLE ADDRESS                                04 02018
002743 002621 R     2019          DATA    FMGD1       FMGD START ADDRESS                                    04 02019
002744              2020 FMGDBP   BSS     1           BUFFER POINTER                                        04 02020
002745              2021 FMGDAB   BSS     3           ALLOCATE BLOCK                                        04 02021
002752              2022 FMGDRN   BSS     1           SAVE RECORD NO                                        04 02022
002753              2023 FMGDSP   BSS     1           SAVE BUFFER POINTER                                   04 02023
002754              2024 FMGDSS   BSS     1           SECTOR COUNT                                          04 02024
002755 010423 A     2025 FMGDER   LDA     FOUR        ERROR 4/PARTITION EXHAUSTED/                          04 02025
002756 001000 A     2026          JMP*    FMGDXX      EXIT                                                  04 02026
002757 102735 R
002760              2027 FMGDT    BSS     1           TEMP STORE                                            04 02027
                    2028          EJEC                                                                      04 02028
                    2029 ***************************************************************************       04 02029
                    2030 *                                                                         *       04 02030
                    2031 *                  G E T   P O I N T E R S  ( F M G P )                   *       04 02031
                    2032 *                                                                         *       04 02032
                    2033 * FUNCTION: TO FETCH I/O AND FILE CONTROL POINTERS                        *       04 02033
                    2034 *                                                                         *       04 02034
                    2035 * ENTRY: NO SPECIAL CONDITIONS                                           *       04 02035
                    2036 *                                                                         *       04 02036
                    2037 * CALLING SEQUENCE: JSR   FMGP,X                                        *       04 02037
                    2038 *                    DATA  ADDRESS OF LUN                               *       04 02038
                    2039 *                                                                         *       04 02039
                    2040 * EXIT : A = 0 IF NO ERROR                                              *       04 02040
                    2041 *        X = ADDRESS OF 3-WORD BLOCK:                                     *       04 02041
                    2042 *                                                                         *       04 02042
                    2043 *              WORD 0: ADDRESS OF ENTRY IN DST                            *       04 02043
                    2044 *              WORD 1: ADDRESS OF PST TABLE                               *       04 02044
                    2045 *              WORD 2: ADDRESS OF PST ENTRY                               *       04 02045
                    2046 *                                                                         *       04 02046
                    2047 * ERRORS: A = 1 IF LOGICAL UNIT NUMBER INVALID                            *       04 02047
                    2048 *                                                                         *       04 02048
                    2049 ***************************************************************************       04 02049
002761 034133 A     2051 FMGP1    LDX     FMGPP                                                             04 02051
002762 015000 A     2052          LDA     0,X         GET LUN                                               04 02052
                    2053 **********************                                                           04 02053
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                    2054 * TEST VALIDITY OF LUN *                                                    04 02054
                    2055 ***************************                                                 04 02055
002763 001004 A     2056         JAN      FMGPE1          ERROR 1/NEGATIVE LUN/                      04 02056
002764 003105 R
002765 001010 A     2057         JAZ      FMGPE1          ERROR 1/ZERO LUN/                          04 02057
002766 003105 R
002767 004550 A     2058         LLSR     8                                                          04 02058
002770 001016 A     2059         JANZ     FMGPE1          ERROR 1/LUN .GT. 255/                      04 02059
002771 003105 R
002772 004450 A     2060         LLRL     8               RESTORE LUN IN A                           04 02060
                    2061 ***************************************                                     04 02061
                    2062 * LOCATE LOGICAL UNIT TABLE(LUT) ENTRY *                                    04 02062
                    2063 ***************************************                                     04 02063
002773 006030 A     2064         LDXI     FMLUT           POINT X AT LUT POINTER BLOCK               04 02064
002774 003121 R
002775 005012 A     2065         TAB                      SAVE IN B                                  04 02065
002776 005322 A     2066         DBR                      LUT BLOCK 1 BIASED BASE 1                  04 02066
002777 006140 A     2067         SUBI     101                                                        04 02067
003000 000145 A
003001 001004 A     2068         JAN      FMGP5           IS LUN IN BLOCK 1(1-101) ?                 04 02068
003002 003013 R
003003 005012 A     2069         TAB                      NO. SAVE BIASED LUN                        04 02069
003004 005144 A     2070         IXR                      BUMP BLOCK POINTER                         04 02070
003005 006140 A     2071         SUBI     79                                                         04 02071
003006 000117 A
003007 001004 A     2072         JAN      FMGP5           IS LUN IN BLOCK 2(101-179) ?               04 02072
003010 003013 R
003011 005012 A     2073         TAB                      NO. SAVE BIASED LUN                        04 02073
003012 005144 A     2074         IXR                      BUMP BLOCK POINTER                         04 02074
003013 035000 A     2075 FMGP5   LDX      0,X                                                        04 02075
003014 035000 A     2076         LDX      0,X             GET BLOCK START ADDRESS                    04 02076
003015 074101 A     2077         STX      FMGPT           SAVE                                       04 02077
003016 015000 A     2078         LDA      0,X             GET BLOCK ENTRY COUNT                      04 02078
003017 054100 A     2079         STA      FMGPT+1         SAVE                                       04 02079
003020 005021 A     2080         TBA                                                                 04 02080
003021 144076 A     2081         SUB      FMGPT+1         TEST LUN                                   04 02081
003022 001002 A     2082         JAP      FMGPE1          ERROR 1/INVALID LOGICAL UNIT NUMBER/       04 02082
003023 003105 R
003024 005021 A     2083         TBA                                                                 04 02083
003025 124071 A     2084         ADD      FMGPT                                                      04 02084
003026 005114 A     2085         INCR     014             POINT X AT LUT ENTRY                       04 02085
                    2086 ********************                                                        04 02086
                    2087 * LOCATE DST ENTRY *                                                       04 02087
                    2088 ********************                                                        04 02088
003027 015000 A     2089         LDA      0,X             LOAD LUT ENTRY                             04 02089
003030 150463 A     2090         ANA      RHW             GET CURRENT ASSIGNMENT                     04 02090
003031 001010 A     2091         JAZ      FMGPE1          ERROR 1/LUN 0 ILLEGAL/                     04 02091
003032 003105 R
003033 005311 A     2092         DAR                      BIAS BASE 1                                04 02092
003034 054062 A     2093         STA      FMGPT           SAVE                                       04 02093
003035 004241 A     2094         LRLA     1               *2                                         04 02094
003036 124060 A     2095         ADD      FMGPT           *3                                         04 02095
003037 120355 A     2096         ADD      V$DSTB          ADD DST BASE ADDRESS                       04 02096
003040 005014 A     2097         TAX                      POINT X AT DST                             04 02097
003041 074062 A     2098         STX      FMGPDS          SAVE                                       04 02098
                    2099 ************************                                                    04 02099
                    2100 * LOCATE COTAD ENTRY *                                                     04 02100
                    2101 ************************                                                    04 02101
003042 025002 A     2102         LDB      2,X             GET WORD 2 OF DST                          04 02102
003043 004441 A     2103         LLRL     1                                                          04 02103
003044 005001 A     2104         TZA                                                                 04 02104
003045 004442 A     2105         LLRL     2               GET DEVICE UNIT NUMBER                     04 02105
003046 054050 A     2106         STA      FMGPT           SAVE                                       04 02106
003047 004442 A     2107         LLRL     2                                                          04 02107
003050 005001 A     2108         TZA                                                                 04 02108
003051 004445 A     2109         LLRL     5               GET PST INCREMENT                          04 02109
003052 001010 A     2110         JAZ      FMGPE1          ERROR 1/NOT RMD DEVICE/                    04 02110
003053 003105 R
003054 005311 A     2111         DAR                      CONVERT TO BASE 1                          04 02111
003055 054042 A     2112         STA      FMGPT+1         SAVE                                       04 02112
003056 005001 A     2113         TZA                                                                 04 02113
003057 004446 A     2114         LLRL     6               GET COTAD INCREMENT                        04 02114
003060 120360 A     2115         ADD      V$CTAD          ADD BASE ADDRESS                           04 02115
003061 005014 A     2116         TAX                      POINT X INTO COTAD TABLE                   04 02116
                    2117 ************************                                                    04 02117
                    2118 * LOCATE CTBL ENTRY *                                                      04 02118
                    2119 ************************                                                    04 02119
003062 035000 A     2120         LDX      0,X             GET ADDRESS OF CTBL                        04 02120
                    2121 ********************                                                        04 02121
                    2122 * LOCATE PST ENTRY *                                                       04 02122
                    2123 ********************                                                        04 02123
003063 005041 A     2124         TXA                      GET CTBL BASE ADDRESS                      04 02124
003064 124032 A     2125         ADD      FMGPT           ADD UNIT NUMBER                            04 02125
003065 005014 A     2126         TAX                                                                 04 02126
003066 035017 A     2127         LDX      15,X                                                       04 02127
003067 005041 A     2128         TXA                                                                 04 02128
003070 140422 A     2129         SUB      TWO                                                        04 02129
003071 054033 A     2130         STA      FMGPPS          STORE ADDRESS OF PST                       04 02130
003072 014025 A     2131         LDA      FMGPT+1         GET PST INCREMENT                          04 02131
003073 004241 A     2132         LRLA     1               *2                                         04 02132
003074 124023 A     2133         ADD      FMGPT+1         *3                                         04 02133
003075 120464 A     2134         ADD      THREE           +3                                         04 02134
003076 124026 A     2135         ADD      FMGPPS          ADD PST BASE ADDRESS                       04 02135
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003077 054026 A 2136          STA     FMGPPE      SAVE PST ENTRY ADDRESS                    04 02136
               2137 ***************                                                         04 02137
               2138 * NORMAL EXIT *                                                        04 02138
               2139 ***************                                                         04 02139
003100 006030 A 2140          LDXI    FMGPDS      POINT X AT TABLE                          04 02140
003101 003124 R
003102 005001 A 2141          TZA                 SET A=0 TO FLAG OK                        04 02141
003103 001080 A 2142          JMP*    FMGPXX      EXIT                                      04 02142
003104 103113 R
               2143 ***************                                                         04 02143
               2144 * ERROR EXIT *                                                        04 02144
               2145 ***************                                                         04 02145
003105 005101 A 2146 FMGPE1   INCR    1           SET A=1 TO FLAG BAD LUN                   04 02146
003106 001000 A 2147          JMP*    FMGPXX      EXIT                                      04 02147
003107 103113 R
               2148 *********                                                             04 02148
               2149 * ENTRY *                                                             04 02149
               2150 *********                                                             04 02150
003110 074002 A 2151 FMGP     STX     FMGPXX      STORE EXIT                                04 02151
003111 006505 A 2152          JSR     FMPT,X      TRANSFER PARAMETER                        04 02152
003112 004457 R
003113          2153 FMGPXX   BSS     1           EXIT ADDRESS                              04 02153
003114 000001 A 2154          DATA    1           1 PARAMETER                               04 02154
003115          2155 FMGPP    BSS     1           ADDRESS OF LUN                            04 02155
003116 002761 R 2156          DATA    FMGP1       FMGP START ADDRESS                        04 02156
               2157 *                                                                     04 02157
003117          2158 FMGPT    BSS     2           TEMP STORE                                04 02158
003121 000400 A 2159 FMLUT    DATA    V$LUT1                                                04 02159
003122 000401 A 2160          DATA    V$LUT2                                                04 02160
003123 000402 A 2161          DATA    V$LUT3                                                04 02161
               2162 *                                                                     04 02162
003124          2163 FMGPDS   BSS     1           ADDRESS OF DST ENTRY                      04 02163
003125          2164 FMGPPS   BSS     1           ADDRESS OF PST TABLE                      04 02164
003126          2165 FMGPPE   BSS     1           ADDRESS OF PST ENTRY                      04 02165
               2166          EJEC                                                         04 02166
               2167 ********************************************************************* 04 02167
               2168 *                                                                   * 04 02168
               2169 *                  I N P U T   C H A R A C T E R ( F M I C )        * 04 02169
               2170 *                                                                   * 04 02170
               2171 * FUNCTION: TO INPUT AND VERIFY THE NEXT SOURCE CHARACTER.          * 04 02171
               2172 *                                                                   * 04 02172
               2173 * ENTRY: 4-WORD SCAN CONTROL BLOCK(SCB) LOADED:                     * 04 02173
               2174 *                                                                   * 04 02174
               2175 *              WORD 0: BUFFER SIZE IN WORDS                         * 04 02175
               2176 *              WORD 1: BUFFER ADDRESS                               * 04 02176
               2177 *              WORD 2: CHARACTER COUNT                              * 04 02177
               2178 *              WORD 3: INPUT CHARACTER                              * 04 02178
               2179 *                                                                   * 04 02179
               2180 * CALLING SEQUENCE: JSR   FMIC,X                                    * 04 02180
               2181 *                    DATA  ADDRESS OF SCB                           * 04 02181
               2182 *                                                                   * 04 02182
               2183 * EXIT : A=0 IF NO ERRORS                                           * 04 02183
               2184 *          B= SCB(3)=INPUT CHARACTER                                * 04 02184
               2185 *           = SCB(3)=-1 IF BUFFER EXHAUSTED                         * 04 02185
               2186 *          SCB CHARACTER COUNT INCREMENTED UNLESS END OF LINE(EOL)   * 04 02186
               2187 *                                                                   * 04 02187
               2188 * ERRORS:  A=1 IF CHAR NOT ALPHAMERIC,BLANK,COMMA,EOL,OR '$'        * 04 02188
               2189 *                                                                   * 04 02189
               2190 ********************************************************************* 04 02190
003127 034077 A 2192 FMIC1    LDX     FMICP       POINT X AT SCB                            04 02192
003130 055301 A 2193          DECR    1                                                     04 02193
003131 055003 A 2194          STA     3,X         CHAR=-1 AT EOL                            04 02194
003132 005002 A 2195          TZB                 CLEAR HIGH/LOW BYTE SWITCH                04 02195
003133 015002 A 2196          LDA     2,X         GET BUFFER CHAR COUNT                     04 02196
003134 004541 A 2197          LLSR    1           CONVERT TO WORD COUNT/BYTE SWITCH          04 02197
003135 145000 A 2198          SUB     0,X                                                   04 02198
003136 001002 A 2199          JAP     FMIC5       BUFFER EXHAUSTED ?                        04 02199
003137 003216 R
003140 045002 A 2200          INR     2,X         NO. BUMP CHAR COUNTER                     04 02200
003141 125000 A 2201          ADD     0,X         RESTORE WORD COUNT                        04 02201
003142 125001 A 2202          ADD     1,X         ADD BUFFER START ADDRESS                  04 02202
003143 005014 A 2203          TAX                 POINT X INTO BUFFER                       04 02203
003144 015000 A 2204          LDA     0,X         GET BUFFER WORD                           04 02204
003145 004250 A 2205          LRLA    8           SWAP BYTES                                04 02205
003146 001020 A 2206          JBZ     *+3         LOW BYTE REQUESTED ?                      04 02206
003147 003151 R
003150 004250 A 2207          LRLA    8           YES. ROTATE TO POSITION                   04 02207
003151 150463 A 2208          ANA     RHW         CLEAR HIGH BYTE                           04 02208
003152 034054 A 2209          LDX     FMICP                                                 04 02209
003153 055003 A 2210          STA     3,X         SAVE CHAR                                 04 02210
003154 006140 A 2211          SUBI    0240                                                  04 02211
003155 000240 A
003156 001010 A 2212          JAZ     FMIC5       BLANK OK                                  04 02212
003157 003216 R
003160 140423 A 2213          SUB     FOUR                                                  04 02213
003161 001010 A 2214          JAZ     FMIC5       '$' OK                                    04 02214
003162 003216 R
003163 140424 A 2215          SUB     EIGHT                                                 04 02215
003164 001010 A 2216          JAZ     FMIC5       COMMA OK                                  04 02216
003165 003216 R
003166 140422 A 2217          SUB     TWO                                                   04 02217
003167 001016 A 2218          JANZ    *+7         '.' STOPS SCAN                            04 02218
003170 003176 R
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003171 015000 A 2219          LDA     0,X                                                    04 02219
003172 004241 A 2220          LRLA    1         CONVERT WORD TO CHAR COUNT                   04 02220
003173 055002 A 2221          STA     2,X                                                    04 02221
003174 001000 A 2222          JMP     FMIC1                                                  04 02222
003175 003127 R
003176 140422 A 2223          SUB     TWO                                                    04 02223
003177 001004 A 2224          JAN     FMICE1    ERROR 1/ILLEGAL CHAR/                        04 02224
003200 003213 R
003201 140471 A 2225          SUB     TEN                                                    04 02225
003202 001004 A 2226          JAN     FMIC5     NUMERIC OK                                   04 02226
003203 003216 R
003204 140467 A 2227          SUB     SEVEN                                                  04 02227
003205 001004 A 2228          JAN     FMICE1    ERROR 1/ILLEGAL CHAR/                        04 02228
003206 003213 R
003207 006140 A 2229          SUBI    032       ALPHABETIC OK                                04 02229
003210 000032 A
003211 001004 A 2230          JAN     FMIC5                                                  04 02230
003212 003216 R
                2231 **********                                                             04 02231
                2232 * ERROR *                                                               04 02232
                2233 **********                                                             04 02233
003213 005101 A 2234 FMICE1   INCR    1         SET A=1 TO FLAG ERROR                        04 02234
003214 001000 A 2235          JMP     *+3                                                    04 02235
003215 003217 R
                2236 ********                                                               04 02236
                2237 * EXIT *                                                               04 02237
                2238 ********                                                               04 02238
003216 005001 A 2239 FMIC5    TZA               SET A=0 TO FLAG OK                           04 02239
003217 025003 A 2240          LDB     3,X       LOAD B WITH CHAR AT EXIT                     04 02240
003220 001000 A 2241          JMP*    FMICXX                                                 04 02241
003221 103225 R
                2242 *********                                                              04 02242
                2243 * ENTRY *                                                              04 02243
                2244 *********                                                              04 02244
003222 074002 A 2245 FMIC     STX     FMICXX    STORE EXIT                                   04 02245
003223 006505 A 2246          JSR     FMPT,X    XFER PARAMETER                               04 02246
003224 004457 R
003225          2247 FMICXX   BSS     1         EXIT ADDRESS                                 04 02247
003226 000001 A 2248          DATA    1         1 PARAMETER                                  04 02248
003227          2249 FMICP    BSS     1         ADDRESS OF SCB                               04 02249
003230 003127 R 2250          DATA    FMIC1     FMIC START ADDRESS                           04 02250
                2251          EJEC                                                           04 02251
                2252 ********************************************************************** 04 02252
                2253 *                                                                      * 04 02253
                2254 *                  I N I T I A L I Z E ( F M I N )                     * 04 02254
                2255 *                                                                      * 04 02255
                2256 * FUNCTION: TO INITIALIZE A FILE NAME DIRECTORY                        * 04 02256
                2257 *                                                                      * 04 02257
                2258 * ENTRY: NO SPECIAL CONDITIONS                                        * 04 02258
                2259 *                                                                      * 04 02259
                2260 * CALLING SEQUENCE: JSR   FMIN,X                                      * 04 02260
                2261 *                   DATA  ADDRESS OF COMMAND BLOCK(CB)                 * 04 02261
                2262 *                   DATA  FCB ADDRESS                                  * 04 02262
                2263 *                   DATA  0                                            * 04 02263
                2264 *                                                                      * 04 02264
                2265 * COMMAND BLOCK: WORD 0: LOGICAL UNIT NUMBER                          * 04 02265
                2266 *                WORD 1: KEY                                           * 04 02266
                2267 *                                                                      * 04 02267
                2268 * EXIT : A=0 IF NO ERRORS                                             * 04 02268
                2269 *        WORD 0=0: ENTRY COUNT                                        * 04 02269
                2270 *        WORD 5=EOF(1)                                                * 04 02270
                2271 *                                                                      * 04 02271
                2272 * ERRORS: A=1 ON LUN OR KEY ERROR                                     * 04 02272
                2273 *         A=5 ON I/O ERROR                                            * 04 02273
                2274 *                                                                      * 04 02274
                2275 ********************************************************************** 04 02275
003231 005001 A 2277 FMIN1    TZA                                                          04 02277
003232 054054 A 2278          STA     FMINEF    CLEAR ERROR FLAG                           04 02278
                2279 ************************                                            04 02279
                2280 * GET FILE PARAMETERS *                                              04 02280
                2281 ************************                                            04 02281
003233 006505 A 2282          JSR     FMFA,X    MAKE FILE ACCESS                           04 02282
003234 002433 R
003235 103303 R 2283          MZE     FMINCB                                               04 02283
003236 103304 R 2284          MZE     FMINFC                                               04 02284
003237 074050 A 2285          STX     FMINPB    SAVE ADDRESS OF POINTER BLOCK              04 02285
003240 001010 A 2286          JAZ     *+4       ERROR ?                                    04 02286
003241 003244 R
003242 001000 A 2287          JMP*    FMINXX    YES. EXIT                                  04 02287
003243 103301 R
003244 006505 A 2288          JSR     FMRW,X    REWIND FILE DIRECTORY                      04 02288
003245 004745 R
003246 103303 R 2289          MZE     FMINCB                                               04 02289
003247 103304 R 2290          MZE     FMINFC                                               04 02290
003250 003311 R 2291          PZE     FMINT                                                04 02291
003251 001016 A 2292          JANZ    FMINE     EXIT ON I/O ERROR                          04 02292
003252 003265 R
                2293 ********************************************                        04 02293
                2294 * CONSTRUCT INITIALIZED 1ST DIRECTORY RECORD *                       04 02294
                2295 ********************************************                        04 02295
003253 005001 A 2296          TZA                                                          04 02296
003254 055001 A 2297          STA     1,X       SET ENTRY COUNT TO ZERO                    04 02297
003255 005101 A 2298          INCR    1                                                    04 02298
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003256 055006 A 2299          STA     6,X             STORE EOF IN BUFFER                          04 02299
003257 006505 A 2300          JSR     FMWR,X          WRITE OUT INITIALIZED 1ST DIRECTORY REC      04 02300
003260 005611 R
003261 103303 R 2301          MZE     FMINCB                                                       04 02301
003262 103304 R 2302          MZE     FMINFC                                                       04 02302
003263 001010 A 2303          JAZ     *+3             CHECK FOR I/O ERROR                          04 02303
003264 003266 R
                2304 *********                                                                     04 02304
                2305 * ERROR *                                                                     04 02305
                2306 *********                                                                     04 02306
003265 054021 A 2307 FMINE    STA     FMINEF                                                       04 02307
                2308 ********************************                                            04 02308
                2309 * CLEAR LOCKOUT BIT IN DST *                                                 04 02309
                2310 ********************************                                            04 02310
003266 034021 A 2311          LDX     FMINPB                                                       04 02311
003267 035000 A 2312          LDX     0,X             POINT X AT DST                               04 02312
003270 015002 A 2313          LDA     2,X                                                          04 02313
003271 150455 A 2314          ANA     BR12            CLEAR LOCKOUT BIT                            04 02314
003272 055002 A 2315          STA     2,X                                                          04 02315
003273 014013 A 2316          LDA     FMINEF          LOAD ERROR FLAG                              04 02316
003274 001000 A 2317          JMP*    FMINXX          EXIT                                         04 02317
003275 103301 R
                2318 *********                                                                     04 02318
                2319 * ENTRY *                                                                     04 02319
                2320 *********                                                                     04 02320
003276 074002 A 2321 FMIN     STX     FMINXX          SAVE EXIT                                    04 02321
003277 006505 A 2322          JSR     FMPT,X          XFER PARAMETERS                              04 02322
003300 004457 R
003301          2323 FMINXX   BSS     1               EXIT ADDRESS                                 04 02323
003302 000003 A 2324          DATA    3               3 PARAMETERS                                 04 02324
003303          2325 FMINCB   BSS     1               CB ADDRESS                                   04 02325
003304          2326 FMINFC   BSS     2               FCB ADDRESS                                  04 02326
003306 003231 R 2327          DATA    FMIN1           FMIN START ADDRESS                           04 02327
003307          2328 FMINEF   BSS     1               ERROR FLAG                                   04 02328
003310          2329 FMINPB   BSS     1               ADDRESS OF POINTER BLOCK                     04 02329
003311          2330 FMINT    BSS     1               TEMP                                         04 02330
                2331          EJEC                                                                 04 02331
                2332 ********************************************************************************04 02332
                2333 *                                                                              * 04 02333
                2334 *                    L I N E   F E E D ( F M L F )                             * 04 02334
                2335 *                                                                              * 04 02335
                2336 * FUNCTION: TO PERFORM A LINE FEED ON THE LO DEVICE                            * 04 02336
                2337 *                                                                              * 04 02337
                2338 * ENTRY: NO SPECIAL CONDITIONS                                                 * 04 02338
                2339 *                                                                              * 04 02339
                2340 * CALLING SEQUENCE: JSR   FMLF,X                                              * 04 02340
                2341 *                   DATA  ADDRESS OF LINE COUNTER                             * 04 02341
                2342 *                                                                              * 04 02342
                2343 * EXIT : A=0 IF NO ERRORS                                                      * 04 02343
                2344 *          LINE COUNTER DECREMENTED                                            * 04 02344
                2345 *                                                                              * 04 02345
                2346 * ERRORS: A=5 ON I/O ERROR                                                     * 04 02346
                2347 *                                                                              * 04 02347
                2348 ********************************************************************************04 02348
003312 006505 A 2350 FMLF1    JSR     FMWL,X          WRITE BLANK LINE                             04 02350
003313 005342 R
003314 003327 R 2351          PZE     FMLFDC                                                       04 02351
003315 103325 R 2352          MZE     FMLFP                                                        04 02352
003316 001000 A 2353          JMP*    FMLFXX                                                       04 02353
003317 103323 R
003320 074002 A 2354 FMLF     STX     FMLFXX          SAVE EXIT                                    04 02354
003321 006505 A 2355          JSR     FMPT,X          XFER PARAMETERS                              04 02355
003322 004457 R
003323          2356 FMLFXX   BSS     1               EXIT ADDRESS                                 04 02356
003324 000001 A 2357          DATA    1               1 PARAMETER                                  04 02357
003325          2358 FMLFP    BSS     1               ADDRESS OF LINE COUNTER                      04 02358
003326 003312 R 2359          DATA    FMLF1           FMLF START ADDRESS                           04 02359
003327 000001 A 2360 FMLFDC   DATA    1               LINE FEED DCB                                04 02360
003330 003331 R 2361          PZE     *+1                                                          04 02361
003331 120240 A 2362          DATA    ' '                                                          04 02362
                2363          EJEC                                                                 04 02363
                2364 ********************************************************************************04 02364
                2365 *                                                                              * 04 02365
                2366 *                  P R O C E S S   L I S T ( F M L I )                         * 04 02366
                2367 *                                                                              * 04 02367
                2368 * FUNCTION: TO LIST A FILE NAME DIRECTORY ON THE LO DEVICE                      * 04 02368
                2369 *                                                                              * 04 02369
                2370 * ENTRY: NO SPECIAL CONDITIONS                                                 * 04 02370
                2371 *                                                                              * 04 02371
                2372 * CALLING SEQUENCE: JSR   FMLI,X                                               * 04 02372
                2373 *                   DATA  ADDRESS OF COMMAND BLOCK(CB)                         * 04 02373
                2374 *                   DATA  FCB ADDRESS                                          * 04 02374
                2375 *                   DATA  ADDRESS OF LINE COUNTER                              * 04 02375
                2376 *                                                                              * 04 02376
                2377 * COMMAND BLOCK: WORD 0: LOGICAL UNIT NUMBER                                   * 04 02377
                2378 *                WORD 1: KEY                                                   * 04 02378
                2379 *                WORDS 8-9: LUN STRING                                         * 04 02379
                2380 *                                                                              * 04 02380
                2381 * EXIT : A=0 IF NO ERROR                                                       * 04 02381
                2382 *          SORTED(BY RMD ADDRESS) LIST OUTPUT ON LO DEVICE                     * 04 02382
                2383 *                                                                              * 04 02383
                2384 * ERRORS: A=1 IF LUN OR KEY ERROR                                             * 04 02384
                2385 *         A=5 IF I/O ERROR                                                     * 04 02385
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                    2386 *         A=6 IF DIRECTORY STRUCTURE ERROR                                  * 04 02386
                    2387 *                                                                           * 04 02387
                    2388 ************************************************************************** 04 02388
003332 005001 A     2390 FMLI1   TZA                                                                   04 02390
003333 054277 A     2391         STA      FMLIEF        CLEAR ERROR FLAG                             04 02391
                    2392 ***********************                                                     04 02392
                    2393 * GET FILE PARAMETERS *                                                     04 02393
                    2394 ***********************                                                     04 02394
003334 006505 A     2395         JSR      FMFA,X        MAKE FILE ACCESS                             04 02395
003335 002433 R
003336 103625 R     2396         MZE      FMLICB                                                     04 02396
003337 103626 R     2397         MZE      FMLIFC                                                     04 02397
003340 074273 A     2398         STX      FMLIPB        SAVE ADDRESS OF POINTER BLOCK                04 02398
003341 001010 A     2399         JAZ      *+5           ERROR ?                                      04 02399
003342 003346 R
003343 044267 A     2400         INR      FMLIEF        YES. SET FLAG AND EXIT                       04 02400
003344 001000 A     2401         JMP      FMLIX2                                           E.1 ********
003345 003537 R
003346 034256 A     2402         LDX      FMLICB                                                     04 02402
003347 015010 A     2403         LDA      8,X           MOVE STRING INTO HEADER                      04 02403
003350 054314 A     2404         STA      FMLIU                                                      04 02404
003351 015011 A     2405         LDA      9,X                                                        04 02405
003352 054313 A     2406         STA      FMLIU+1                                                    04 02406
                    2407 ***************                                                             04 02407
                    2408 * INITIALIZE *                                                             04 02408
                    2409 ***************                                                             04 02409
003353 010422 A     2410         LDA      TWO                                                        04 02410
003354 054266 A     2411         STA      FMLIAA        INITIALIZE NEXT ALLOCATION                   04 02411
003355 054257 A     2412         STA      FMLISA        STORE AS INITIAL SEARCH ADDRESS              04 02412
003356 034255 A     2413         LDX      FMLIPB                                                     04 02413
003357 025002 A     2414         LDB      2,X           POINT B AT PST ENTRY                         04 02414
003360 016003 A     2415         LDA      3,B                                                        04 02415
003361 146000 A     2416         SUB      0,B           GET PARTITION TRACK COUNT                    04 02416
003362 146002 A     2417         SUB      2,B           GET GOOD TRACK COUNT                         04 02417
003363 054252 A     2418         STA      FMLIT         SAVE                                         04 02418
003364 035001 A     2419         LDX      1,X                                                        04 02419
003365 015001 A     2420         LDA      1,X                                                        04 02420
003366 150463 A     2421         ANA      RHW           GET RECORDS/TRACK                            04 02421
003367 004560 A     2422         LLSR     16                                                         04 02422
003370 164245 A     2423         MUL      FMLIT         GET GOOD RECORD COUNT                        04 02423
003371 005122 A     2424         IBR                                                                 04 02424
003372 064251 A     2425         STB      FMLIUN+5      STORE AS END OF UNASSIGNED RMD SPACE         04 02425
003373 002000 A     2426         CALL     FMLIHI        OUTPUT LIST HEADER                           04 02426
003374 003551 R
                    2427 ************************************************                            04 02427
                    2428 * OUTER LOOP - INITIALIZE SCAN OF DIRECTORY *                              04 02428
                    2429 ************************************************                            04 02429
003375 006505 A     2430 FMLIL1  JSR      FMRW,X        REWIND DIRECTORY                             04 02430
003376 004745 R
003377 103625 R     2431         MZE      FMLICB                                                     04 02431
003400 103626 R     2432         MZE      FMLIFC                                                     04 02432
003401 003631 R     2433         PZE      FMLIBP                                                     04 02433
003402 001016 A     2434         JANZ     FMLIE         CHECK FOR ERROR                              04 02434
003403 003546 R
003404 005001 A     2435         TZA                                                                 04 02435
003405 054224 A     2436         STA      FMLIEA        FLAG NO END ADDRESS DEFINED                  04 02436
                    2437 ************************************************************************** 04 02437
                    2438 * INNER LOOP - OUTPUT FILE NAMES ASSIGNED TO RMD ADDRESS FMLISA *           04 02438
                    2439 ************************************************************************** 04 02439
003406 006505 A     2440 FMLIL2  JSR      FMFF,X        FIND NEXT FILE NAME                          04 02440
003407 002604 R
003410 103625 R     2441         MZE      FMLICB                                                     04 02441
003411 103626 R     2442         MZE      FMLIFC                                                     04 02442
003412 103634 R     2443         MZE      FMLIPB                                                     04 02443
003413 003631 R     2444         PZE      FMLIBP                                                     04 02444
003414 003643 R     2445         PZE      FMLIAA                                                     04 02445
003415 001016 A     2446         JANZ     FMLIE         CHECK FOR ERROR                              04 02446
003416 003546 R
003417 001001 A     2447         JOF      FMLIX1        END OF DIRECTORY ?                           04 02447
003420 003501 R
003421 001020 A     2448         JBZ      FMLIL2        NO. IGNORE ZERO ENTRIES                      04 02448
003422 003406 R
003423 015004 A     2449         LDA      4,X           GET FILE START ADDRESS                       04 02449
003424 144210 A     2450         SUB      FMLISA        COMPARE WITH SEARCH ADDRESS                  04 02450
003425 001010 A     2451         JAZ      FMLI4         TEST FOR FIND                                04 02451
003426 003451 R
                    2452 ******************************                                              04 02452
                    2453 * NO FIND - CHECK VALIDITY *                                              04 02453
                    2454 ******************************                                              04 02454
003427 001004 A     2455         JAN      FMLI3         IS ENTRY BEYOND CURRENT ?                    04 02455
003430 003442 R
003431 014200 A     2456         LDA      FMLIEA        YES                                          04 02456
003432 001010 A     2457         JAZ      FMLIL2        CONTINUE SCAN IF END UNDEFINED               04 02457
003433 003406 R
003434 145004 A     2458         SUB      4,X                                                        04 02458
003435 005311 A     2459         DAR                                                                 04 02459
003436 001002 A     2460         JAP      FMLIE6        ERROR 6/BAD DIRECTORY STRUCTURE/             04 02460
003437 003545 R
003440 001000 A     2461         JMP      FMLIL2        CONTINUE SCAN                                04 02461
003441 003406 R
003442 015004 A     2462 FMLI3   LDA      4,X                                                        04 02462
003443 140422 A     2463         SUB      TWO                                                        04 02463
003444 115004 A     2464         DRA      4,X                                                        04 02464
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003445 001004 A 2465          JAN     FMLIE6          ERROR 6/BAD DIRECTORY STRUCTURE/          04 02465
003446 003545 R
003447 001000 A 2466          JMP     FMLIL2          CONTINUE SCAN                             04 02466
003450 003406 R
                2467 ****************************************                                    04 02467
                2468 * FILE NAME FOUND ASSIGNED TO FMLISA *                                    04 02468
                2469 ****************************************                                    04 02469
003451 014160 A 2470 FMLI4    LDA     FMLIEA                                                    04 02470
003452 001016 A 2471          JANZ    FMLI5           IS END ADDRESS DEFINED ?                  04 02471
003453 003464 R
003454 015005 A 2472          LDA     5,X             NO                                        04 02472
003455 054154 A 2473          STA     FMLIEA          DEFINE IT                                 04 02473
003456 144156 A 2474          SUB     FMLISA                                                    04 02474
003457 005311 A 2475          DAR                                                               04 02475
003460 001004 A 2476          JAN     FMLIE6          ERROR 6/BAD DIRECTORY STRUCTURE/          04 02476
003461 003545 R
003462 001000 A 2477          JMP     *+5                                                       04 02477
003463 003467 R
003464 145005 A 2478 FMLI5    SUB     5,X             YES                                       04 02478
003465 001016 A 2479          JANZ    FMLIE6          ERROR 6/BAD DIRECTORY STRUCTURE/          04 02479
003466 003545 R
003467 002000 A 2480          CALL    FMLIHC          CHECK HEADER                              04 02480
003470 003564 R
003471 006505 A 2481          JSR     FMOF,X          OUTPUT FILE LINE                          04 02481
003472 004422 R
003473 103631 R 2482          MZE     FMLIBP                                                    04 02482
003474 103627 R 2483          MZE     FMLILC                                                    04 02483
003475 001016 A 2484          JANZ    FMLIE           CHECK ERROR                               04 02484
003476 003546 R
003477 001000 A 2485          JMP     FMLIL8          CONTINUE SCAN                             04 02485
003500 003406 R
                2486 ****************************                                              04 02486
                2487 * INNER LOOP EXIT - EOF READ *                                            04 02487
                2488 ****************************                                              04 02488
003501 014130 A 2489 FMLIX1   LDA     FMLIEA                                                    04 02489
003502 001016 A 2490          JANZ    *+4             IS END ADDR DEFINED ?                     04 02490
003503 003506 R
003504 014130 A 2491          LDA     FMLI$A          NO                                        04 02491
003505 005111 A 2492          IAR                                                               04 02492
003506 054126 A 2493          STA     FMLISA          UPDATE SEARCH ADDRESS                     04 02493
003507 144133 A 2494          SUB     FMLIUN+4        COMPARE WITH END OF ASSIGNED RMD SPACE    04 02494
003510 005311 A 2495          DAR                                                               04 02495
003511 001004 A 2496          JAN     FMLIL1          CONTINUE SCAN TO END                      04 02496
003512 003375 R
                2497 ************************************************                          04 02497
                2498 * DIRECTORY OUTPUT FINISHED - OUTPUT UNASSIGNED *                          04 02498
                2499 ************************************************                          04 02499
003513 014130 A 2500          LDA     FMLIUN+5        GET PARTITION END ADDRESS+1               04 02500
003514 144126 A 2501          SUB     FMLIUN+4        COMPARE WITH NEXT AVAIL                   04 02501
003515 001010 A 2502          JAZ     FMLIX           ANY UNASSIGNED RMD SPACE ?                04 02502
003516 003532 R
003517 006505 A 2503          JSR     FMLF,X          YES. LINE FEED                            04 02503
003520 003320 R
003521 103627 R 2504          MZE     FMLILC                                                    04 02504
003522 001016 A 2505          JANZ    FMLIE           CHECK FOR ERROR                           04 02505
003523 003546 R
003524 006505 A 2506          JSR     FMOF,X          OUTPUT 'UNASSIGNED' LINE                  04 02506
003525 004422 R
003526 003637 R 2507          MZE     FMLIUN                                                    04 02507
003527 103627 R 2508          MZE     FMLILC                                                    04 02508
003530 001016 A 2509          JANZ    FMLIE           CHECK FOR ERROR                           04 02509
003531 003546 R
                2510 ********                                                                   04 02510
                2511 * EXIT *                                                                   04 02511
                2512 ********                                                                   04 02512
003532 034101 A 2513 FMLIX    LDX     FMLIPB                                                    04 02513
003533 035000 A 2514          LDX     0,X             POINT X AT DST                            04 02514
003534 015002 A 2515          LDA     2,X                                                       04 02515
003535 150405 A 2516          ANA     BR12            CLEAR LOCKOUT BIT                         04 02516
003536 055002 A 2517          STA     2,X                                                       04 02517
003537 006505 A 2518 FMLIX2   JSR     FMLF,X          LINE FEED ON LO                 E.1       ********
003540 003320 R
003541 103627 R 2519          MZE     FMLILC                                                    04 02519
003542 014070 A 2520          LDA     FMLIEF          LOAD A WITH ERROR FLAG                    04 02520
003543 001000 A 2521          JMP*    FMLIXX          EXIT                                      04 02521
003544 103620 R
                2522 **********                                                                 04 02522
                2523 * ERRORS *                                                                 04 02523
                2524 **********                                                                 04 02524
003545 010466 A 2525 FMLIE6   LDA     SIX                                                       04 02525
003546 054064 A 2526 FMLIE    STA     FMLIEF          LOAD ERROR FLAG                           04 02526
003547 001000 A 2527          JMP     FMLIX                                                     04 02527
003550 003532 R
                2528 ****************                                                           04 02528
                2529 * CHECK HEADER *                                                          04 02529
                2530 ****************                                                           04 02530
003551 000000 A 2531 FMLIHI   ENTR                                                            04 02531
003552 006017 A 2532          LDAE    FMLIHI                                                    04 02532
003553 003551 R
003554 054007 A 2533          STA     FMLIHC          LOAD EXIT                                 04 02533
003555 034051 A 2534          LDX     FMLILC                                                    04 02534
003556 015000 A 2535          LDA     0,X                                                       04 02535
003557 140423 A 2536          SUB     FOUR                                                      04 02536
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003560 001004 A 2537          JAN     FMLIHH      TEST PAGE END                                  04 02537
003561 003571 R
003562 001000 A 2538          JMP     FMLIH2                                                     04 02538
003563 003576 R
003564 000000 A 2539 FMLIHC   ENTR                                                               04 02539
003565 034041 A 2540          LDX     FMLILC                                                     04 02540
003566 015000 A 2541          LDA     0,X         GET LINE COUNTER                               04 02541
003567 001002 A 2542          JAP*    FMLIHC      END OF PAGE ?                                  04 02542
003570 103564 R
003571 006505 A 2543 FMLIHH   JSR     FMVH,X      YES, OUTPUT VORTEX HEADER                      04 02543
003572 005115 R
003573 103627 R 2544          MZE     FMLILC                                                     04 02544
003574 001016 A 2545          JANZ    FMLIE       CHECK FOR ERROR                                04 02545
003575 003546 R
003576 006505 A 2546 FMLIH2   JSR     FMWL,X      WRITE 2ND HEADER LINE                          04 02546
003577 005342 R
003600 003645 R 2547          PZE     FMLIH1                                                     04 02547
003601 103627 R 2548          MZE     FMLILC                                                     04 02548
003602 001016 A 2549          JANZ    FMLIE       CHECK FOR ERROR                                04 02549
003603 003546 R
003604 006505 A 2550          JSR     FMLF,X      LINE FEED                                      04 02550
003605 003320 R
003606 103627 R 2551          MZE     FMLILC                                                     04 02551
003607 001016 A 2552          JANZ    FMLIE       CHECK FOR ERROR                                04 02552
003610 003546 R
003611 006505 A 2553          JSR     FMOC,X      OUTPUT COLUMN HEADER                           04 02553
003612 004302 R
003613 103627 R 2554          MZE     FMLILC                                                     04 02554
003614 001016 A 2555          JANZ    FMLIE       CHECK FOR ERROR                                04 02555
003615 003546 R
003616 001000 A 2556          JMP*    FMLIHC      EXIT                                           04 02556
003617 103564 R
                2557 *********                                                                   04 02557
                2558 * ENTRY *                                                                   04 02558
                2559 *********                                                                   04 02559
003620 074002 A 2560 FMLI     STX     FMLIXX      STORE EXIT                                     04 02560
003621 006505 A 2561          JSR     FMPT,X      XFER PARAMETERS                                04 02561
003622 004457 R
003623          2562 FMLIXX   BSS     1           EXIT ADDRESS                                   04 02562
003624 000003 A 2563          DATA    3           3 PARAMETERS                                   04 02563
003625          2564 FMLICB   BSS     1           COMMAND BLOCK ADDRESS                          04 02564
003626          2565 FMLIFC   BSS     1           FCB ADDRESS                                    04 02565
003627          2566 FMLILC   BSS     1           ADDRESS OF LINE COUNTER                        04 02566
003630 003332 R 2567          DATA    FMLII       FMLI START ADDRESS                             04 02567
                2568 *                                                                           04 02568
003631          2569 FMLIBP   BSS     1           BUFFER POINTER                                 04 02569
003632          2570 FMLIEA   BSS     1           SEARCH ITEM END ADDRESS+1                      04 02570
003633          2571 FMLIEF   BSS     1           ERROR FLAG                                     04 02571
003634          2572 FMLIPB   BSS     1           ADDRESS OF POINTER BLOCK                       04 02572
003635          2573 FMLISA   BSS     1           RMD SEARCH ADDRESS                             04 02573
003636          2574 FMLIT    BSS     1           TEMP STORE                                     04 02574
003637 125325 A 2575 FMLIUN   DATA    '*UN@S*'    DUMMY DIRECTORY ENTRY                          04 02575
003640 147301 A
003641 151652 A
003642 000000 A 2576          DATA    0                                                          04 02576
003643          2577          BSS     2                                                          04 02577
        003643 R 2578 FMLIAA  EQU     *-2                                                        04 02578
003645 000017 A 2579 FMLIH1   DATA    FMLIU-FMLIH1-1                                             04 02579
003646 003650 R 2580          DATA    *+2                                                        04 02580
003647 000001 A 2581          DATA    1                                                          04 02581
003650 130240 A 2582          DATA    '0 FILE DIRECTORY FOR LUN  '                               04 02582
003651 143311 A
003652 146305 A
003653 120304 A
003654 144722 A
003655 142703 A
003656 152317 A
003657 151331 A
003660 120306 A
003661 147722 A
003662 120314 A
003663 152716 A
003664 120240 A
003665 000000 A 2583 FMLIU    DATA    0,0                 LOGICAL UNIT NUMBER                    04 02583
003666 000000 A
                2584          EJEC                                                               04 02584
                2585 ***************************************************************************** 04 02585
                2586 *                                                                           * 04 02586
                2587 *                          M O V E ( F M M V )                              * 04 02587
                2588 *                                                                           * 04 02588
                2589 * FUNCTION: TO MOVE A BLOCK OF N WORDS FROM ADDRESS F TO ADDRESS T          * 04 02589
                2590 *                                                                           * 04 02590
                2591 * ENTRY: A = N                                                             * 04 02591
                2592 *                                                                           * 04 02592
                2593 * CALLING SEQUENCE: JSR  FMMV,X                                           * 04 02593
                2594 *                   DATA F                                                 * 04 02594
                2595 *                   DATA T                                                 * 04 02595
                2596 *                                                                           * 04 02596
                2597 * EXIT : N WORDS MOVED FROM F TO T                                         * 04 02597
                2598 *                                                                           * 04 02598
                2599 ***************************************************************************** 04 02599
003667 054056 A 2601 FMMV1    STA     FMMVC       SAVE MOVE COUNT                                04 02601
003670 005211 A 2602          CPA                                                                04 02602
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003671 005111 A 2603          IAR                    SET A=-A                                  04 02603
003672 004241 A 2604          LRLA    1                                                        04 02604
003673 004341 A 2605          LSRA    1              CLEAR SIGN                                04 02605
003674 054050 A 2606          STA     FMMVT          STORE AS LOOP COUNT                       04 02606
003675 014044 A 2607          LDA     FMMVFP         GET F POINTER                             04 02607
003676 144044 A 2608          SUB     FMMVTP         SUBTRACT T POINTER                        04 02608
003677 001004 A 2609          JAN     FMMVRE         JUMP IF REVERSE MOVE                      04 02609
003700 003715 R
003701 024040 A 2610          LDB     FMMVFP         LOAD B AS F POINTER                       04 02610
003702 034040 A 2611          LDX     FMMVTP         LOAD X AS T POINTER                       04 02611
003703 007400 A 2612          ROF                    CLEAR LOOP END FLAG                       04 02612
                2613 ******************               ***************************************** 04 02613
                2614 * MOVE FORWARD *               ***************************************** 04 02614
                2615 ******************               ***************************************** 04 02615
003704 016000 A 2616 FMMVL    LDA     0,B            GET WORD                                  04 02616
003705 055000 A 2617          STA     0,X            STORE WORD                                04 02617
003706 005144 A 2618          IXR                    BUMP POINTERS                             04 02618
003707 005122 A 2619          IBR                                                              04 02619
003710 044034 A 2620          INR     FMMVT          BUMP LOOP COUNT                           04 02620
003711 001007 A 2621          JOFN    FMMVL          LOOP UNTIL DONE                           04 02621
003712 003704 R
003713 001000 A 2622          JMP*    FMMVXX                                                   04 02622
003714 103740 R
                2623 ******************               ***************************************** 04 02623
                2624 * MOVE REVERSE *               ***************************************** 04 02624
                2625 ******************               ***************************************** 04 02625
       003715 R 2626 FMMVRE   EQU     *                                                        04 02626
003715 014024 A 2627          LDA     FMMVFP         GET F POINTER                             04 02627
003716 124027 A 2628          ADD     FMMVC          ADD COUNT                                 04 02628
003717 005012 A 2629          TAB                                                              04 02629
003720 014022 A 2630          LDA     FMMVTP         GET T POINTER                             04 02630
003721 124024 A 2631          ADD     FMMVC          ADD COUNT                                 04 02631
003722 005014 A 2632          TAX                                                              04 02632
003723 007400 A 2633          ROF                    CLEAR LOOP END FLAG                       04 02633
       003724 R 2634 FMMVLX   EQU     *                                                        04 02634
003724 005344 A 2635          DXR                    BUMP POINTERS                             04 02635
003725 005322 A 2636          DBR                                                              04 02636
003726 016000 A 2637          LDA     0,B            GET WORD                                  04 02637
003727 055000 A 2638          STA     0,X            STORE WORD                                04 02638
003730 044014 A 2639          INR     FMMVT          BUMP LOOP COUNT                           04 02639
003731 001007 A 2640          JOFN    FMMVLX         LOOP UNTIL DONE                           04 02640
003732 003724 R
003733 001000 A 2641          JMP*    FMMVXX                                                   04 02641
003734 103740 R
                2642 *********               ********                                          04 02642
                2643 * ENTRY *               * ENTRY *                                         04 02643
                2644 *********               ********                                          04 02644
003735 074002 A 2645 FMMV     STX     FMMVXX         STORE EXIT                                04 02645
003736 006505 A 2646          JSR     FMPT,X         XFER PARAMETERS                           04 02646
003737 004457 R
003740                2647 FMMVXX  BSS     1              EXIT ADDRESS                        04 02647
003741 000002 A 2648          DATA    2              2 PARAMETERS                              04 02648
003742                2649 FMMVFP  BSS     1              F ADDRESS                           04 02649
003743                2650 FMMVTP  BSS     1              T ADDRESS                           04 02650
003744 003667 R 2651          DATA    FMMV1          FMMV START ADDRESS                        04 02651
                2652 *                                                                         04 02652
003745                2653 FMMVT   BSS     1              TEMP STORE                          04 02653
003746                2654 FMMVC   BSS     1              MOVE COUNT                          04 02654
                2655          EJEC                                                             04 02655
                2656 ********************************************************************************* 04 02656
                2657 *                                                                       * 04 02657
                2658 *                    I N P U T   N A M E ( F M N A )                    * 04 02658
                2659 *                                                                       * 04 02659
                2660 * FUNCTION: TO INPUT AN ALPHAMERIC(OR '$') NAME, UP TO 6 CHARS, OR      * 04 02660
                2661 *           TO A ',' BLANK, OR END-OF-LINE(EOL)                         * 04 02661
                2662 *                                                                       * 04 02662
                2663 * ENTRY: NO SPECIAL CONDITIONS                                          * 04 02663
                2664 *                                                                       * 04 02664
                2665 * CALLING SEQUENCE: JSR   FMNA,X                                       * 04 02665
                2666 *                   DATA  ADDRESS OF SCAN BLOCK(SCB) (SEE FMIC)         * 04 02666
                2667 *                   DATA  ADDRESS OF NAME(3-WORD BLOCK)                 * 04 02667
                2668 *                                                                       * 04 02668
                2669 * EXIT : A=0 IF NO ERROR                                               * 04 02669
                2670 *         B=TERMINATING CHARACTER                                       * 04 02670
                2671 *         NAME LEFT-JUSTIFIED, WITH BLANK FILL                          * 04 02671
                2672 *         OVFL SET IF FIELD EMPTY                                       * 04 02672
                2673 *                                                                       * 04 02673
                2674 * ERRORS:  A=1 IF INVALID CHAR IN NAME FIELD                           * 04 02674
                2675 *           A=1 IF MORE THAN 6 CHARS                                    * 04 02675
                2676 *                                                                       * 04 02676
                2677 ********************************************************************************* 04 02677
003747 005001 A 2679 FMNA1    TZA                                                              04 02679
003750 054143 A 2680          STA     FMNAEF         CLEAR ERROR FLAG                          04 02680
003751 006505 A 2681          JSR     FMNB,X         SLEW THROUGH LEADING BLANKS               04 02681
003752 004133 R
003753 104103 R 2682          MZE     FMNASC                                                   04 02682
003754 001016 A 2683          JANZ    FMNAE1         ERROR 1/ILLEGAL CHAR/                     04 02683
003755 004070 R
003756 006010 A 2684          LDAI    077772                                                   04 02684
003757 077772 A
003760 054127 A 2685          STA     FMNAC          LOAD LOOP COUNT WITH -7                   04 02685
                2686 *********               ********                                          04 02686
                2687 * INPUT/PACK LOOP *               * INPUT/PACK LOOP *                    04 02687
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                    2688 ********************                                                    04 02688
003761 005021 A     2689 FMNAL   TBA                                                            04 02689
003762 054127 A     2690         STA      FMNAH          LOAD INPUT CHAR INTO PACK CELL         04 02690
003763 054127 A     2691         STA      FMNAH+1        ALSO SAVE IT                           04 02691
003764 001004 A     2692         JAN      FMNA2          PACK BLANK ON END OF LINE              04 02692
003765 003774 R
003766 144122 A     2693         SUB      FMNACM                                                04 02693
003767 001010 A     2694         JAZ      FMNA2          PACK BLANK IF COMMA                    04 02694
003770 003774 R
003771 144114 A     2695         SUB      FMNA21                                                04 02695
003772 001016 A     2696         JANZ     FMNAL1         PACK BLANK IF '='                      04 02696
003773 003776 R
003774 014112 A     2697 FMNA2   LDA      FMNABL                                                04 02697
003775 054114 A     2698         STA      FMNAH                                                 04 02698
                    2699 ************************************                                    04 02699
                    2700 * SHIFT PACK STRING LEFT 1 CHAR *                                      04 02700
                    2701 ************************************                                    04 02701
003776 034105 A     2702 FMNAL1  LDX      FMNAPB         POINT X AT PACK BLOCK                  04 02702
003777 015000 A     2703         LDA      0,X                                                   04 02703
004000 025001 A     2704         LDB      1,X                                                   04 02704
004001 004450 A     2705         LLRL     8                                                     04 02705
004002 055000 A     2706         STA      0,X            WORD 0                                 04 02706
004003 015001 A     2707         LDA      1,X                                                   04 02707
004004 025002 A     2708         LDB      2,X                                                   04 02708
004005 004450 A     2709         LLRL     8                                                     04 02709
004006 055001 A     2710         STA      1,X            WORD 1                                 04 02710
004007 005021 A     2711         TBA                                                            04 02711
004010 150462 A     2712         ANA      LHW                                                   04 02712
004011 114100 A     2713         ORA      FMNAH                                                 04 02713
004012 055002 A     2714         STA      2,X            WORD 2                                 04 02714
004013 007400 A     2715         ROF                                                            04 02715
004014 044073 A     2716         INR      FMNAC          BUMP LOOP COUNT                        04 02716
004015 001001 A     2717         JOF      FMNAX          LOOP UNTIL DONE                        04 02717
004016 004032 R
004017 014072 A     2718         LDA      FMNAH                                                 04 02718
004020 144066 A     2719         SUB      FMNABL                                                04 02719
004021 001010 A     2720         JAZ      FMNAL1         STOP SCAN IF BLANK PACKED              04 02720
004022 003776 R
004023 006505 A     2721         JSR      FMIC,X         GET NEXT CHAR                          04 02721
004024 003222 R
004025 104103 R     2722         MZE      FMNASC                                                04 02722
004026 001016 A     2723         JANZ     FMNAE1         CHECK FOR ERROR                        04 02723
004027 004073 R
004030 001000 A     2724         JMP      FMNAL          PROCESS NEXT CHAR                      04 02724
004031 003761 R
                    2725 ********************                                                    04 02725
                    2726 * END OF INPUT *                                                      04 02726
                    2727 ********************                                                    04 02727
004032 014060 A     2728 FMNAX   LDA      FMNAH+1        GET LAST CHAR                          04 02728
004033 005012 A     2729         TAB                     ALSO IN B                              04 02729
004034 144054 A     2730         SUB      FMNACM                                                04 02730
004035 001010 A     2731         JAZ      FMNA4          COMMA OK                               04 02731
004036 004060 R
004037 144046 A     2732         SUB      FMNA21                                                04 02732
004040 001010 A     2733         JAZ      FMNA4          '=' OK                                 04 02733
004041 004060 R
004042 006505 A     2734         JSR      FMNB,X         SLEW THRU BLANKS                       04 02734
004043 004133 R
004044 104103 R     2735         MZE      FMNASC                                                04 02735
004045 001016 A     2736         JANZ     FMNAE1         CHECK FOR ERROR                        04 02736
004046 004073 R
004047 005021 A     2737         TBA                                                            04 02737
004050 001004 A     2738         JAN      FMNA4          EOL OK                                 04 02738
004051 004060 R
004052 144036 A     2739         SUB      FMNACM                                                04 02739
004053 001010 A     2740         JAZ      FMNA4          COMMA OK                               04 02740
004054 004060 R
004055 144030 A     2741         SUB      FMNA21         '=' OK                                 04 02741
004056 001016 A     2742         JANZ     FMNAE1         ERROR 1/ILLEGAL TERMINATOR/            04 02742
004057 004073 R
                    2743 ********                                                              04 02743
                    2744 * EXIT *                                                              04 02744
                    2745 ********                                                              04 02745
004060 034023 A     2746 FMNA4   LDX      FMNAPB                                                04 02746
004061 015000 A     2747         LDA      0,X            GET 1ST WORD                           04 02747
004062 006140 A     2748         SUBI     ' '                                                   04 02748
004063 120240 A
004064 007401 A     2749         SOF                     SET OVFL ON EMPTY FIELD                04 02749
004065 001010 A     2750         JAZ      *+3            EMPTY FIELD ?                          04 02750
004066 004070 R
004067 007400 A     2751         ROF                     NO. RESET OVFL                         04 02751
004070 014023 A     2752         LDA      FMNAEF         LOAD ERROR FLAG AT EXIT                04 02752
004071 001000 A     2753         JMP*     FMNAXX         EXIT                                   04 02753
004072 104101 R
                    2754 *********                                                             04 02754
                    2755 * ERROR *                                                             04 02755
                    2756 *********                                                             04 02756
004073 044020 A     2757 FMNAE1  INR      FMNAEF         FLAG ERROR                             04 02757
004074 001000 A     2758         JMP      FMNA4                                                 04 02758
004075 004060 R
                    2759 *********                                                             04 02759
                    2760 * ENTRY *                                                             04 02760
                    2761 *********                                                             04 02761
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004076 074002 A 2762 FMNA    STX     FMNAXX          SAVE EXIT                                   04 02762
004077 006505 A 2763         JSR     FMPT,X          XFER PARAMETERS                             04 02763
004100 004457 R
004101         2764 FMNAXX   BSS     1               EXIT ADDRESS                                04 02764
004102 000002 A 2765         DATA    2               2 PARAMETERS                                04 02765
004103         2766 FMNASC   BSS     1               SCAN BLOCK ADDRESS                          04 02766
004104         2767 FMNAPB   BSS     1               NAME ADDRESS                                04 02767
004105 003747 R 2768         DATA    FMNA1           FMNA START ADDRESS                          04 02768
               2769 *                                                                           04 02769
004106 000021 A 2770 FMNA21  DATA    021             '=' - ','                                   04 02770
004107 000240 A 2771 FMNABL  DATA    0240            BLANK                                       04 02771
004110         2772 FMNAC    BSS     1               LOOP COUNT                                  04 02772
004111 000254 A 2773 FMNACM  DATA    0254            COMMA                                       04 02773
004112         2774 FMNAH    BSS     2               PACK CHARACTER                              04 02774
004114         2775 FMNAEF   BSS     1               ERROR FLAG                                  04 02775
               2776          EJEC                                                               04 02776
               2777 ***************************************************************************04 02777
               2778 *                                                                         * 04 02778
               2779 *              I N P U T   N O N - B L A N K ( F M N B )                  * 04 02779
               2780 *                                                                         * 04 02780
               2781 * FUNCTION: TO SLEW THROUGH A BLANK FIELD                                 * 04 02781
               2782 *                                                                         * 04 02782
               2783 * ENTRY: NO SPECIAL CONDITIONS                                           * 04 02783
               2784 *                                                                         * 04 02784
               2785 * CALLING SEQUENCE: JSR   FMNB,X                                         * 04 02785
               2786 *                    DATA  ADDRESS OF SCAN BLOCK(SCB) (SEE FMIC)          * 04 02786
               2787 *                                                                         * 04 02787
               2788 * EXIT : A=0 IF NO ERRORS                                                 * 04 02788
               2789 *        B=SCB(3)=TERMINATING CHAR                                        * 04 02789
               2790 *                                                                         * 04 02790
               2791 * ERRORS: A=1 IF FMIC PICKS UP AN INVALID CHAR                           * 04 02791
               2792 *                                                                         * 04 02792
               2793 ***************************************************************************04 02793
004115 006505 A 2795 FMNB1   JSR     FMIC,X          INPUT CHARACTER                             04 02795
004116 003222 R
004117 104140 R 2796         MZE     FMNBP                                                       04 02796
004120 001016 A 2797         JANZ*   FMNBXX          EXIT ON ILLEGAL CHAR                        04 02797
004121 104136 R
004122 005021 A 2798         TBA                                                                 04 02798
004123 001004 A 2799         JAN     FMNBX           EXIT ON END OF BUFFER                       04 02799
004124 004130 R
004125 140000 L 2800         SUB     =0240                                                       04 02800
004126 001010 A 2801         JAZ     FMNB1           IS CHAR A BLANK ?                           04 02801
004127 004115 R
004130 005001 A 2802 FMNBX   TZA                     NO. SET A=0 TO FLAG OK                      04 02802
004131 001000 A 2803         JMP*    FMNBXX          EXIT                                        04 02803
004132 104136 R
004133 074002 A 2804 FMNB    STX     FMNBXX          SAVE EXIT                                   04 02804
004134 006505 A 2805         JSR     FMPT,X          XFER PARAMETERS                             04 02805
004135 004457 R
004136         2806 FMNBXX   BSS     1               EXIT                                        04 02806
004137 000001 A 2807         DATA    1               1 PARAMETER                                 04 02807
004140         2808 FMNBP    BSS     1               ADDRESS OF SCAN BLOCK                       04 02808
004141 004115 R 2809         DATA    FMNB1           FMNB START ADDRESS                          04 02809
               2810          EJEC                                                               04 02810
               2811 ***************************************************************************04 02811
               2812 *                                                                         * 04 02812
               2813 *                I N P U T   N U M B E R ( F M N U )                      * 04 02813
               2814 *                                                                         * 04 02814
               2815 * FUNCTION: TO INPUT AN ASCII NUMERIC STRING AND CONVERT IT TO BINARY     * 04 02815
               2816 *                                                                         * 04 02816
               2817 * ENTRY: NO SPECIAL CONDITIONS                                           * 04 02817
               2818 *                                                                         * 04 02818
               2819 * CALLING SEQUENCE: JSR   FMNU,X                                         * 04 02819
               2820 *                    DATA  ADDRESS OF SCAN BLOCK(SCB) (SEE FMIC)          * 04 02820
               2821 *                    DATA  ADDRESS OF BINARY EQUIVALENT OF NUMBER         * 04 02821
               2822 *                                                                         * 04 02822
               2823 * EXIT : A=0 IF NO ERROR                                                 * 04 02823
               2824 *        B=SCB(3)=TERMINATING CHAR                                        * 04 02824
               2825 *        OVFL SET IF FIELD EMPTY                                          * 04 02825
               2826 *                                                                         * 04 02826
               2827 * ERRORS:  A=1 IF INVALID NUMERIC FIELD                                  * 04 02827
               2828 *                                                                         * 04 02828
               2829 ***************************************************************************04 02829
004142 005001 A 2831 FMNU1   TZA                                                                 04 02831
004143 054120 A 2832         STA     FMNUM           CLEAR COUNTER                               04 02832
004144 054116 A 2833         STA     FMNUEF          CLEAR ERROR FLAG                            04 02833
004145 010424 A 2834         LDA     EIGHT                                                       04 02834
004146 054116 A 2835         STA     FMNUR           SET RADIX TO 8                              04 02835
004147 006010 A 2836         LDAI    4096                                                   E.2*********
004150 010000 A
004151 054030 A 2837         STA     FMN1                                                   E.2*********
004152 006505 A 2838         JSR     FMNB,X          SLEW THRU BLANKS                            04 02836
004153 004133 R
004154 104260 R 2839         MZE     FMNUSC                                                      04 02837
004155 001016 A 2840         JANZ    FMNUE1          ERROR 1/ILLEGAL CHAR/                       04 02838
004156 004240 R
004157 005021 A 2841         TBA                                                                 04 02839
004160 140000 L 2842         SUB     =0260                                                       04 02840
004161 001010 A 2843         JAZ     FMNUL1          1ST DIGIT = '0'                             04 02841
004162 004170 R
004163 010471 A 2844         LDA     TEN             NO                                          04 02842
004164 054100 A 2845         STA     FMNUR           SET RADIX TO 10                             04 02843
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004163 006010 A 2846          LDAI    3277                                                    E.2********
004166 006315 A
004167 054012 A 2847          STA     FMN1                                                    E.2********
                2848 ****************************                                                04 02844
                2849 * PROCESS NUMERIC STRING *                                                04 02845
                2850 ****************************                                                04 02846
004170 005021 A 2851 FMNUL1   TBA                                                             04 02847
004171 140000 L 2852          SUB     =0260                                                   04 02848
004172 001004 A 2853          JAN     FMNUX     EXIT IF NON-NUMERIC                           04 02849
004173 004216 R
004174 054071 A 2854          STA     FMNUT     CONVERT ASCII DIGIT TO BINARY                 04 02850
004175 140471 A 2855          SUB     TEN                                                     04 02851
004176 001002 A 2856          JAP     FMNUX     EXIT IF NON-NUMERIC                           04 02852
004177 004216 R
004200 014063 A 2857          LDA     FMNUM     GET COUNTER                                   04 02853
004201 006140 A 2858          SUBI    3277      TEST SIZE                                     04 02854
004202 006315 A
004202          2859 FMN1     BES     0                                                       E.2********
004203 001002 A 2860          JAP     FMNUE1    ERROR 1/NUMBER TOO LARGE/                     04 02855
004204 004240 R
004205 014060 A 2861          LDA     FMNUT                                                   04 02856
004206 024055 A 2862          LDB     FMNUM                                                   04 02857
004207 164055 A 2863          MUL     FMNUR     10*COUNTER + NEW DIGIT                        04 02858
004210 064053 A 2864          STB     FMNUM     RESTORE COUNTER                               04 02859
004211 006505 A 2865          JSR     FMIC,X    INPUT NEXT CHAR                               04 02860
004212 003222 R
004213 104260 R 2866          MZE     FMNUSC                                                  04 02861
004214 001000 A 2867          JMP     FMNUL1    LOOP TILL DONE                                04 02862
004215 004170 R
                2868 ********************                                                      04 02863
                2869 * TERMINATE FIELD *                                                      04 02864
                2870 ********************                                                      04 02865
004216 005021 A 2871 FMNUX    TBA                                                             04 02866
004217 140000 L 2872          SUB     =0240                                                   04 02867
004220 001016 A 2873          JANZ    *+7       BLANK ?                                       04 02868
004221 004227 R
004222 006505 A 2874          JSR     FMNB,X    YES. SLEW THRU BLANKS                         04 02869
004223 004133 R
004224 104260 R 2875          MZE     FMNUSC                                                  04 02870
004225 001016 A 2876          JANZ    FMNUE1    ERROR 1/ILLEGAL CHAR/                         04 02871
004226 004240 R
004227 005021 A 2877          TBA                                                             04 02872
004230 001004 A 2878          JAN     FMNUY     EXIT ON BUFFER END                            04 02873
004231 004241 R
004232 140000 L 2879          SUB     =0254                                                   04 02874
004233 001010 A 2880          JAZ     FMNUY     COMMA OK                                      04 02875
004234 004241 R
004235 140000 L 2881          SUB     =021                                                    04 02876
004236 001010 A 2882          JAZ     FMNUY     '=' OK                                        04 02877
004237 004241 R
                2883 *********                                                               04 02878
                2884 * ERROR *                                                               04 02879
                2885 *********                                                               04 02880
004240 044022 A 2886 FMNUE1   INR     FMNUEF    SET ERROR FLAG                                04 02881
                2887 ********************                                                      04 02882
                2888 * END OF STRING *                                                       04 02883
                2889 ********************                                                      04 02884
004241 034017 A 2890 FMNUY    LDX     FMNUM                                                   04 02885
004242 014021 A 2891          LDA     FMNUM                                                   04 02886
004243 055000 A 2892          STA     0,X       STORE NUMBER                                  04 02887
004244 007401 A 2893          SOF               SET OVFL IF NUMBER=0                          04 02888
004245 001010 A 2894          JAZ     *+3                                                     04 02889
004246 004250 R
004247 007400 A 2895          ROF                                                             04 02890
004250 014012 A 2896          LDA     FMNUEF    LOAD ERROR FLAG AT EXIT                       04 02891
004251 001000 A 2897          JMP*    FMNUXX    EXIT                                          04 02892
004252 104256 R
004253 074002 A 2898 FMNU     STX     FMNUXX    SAVE EXIT                                     04 02893
004254 006505 A 2899          JSR     FMPT,X    XFER PARAMETERS                               04 02894
004255 004457 R
004256          2900 FMNUXX   BSS     1         EXIT ADDRESS                                  04 02895
004257 000002 A 2901          DATA    2         2 PARAMETERS                                  04 02896
004260          2902 FMNUSC   BSS     1         ADDRESS OF SCAN BLOCK                         04 02897
004261          2903 FMNUN    BSS     1         ADDRESS OF NUMBER                             04 02898
004262 004142 R 2904          DATA    FMNU1     FMNU START ADDRESS                            04 02899
                2905 *                                                                        04 02900
004263          2906 FMNUEF   BSS     1         ERROR FLAG                                    04 02901
004264          2907 FMNUM    BSS     1         BINARY CONVERSION COUNTER                     04 02902
004265          2908 FMNUR    BSS     1         RADIX                                         04 02903
004266          2909 FMNUT    BSS     1         TEMP STORE                                    04 02904
                2910          EJEC                                                          04 02905
                2911 ***************************************************************************04 02906
                2912 *                                                                       * 04 02907
                2913 *        O U T P U T   C O L U M N   H E A D E R ( F M O C )             * 04 02908
                2914 *                                                                       * 04 02909
                2915 * FUNCTION: TO OUTPUT THE COLUMN HEADER FOR FMAIN LISTINGS              * 04 02910
                2916 *                                                                       * 04 02911
                2917 * ENTRY: NO SPECIAL CONDITIONS                                         * 04 02912
                2918 *                                                                       * 04 02913
                2919 * CALLING SEQUENCE: JSR   FMOC,X                                       * 04 02914
                2920 *                    DATA  ADDRESS OF LINE COUNTER                      * 04 02915
                2921 *                                                                       * 04 02916
                2922 * EXIT : A=0 IF NO ERRORS                                              * 04 02917
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                    2923 *
                    2924 * ERRORS: A=5 ON I/O ERROR
                    2925 *
                    2926 ********************************************************************************
004267 006505 A     2928 FMOC1   JSR      FMWL,X          OUTPUT LINE TO LO
004270 005342 R
004271 004311 R     2929         PZE      FMCH
004272 104307 R     2930         MZE      FMOCLC
004273 001016 A     2931         JANZ*    FMOCXX          EXIT ON I/O ERROR
004274 104305 R
004275 006505 A     2932         JSR      FMLF,X          LINE FEED
004276 003320 R
004277 104307 R     2933         MZE      FMOCLC
004300 001000 A     2934         JMP*     FMOCXX          EXIT
004301 104305 R
                    2935 *********
                    2936 * ENTRY *
                    2937 *********
004302 074002 A     2938 FMOC    STX      FMOCXX          STORE RETURN
004303 006505 A     2939         JSR      FMPT,X          XFER PARAMETER
004304 004457 R
004305              2940 FMOCXX  BSS      1,              RETURN ADDRESS
004306 000001 A     2941         DATA     1               1 PARAMETER
004307              2942 FMOCLC  BSS      1               ADDRESS OF LINE COUNTER
004310 004267 R     2943         DATA     FMOC1           START OF FMOC
                    2944 ************************
                    2945 * FMAIN COLUMN HEAD DCB *
                    2946 ************************
004311 000021 A     2947 FMCH    DATA     FMCH2-FMCH1
004312 004314 R     2948         DATA     FMCH1
004313 000001 A     2949         DATA     1
004314 120240 A     2950 FMCH1   DATA     '  '
004315 143311 A     2951         DATA     'FILE NAME  START     END CURRENT'
004316 146305 A
004317 120316 A
004320 140715 A
004321 142640 A
004322 120323 A
004323 152301 A
004324 151324 A
004325 120240 A
004326 120240 A
004327 120305 A
004330 147304 A
004331 120303 A
004332 152722 A
004333 151305 A
004334 147324 A
       004335 R     2952 FMCH2   EQU      *
                    2953         EJEC
                    2954 ********************************************************************************
                    2955 *                                                                              *
                    2956 *              O U T P U T   F I L E   L I N E ( F M O F )                      *
                    2957 *                                                                              *
                    2958 * FUNCTION: TO OUTPUT A LINE TO THE LO DEVICE WITH A FILE NAME AND             *
                    2959 *           EXTENT                                                             *
                    2960 *                                                                              *
                    2961 *                                                                              *
                    2962 * ENTRY: NO SPECIAL CONDITIONS                                                 *
                    2963 *                                                                              *
                    2964 * CALLING SEQUENCE: JSR    FMOF,X                                             *
                    2965 *                   DATA   ADDRESS OF FILE NAME ENTRY                         *
                    2966 *                   DATA   ADDRESS OF LINE COUNTER                            *
                    2967 *                                                                              *
                    2968 * EXIT : A=0 IF NO ERROR                                                       *
                    2969 *                                                                              *
                    2970 * ERRORS: A=5 IF I/O ERROR                                                     *
                    2971 *                                                                              *
                    2972 ********************************************************************************
                    2974 ****************
                    2975 * CLEAR BUFFER *
                    2976 ****************
004335 006030 A     2977 FMOF1   LDXI     FMOFBF
004336 004435 R
004337 020000 L     2978         LDB      ='  '
004340 065000 A     2979 FMOFL   STB      0,X             STORE BLANKS IN BUFFER
004341 005145 A     2980         INCR     045
004342 006140 A     2981         SUBI     FMOFBE
004343 004456 R
004344 001004 A     2982         JAN      FMOFL           TEST LOOP END
004345 004340 R
                    2983 ******************
                    2984 * LOAD FILE NAME *
                    2985 ******************
004346 010464 A     2986         LDA      THREE
004347 006505 A     2987         JSR      FNMV,X          MOVE NAME TO BUFFER
004350 003735 R
004351 104427 R     2988         MZE      FMOFBP
004352 004436 R     2989         PZE      FMOFBF+1
004353 014053 A     2990         LDA      FMOFBP
004354 120464 A     2991         ADD      THREE           BUMP BUFFER POINTER
004355 054051 A     2992         STA      FMOFBP
                    2993 ****************************
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                    2994 * LOAD CURRENT EOF SECTOR *                                                    04 02989
                    2995 ****************************                                                  04 02990
004356 005001 A     2996         TZA                    REQUEST OCTAL                                   04 02991
004357 006505 A     2997         JSR      FMBA,X        CONVERT TO ASCII DIGIT STRING                   04 02992
004360 001061 R
004361 104427 R     2998         MZE      FMOFBP                                                        04 02993
004362 074073 A     2999         STX      FMOFT         SAVE STRING ADDRESS                             04 02994
004363 010464 A     3000         LDA      THREE                                                         04 02995
004364 006505 A     3001         JSR      FMMV,X        MOVE CURRENT STRING TO BUFFER                   04 02996
004365 003735 R
004366 104456 R     3002         MZE      FMOFT                                                         04 02997
004367 004453 R     3003         PZE      FMOFBF+14                                                     04 02998
                    3004 **********************                                                        04 02999
                    3005 * LOAD START SECTOR *                                                          04 03000
                    3006 **********************                                                        04 03001
004370 044036 A     3007         INR      FMOFBP        BUMP BUFFER POINTER                             04 03002
004371 005001 A     3008         TZA                    REQUEST OCTAL                                   04 03003
004372 006505 A     3009         JSR      FMBA,X        CONVERT TO ASCII DIGIT STRING                   04 03004
004373 001061 R
004374 104427 R     3010         MZE      FMOFBP                                                        04 03005
004375 010464 A     3011         LDA      THREE                                                         04 03006
004376 006505 A     3012         JSR      FMMV,X        MOVE START STRING TO BUFFER                     04 03007
004377 003735 R
004400 104456 R     3013         MZE      FMOFT                                                         04 03008
004401 004443 R     3014         PZE      FMOFBF+6                                                      04 03009
                    3015 ********************                                                          04 03010
                    3016 * LOAD END SECTOR *                                                            04 03011
                    3017 ********************                                                          04 03012
004402 044024 A     3018         INR      FMOFBP        BUMP BUFFER POINTER                             04 03013
004403 005001 A     3019         TZA                    REQUEST OCTAL                                   04 03014
004404 006505 A     3020         JSR      FMBA,X        CONVERT TO ASCII DIGIT STRING                   04 03015
004405 001061 R
004406 104427 R     3021         MZE      FMOFBP                                                        04 03016
004407 010464 A     3022         LDA      THREE                                                         04 03017
004410 006505 A     3023         JSR      FMMV,X        MOVE END STRING TO BUFFER                       04 03018
004411 003735 R
004412 104456 R     3024         MZE      FMOFT                                                         04 03019
004413 004447 R     3025         PZE      FMOFBF+10                                                     04 03020
                    3026 ****************************                                                  04 03021
                    3027 * WRITE LINE TO LO DEVICE *                                                    04 03022
                    3028 ****************************                                                  04 03023
004414 006505 A     3029         JSR      FMWL,X                                                        04 03024
004415 005342 R
004416 004432 R     3030         PZE      FMOFDC                                                        04 03025
004417 104430 R     3031         MZE      FMOFLC                                                        04 03026
004420 001000 A     3032         JMP*     FMOFXX        EXIT                                            04 03027
004421 104425 R
                    3033 *********                                                                      04 03028
                    3034 * ENTRY *                                                                      04 03029
                    3035 *********                                                                      04 03030
004422 074002 A     3036 FMOF    STX      FMOFXX        STORE EXIT                                      04 03031
004423 006505 A     3037         JSR      FMPT,X        XFER PARAMETERS                                 04 03032
004424 004457 R
004425              3038 FMOFXX  BSS      1             EXIT ADDRESS                                    04 03033
004426 000002 A     3039         DATA     2             2 PARAMETERS                                    04 03034
004427              3040 FMOFBP  BSS      1             BUFFER POINTER                                  04 03035
004430              3041 FMOFLC  BSS      1             LINE COUNTER                                    04 03036
004431 004335 R     3042         DATA     FMOF1         FMOF START ADDRESS                              04 03037
004432 000021 A     3043 FMOFDC  DATA     17            BUFFER SIZE                                     04 03038
004433 004435 R     3044         DATA     *+2                                                           04 03039
004434 000001 A     3045         DATA     1                                                             04 03040
004435              3046 FMOFBF  BSS      17            LIST BUFFER                                     04 03041
                004456 R 3047 FMOFBE EQU      *                                                        04 03042
004456              3048 FMOFT   BSS      1             TEMP STORE                                      04 03043
                    3049         EJEC                                                                  04 03044
                    3050 ********************************************************************************04 03045
                    3051 *                                                                              * 04 03046
                    3052 *            P A R A M E T E R   T R A N S F E R ( F M P T )                   * 04 03047
                    3053 *                                                                              * 04 03048
                    3054 * FUNCTION: TO TRANSFER PARAMETERS FROM A CALLING PROGRAM 1 TO A               * 04 03049
                    3055 *           CALLED PROGRAM 2, WHICH CALLS FMPT.                               * 04 03050
                    3056 *                                                                              * 04 03051
                    3057 * ENTRY: NO SPECIAL CONDITIONS                                                 * 04 03052
                    3058 *                                                                              * 04 03053
                    3059 * CALLING SEQUENCE: JSR    FMPT,X                                             * 04 03054
                    3060 *                   DATA   ADDRESS OF CALL SEQ OF PROG 1                      * 04 03055
                    3061 *                   DATA   N (PARAMETER COUNT)                                * 04 03056
                    3062 *                   BSS    N (FMPT STORES PARAMETERS HERE)                    * 04 03057
                    3063 *                   DATA   ADDRESS OF FMPT EXIT                               * 04 03058
                    3064 *                                                                              * 04 03059
                    3065 * EXIT : A,B SAVED                                                            * 04 03060
                    3066 *        PROG 2 EXIT SAVED                                                     * 04 03061
                    3067 *                                                                              * 04 03062
                    3068 ********************************************************************************04 03063
                    3070 ************                                                                   04 03065
                    3071 * SAVE A,B *                                                                   04 03066
                    3072 ************                                                                   04 03067
004457 054036 A     3073 FMPT    STA      FMPTA         SAVE A                                          04 03068
004460 064036 A     3074         STB      FMPTB         SAVE B                                          04 03069
                    3075 ****************************                                                  04 03070
                    3076 * INITIALIZE TRANSFER LOOP *                                                   04 03071
                    3077 ****************************                                                  04 03072
004461 015000 A     3078         LDA      0,X                                                           04 03073
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004462 054036 A 3079          STA     FMPTS1          SAVE POINTER TO CALL SEQ 1                      04 03074
004463 005042 A 3080          TXB                                                                     04 03075
004464 005144 A 3081          IXR                                                                     04 03076
004465 015000 A 3082          LDA     0,X                                                             04 03077
004466 054031 A 3083          STA     FMPTN           SAVE PARAMETER COUNT                            04 03078
004467 124031 A 3084          ADD     FMPTS1                                                          04 03079
004470 056000 A 3085          STA     0,B             BUMP PROG 2 EXIT BY N                           04 03080
004471 005144 A 3086          IXR                                                                     04 03081
                 3087 ********************************                                               04 03082
                 3088 * LOOP TO PROCESS NEXT PARAMETER *                                               04 03083
                 3089 ********************************                                               04 03084
004472 024026 A 3090 FMPTL1   LDB     FMPTS1          POINT B AT CALL SEQ 1                           04 03085
                 3091 ********************************                                               04 03086
                 3092 * LOOP TO RESOLVE INDIRECTS *                                                   04 03087
                 3093 ********************************                                               04 03088
004473 016000 A 3094 FMPTL2   LDA     0,B             GET PARAMETER                                   04 03089
004474 001002 A 3095          JAP     FMPT2           INDIRECT ?                                      04 03090
004475 004501 R
004476 005012 A 3096          TAB                     YES. FOLLOW DOWN INDIRECT CHAIN                 04 03091
004477 001000 A 3097          JMP     FMPTL2                                                          04 03092
004500 004473 R
004501 055000 A 3098 FMPT2    STA     0,X             STORE PARAMETER IN CALL SEQ 2                   04 03093
004502 044016 A 3099          INR     FMPTS1          BUMP CALL SEQ 1 POINTER                         04 03094
004503 005144 A 3100          IXR                     BUMP CALL SEQ 2 POINTER                         04 03095
004504 014013 A 3101          LDA     FMPTN                                                           04 03096
004505 005311 A 3102          DAR                     DECREMENT PARAMETER COUNT                       04 03097
004506 054011 A 3103          STA     FMPTN                                                           04 03098
004507 001016 A 3104          JANZ    FMPTL1          LOOP TILL DONE                                  04 03099
004510 004472 R
                 3105 ********************************                                               04 03100
                 3106 * DONE - RESTORE REGS AND EXIT *                                               04 03101
                 3107 ********************************                                               04 03102
004511 014004 A 3108          LDA     FMPTA                                                           04 03103
004512 024004 A 3109          LDB     FMPTB                                                           04 03104
004513 035000 A 3110          LDX     0,X                                                             04 03105
004514 006705 A 3111          IJMP    3,X             EXIT                                            04 03106
004515 000000 A
004516          3112 FMPTA    BSS     1               SAVE A                                          04 03107
004517          3113 FMPTB    BSS     1               SAVE B                                          04 03108
004520          3114 FMPTN    BSS     1               PARAMETER COUNT                                 04 03109
004521          3115 FMPTS1   BSS     1               POINTER TO CALL SEQ 1                           04 03110
                 3116          EJEC                                                                    04 03111
                 3117 ************************************************************************************ 04 03112
                 3118 *                                                                              * 04 03113
                 3119 *                P R O C E S S   R E N A M E ( F M R E )                       * 04 03114
                 3120 *                                                                              * 04 03115
                 3121 * FUNCTION: TO RENAME A FILE                                                    * 04 03116
                 3122 *                                                                              * 04 03117
                 3123 * ENTRY: NO SPECIAL CONDITIONS                                                 * 04 03118
                 3124 *                                                                              * 04 03119
                 3125 * CALLING SEQUENCE: JSR   FMRE,X                                               * 04 03120
                 3126 *                    DATA  ADDRESS OF COMMAND BLOCK(CB)                        * 04 03121
                 3127 *                    DATA  FCB ADDRESS                                         * 04 03122
                 3128 *                    DATA  0                                                   * 04 03123
                 3129 *                                                                              * 04 03124
                 3130 * COMMAND BLOCK: WORD 0: LOGICAL UNIT NUMBER                                   * 04 03125
                 3131 *                WORD 1: KEY                                                   * 04 03126
                 3132 *                WORDS 2-4: OLD NAME                                           * 04 03127
                 3133 *                WORDS 5-7: NEW NAME                                           * 04 03128
                 3134 *                                                                              * 04 03129
                 3135 * EXIT : A=0 IF NO ERRORS                                                      * 04 03130
                 3136 *                                                                              * 04 03131
                 3137 * ERRORS: A=1 ON LUN OR KEY ERROR                                             * 04 03132
                 3138 *         A=2 IF NEW NAME ALREADY IN DIRECTORY                                 * 04 03133
                 3139 *         A=3 IF OLD NAME NOT IN DIRECTORY                                     * 04 03134
                 3140 *         A=5 ON I/O ERROR                                                     * 04 03135
                 3141 *         A=6 IN DIRECTORY STRUCTURE ERROR                                     * 04 03136
                 3142 *                                                                              * 04 03137
                 3143 ************************************************************************************ 04 03138
004522 005001 A 3145 FMRE1    TZA                                                                     04 03140
004523 054134 A 3146          STA     FMREEF          CLEAR ERROR FLAG                                04 03141
004524 010422 A 3147          LDA     TWO                                                             04 03142
004525 054130 A 3148          STA     FMREAA          INITIALIZE NEXT AVAIL RECORD TO 2               04 03143
                 3149 ************************                                                       04 03144
                 3150 * GET FILE PARAMETERS *                                                       04 03145
                 3151 ************************                                                       04 03146
004526 006505 A 3152          JSR     FMFA,X          MAKE FILE ACCESS                                04 03147
004527 002433 R
004530 104652 R 3153          MZE     FMRECB                                                          04 03148
004531 104653 R 3154          MZE     FMREFC                                                          04 03149
004532 074130 A 3155          STX     FMREPB          SAVE ADDRESS OF POINTER BLOCK                   04 03150
004533 001010 A 3156          JAZ     *+5             ERROR ?                                         04 03151
004534 004540 R
004535 044122 A 3157          INR     FMREEF          YES. SET FLAG AND EXIT                          04 03152
004536 001000 A 3158          JMP     FMREX2                                                  E.1     ********
004537 004633 R
                 3159 ********************************                                               04 03154
                 3160 * SEARCH DIRECTORY FOR NEW NAME *                                               04 03155
                 3161 ********************************                                               04 03156
004540 006505 A 3162          JSR     FMRW,X          REWIND DIRECTORY                                04 03157
004541 004745 R
004542 104652 R 3163          MZE     FMRECB                                                          04 03158
004543 104653 R 3164          MZE     FMREFC                                                          04 03159
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004544 004657 R 3165          PZE     FMREBP                                                    04 03160
004545 001016 A 3166          JANZ    FMREE           CHECK FOR ERROR                           04 03161
004546 004642 R
004547 014102 A 3167          LDA     FMRECB                                                    04 03162
004550 120422 A 3168          ADD     TWO                                                       04 03163
004551 054107 A 3169          STA     FMRENA          LOAD ADDRESS OF OLD NAME                  04 03164
004552 120464 A 3170          ADD     THREE                                                     04 03165
004553 054106 A 3171          STA     FMRENA+1        LOAD ADDRESS OF NEW NAME                  04 03166
004554 006505 A 3172          JSR     FMSD,X          SEARCH FOR NEW NAME                       04 03167
004555 005032 R
004556 104662 R 3173          MZE     FMRENA+1                                                  04 03168
004557 104652 R 3174          MZE     FMRECB                                                    04 03169
004560 104653 R 3175          MZE     FMREFC                                                    04 03170
004561 104663 R 3176          MZE     FMREPB                                                    04 03171
004562 004657 R 3177          PZE     FMREBP                                                    04 03172
004563 004656 R 3178          PZE     FMREAA                                                E   04 03173
004564 001016 A 3179          JANZ    FMREE           CHECK FOR ERROR                           04 03174
004565 004642 R
004566 001001 A 3180          JOF     FMREE2          ERROR 2/NEW NAME ALREADY IN DIRECTORY/    04 03175
004567 004636 R
                3181 **********************************                                        04 03176
                3182 * SEARCH DIRECTORY FOR OLD NAME *                                         04 03177
                3183 **********************************                                        04 03178
004570 006505 A 3184          JSR     FMRW,X          REWIND DIRECTORY                          04 03179
004571 004745 R
004572 104652 R 3185          MZE     FMRECB                                                    04 03180
004573 104653 R 3186          MZE     FMREFC                                                    04 03181
004574 004657 R 3187          PZE     FMREBP                                                    04 03182
004575 001016 A 3188          JANZ    FMREE           CHECK FOR ERROR                           04 03183
004576 004642 R
004577 006505 A 3189          JSR     FMSD,X          SEARCH FOR OLD NAME                       04 03184
004600 005032 R
004601 104661 R 3190          MZE     FMRENA                                                    04 03185
004602 104652 R 3191          MZE     FMRECB                                                    04 03186
004603 104653 R 3192          MZE     FMREFC                                                    04 03187
004604 104663 R 3193          MZE     FMREPB                                                    04 03188
004605 004657 R 3194          PZE     FMREBP                                                    04 03189
004606 004656 R 3195          PZE     FMREAA                                                E   04 03190
004607 001016 A 3196          JANZ    FMREE           CHECK FOR ERROR                           04 03191
004610 004642 R
004611 001007 A 3197          JOFN    FMREE3          ERROR 3/OLD NAME NOT IN DIRECTORY/        04 03192
004612 004641 R
004613 010464 A 3198          LDA     THREE                                                     04 03193
004614 006505 A 3199          JSR     FMMV,X          MOVE NEW NAME INTO BUFFER                 04 03194
004615 003735 R
004616 104662 R 3200          MZE     FMRENA+1                                                  04 03195
004617 104657 R 3201          MZE     FMREBP                                                    04 03196
004620 006505 A 3202          JSR     FMWR,X          WRITE TO RMD                              04 03197
004621 005611 R
004622 104652 R 3203          MZE     FMRECB                                                    04 03198
004623 104653 R 3204          MZE     FMREFC                                                    04 03199
004624 001016 A 3205          JANZ    FMREE           CHECK FOR ERROR                           04 03200
004625 004642 R
                3206 **********************************                                        04 03201
                3207 * CLEAR LOCKOUT BIT AND EXIT *                                           04 03202
                3208 **********************************                                        04 03203
004626 034034 A 3209 FMREX    LDX     FMREPB                                                    04 03204
004627 035000 A 3210          LDX     0,X             POINT X AT DST                            04 03205
004630 015002 A 3211          LDA     2,X                                                       04 03206
004631 150455 A 3212          ANA     BR12            CLEAR LOCKOUT BIT                         04 03207
004632 055002 A 3213          STA     2,X                                                       04 03208
004633 014024 A 3214 FMREX2   LDA     FMREEF          LOAD A WITH ERROR FLAG                E.1 ********
                3215 **********                                                                 04 03210
004634 001000 A 3216          JMP*    FMREXX          EXIT                                      04 03211
004635 104650 R
                3217 * ERRORS *                                                                 04 03212
                3218 **********                                                                 04 03213
004636 010422 A 3219 FMREE2   LDA     TWO                                                       04 03214
004637 001000 A 3220          JMP     FMREE                                                     04 03215
004640 004642 R
004641 010464 A 3221 FMREE3   LDA     THREE                                                     04 03216
004642 054015 A 3222 FMREE    STA     FMREEF          LOAD ERROR FLAG                           04 03217
004643 001000 A 3223          JMP     FMREX                                                     04 03218
004644 004626 R
                3224 *********                                                                  04 03219
                3225 * ENTRY *                                                                 04 03220
                3226 *********                                                                  04 03221
004645 074002 A 3227 FMRE     STX     FMREXX          STORE EXIT                                04 03222
004646 006505 A 3228          JSR     FMPT,X          XFER PARAMETERS                           04 03223
004647 004457 R
004650          3229 FMREXX   BSS     1               EXIT ADDRESS                              04 03224
004651 000003 A 3230          DATA    3               3 PARAMETERS                              04 03225
004652          3231 FMRECB   BSS     1               COMMAND BLOCK ADDRESS                     04 03226
004653          3232 FMREFC   BSS     2               FCB ADDRESS                               04 03227
004655 004522 R 3233          DATA    FMRE1           FMRE START ADDRESS                        04 03228
004656          3234 FMREAA   BSS     1               NEXT AVAIL ADDRESS                        04 03229
004657          3235 FMREBP   BSS     1               BUFFER POINTER                            04 03230
004660          3236 FMREEF   BSS     1               ERROR FLAG                                04 03231
004661          3237 FMRENA   BSS     2               FILE NAME POINTERS                        04 03232
004663          3238 FMREPB   BSS     1               ADDRESS OF POINTER BLOCK                  04 03233
                3239          EJEC                                                              04 03234
                3240 ********************************************************************      04 03235
                3241 *                                                                      *  04 03236
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                    3242 *          R E A D   R O T A T I N G   M E M O R Y ( F M R R )          * 04 03237
                    3243 *                                                                      * 04 03238
                    3244 * FUNCTION: TO READ A SECTOR FROM THE ROTATING MEMORY DEV INTO CORE    * 04 03239
                    3245 *                                                                      * 04 03240
                    3246 * ENTRY: NO SPECIAL CONDITIONS                                         * 04 03241
                    3247 *                                                                      * 04 03242
                    3248 * CALLING SEQUENCE: JSR   FMRR,X                                      * 04 03243
                    3249 *                    DATA  ADDRESS OF LUN                             * 04 03244
                    3250 *                    DATA  FCB ADDRESS                                * 04 03245
                    3251 *                    DATA  BUFFER POINTER ADDRESS                     * 04 03246
                    3252 *                                                                      * 04 03247
                    3253 * EXIT : A=0 IF NO ERRORS                                             * 04 03248
                    3254 *         INPUT COMPLETE                                              * 04 03249
                    3255 *         X=BUFFER POINTER=BUFFER START ADDRESS-1                     * 04 03250
                    3256 *                                                                      * 04 03251
                    3257 * ERRORS:  A=5 ON I/O ERROR                                           * 04 03252
                    3258 *                                                                      * 04 03253
                    3259 ****************************************************************************** 04 03254
004664 034043 A     3261 FMRR1   LDX     FMRRFC          GET FCB ADDRESS                        04 03256
004665 074007 A     3262         STX     FMRRR+4         STORE IN I/O CALL                      04 03257
004666 034040 A     3263         LDX     FMRRLU                                                 04 03258
004667 015000 A     3264         LDA     0,X             GET LOGICAL UNIT NUMBER                04 03259
004670 054003 A     3265         STA     FMRRR+3         STORE IN I/O CALL                      04 03260
                    3266 FMRRR   READ    *,0             READ/COMPLETE/BINARY                   04 03261
004671 006505 A
004672 000404 A
004673 100000 A
004674 000000 A
004675 004671 R
004676 000000 A
004677 000000 A
                    3267         STAT    FMRRR,FMRRE,FMRRE,FMRRE,FMRRE    CHECK STATUS      04 03262
004700 006505 A
004701 000373 A
004702 004671 R
004703 004717 R
004704 004717 R
004705 004717 R
004706 004717 R
004707 034020 A     3268         LDX     FMRRFC                                                 04 03263
004710 015001 A     3269         LDA     1,X             GET BUFFER START ADDRESS               04 03264
004711 005314 A     3270         DECR    014             POINT X AT BUFFER-1                    04 03265
004712 024016 A     3271         LDB     FMRRBP                                                 04 03266
004713 076000 A     3272         STX     0,B             SET BUFFER POINTER                     04 03267
004714 005001 A     3273         TZA                     SET A=0 TO FLAG OK                     04 03268
004715 001000 A     3274         JMP*    FMRRXX                                                 04 03269
004716 104725 R
004717 010465 A     3275 FMRRE   LDA     FIVE            SET A=5 TO FLAG I/O ERROR              04 03270
004720 001000 A     3276         JMP*    FMRRXX                                                 04 03271
004721 104725 R
004722 074002 A     3277 FMRR    STX     FMRRXX          STORE EXIT                             04 03272
004723 006505 A     3278         JSR     FMPT,X          XFER PARAMETERS                        04 03273
004724 004457 R
004725              3279 FMRRXX  BSS     1               EXIT ADDRESS                           04 03274
004726 000003 A     3280         DATA    3               3 PARAMETERS                           04 03275
004727              3281 FMRRLU  BSS     1               LUN ADDRESS                            04 03276
004730              3282 FMRRFC  BSS     1               FCB ADDRESS                            04 03277
004731              3283 FMRRBP  BSS     1               BUFFER POINTER ADDRESS                 04 03278
004732 004664 R     3284         DATA    FMRR1           FMRR START ADDRESS                     04 03279
                    3285         EJEC                                                           04 03280
                    3286 ****************************************************************************** 04 03281
                    3287 *                                                                      * 04 03282
                    3288 *          R E W I N D   R O T A T I N G   M E M O R Y ( F M R W )      * 04 03283
                    3289 *                                                                      * 04 03284
                    3290 * FUNCTION: TO POSITION THE CURRENT LUN TO START OF PARTITION,         * 04 03285
                    3291 *           AND READ 1ST RECORD                                       * 04 03286
                    3292 *                                                                      * 04 03287
                    3293 * ENTRY: NO SPECIAL CONDITIONS                                         * 04 03288
                    3294 *                                                                      * 04 03289
                    3295 * CALLING SEQUENCE: JSR   FMRW,X                                      * 04 03290
                    3296 *                    DATA  ADDRESS OF LUN                             * 04 03291
                    3297 *                    DATA  FCB ADDRESS                                * 04 03292
                    3298 *                    DATA  BUFFER POINTER ADDRESS                     * 04 03293
                    3299 *                                                                      * 04 03294
                    3300 * EXIT : A=0 IF NO ERROR                                              * 04 03295
                    3301 *         1ST SECTOR READ IN                                          * 04 03296
                    3302 *         X=BUFFER POINTER=BUFFER START ADDRESS-1                     * 04 03297
                    3303 *                                                                      * 04 03298
                    3304 * ERRORS: A=5 ON I/O ERROR                                           * 04 03299
                    3305 *                                                                      * 04 03300
                    3306 ****************************************************************************** 04 03301
004733 005101 A     3308 FMRW1   INCR    1               SET RECORD ADDRESS TO 1                04 03303
004734 034015 A     3309         LDX     FMRWFC                                                 04 03304
004735 053003 A     3310         STA     3,X             STORE IN FCB                           04 03305
004736 006505 A     3311         JSR     FMRR,X          READ 1ST RECORD                        04 03306
004737 004722 R
004740 104752 R     3312         MZE     FMRWLU                                                 04 03307
004741 104753 R     3313         MZE     FMRWFC                                                 04 03308
004742 104754 R     3314         MZE     FMRWBP                                                 04 03309
004743 001000 A     3315         JMP*    FMRWXX          EXIT                                   04 03310
004744 104750 R
004745 074002 A     3316 FMRW    STX     FMRWXX          SAVE EXIT                              04 03311
004746 006505 A     3317         JSR     FMPT,X          XFER PARAMETERS                        04 03312
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004747 004457 R
004750          3318 FMRWXX BSS     1              EXIT ADDRESS                                    04 03313
004751 000003 A 3319        DATA    3              3 PARAMETERS                                    04 03314
004752          3320 FMRWLU BSS     1              LUN ADDRESS                                     04 03315
004753          3321 FMRWFC BSS     1              FCB ADDRESS                                     04 03316
004754          3322 FMRWBP BSS     1              BUFFER POINTER ADDRESS                          04 03317
004755 004733 R 3323        DATA    FMRW1                                                          04 03318
                3324        EJEC                                                                   04 03319
                3325 ***************************************************************************** 04 03320
                3326 *                                                                           * 04 03321
                3327 *              S E A R C H   D I R E C T O R Y ( F M S D )                   * 04 03322
                3328 *                                                                           * 04 03323
                3329 * FUNCTION: TO SEARCH FORWARD IN FILE DIRECTORY FOR A FILE NAME             * 04 03324
                3330 *                                                                           * 04 03325
                3331 * ENTRY: NO SPECIAL CONDITIONS                                             * 04 03326
                3332 *                                                                           * 04 03327
                3333 * CALLING SEQUENCE: JSR  FMSD,X                                            * 04 03328
                3334 *                   DATA  ADDRESS OF NAME                                   * 04 03329
                3335 *                   DATA  ADDRESS OF LUN                                    * 04 03330
                3336 *                   DATA  FCB ADDRESS                                       * 04 03331
                3337 *                   DATA  POINTER BLOCK ADDRESS(SEE FMGP)                   * 04 03332
                3338 *                   DATA  ADDRESS OF BUFFER POINTER                         * 04 03333
                3339 *                   DATA  ADDRESS OF NEXT AVAIL RMD RECORD                  * 04 03334
                3340 *                                                                           * 04 03335
                3341 * EXIT : A=0 IF NO ERRORS                                                   * 04 03336
                3342 *        OVFL SET ON FIND, RESET OTHERWISE                                  * 04 03337
                3343 *        X=ADDRESS(IN BUFFER) OF FILE NAME                                  * 04 03338
                3344 *                                                                           * 04 03339
                3345 * ERRORS: A=5 IF I/O ERROR                                                  * 04 03340
                3346 *         A=6 IF DIRECTORY STRUCTURE ERROR                                  * 04 03341
                3347 *                                                                           * 04 03342
                3348 ***************************************************************************** 04 03343
004756 006505 A 3350 FMSD1  JSR     FMFF,X         GET NEXT FILE NAME                              04 03345
004757 002604 R
004760 105040 R 3351        MZE     FMSDLU                                                         04 03346
004761 105041 R 3352        MZE     FMSDFC                                                         04 03347
004762 105042 R 3353        MZE     FMSDPB                                                         04 03348
004763 105043 R 3354        MZE     FMSDBP                                                         04 03349
004764 105044 R 3355        MZE     FMSDAA                                                         04 03350
004765 001016 A 3356        JANZ*   FMSDXX         EXIT ON ERROR                                   04 03351
004766 105035 R
004767 001001 A 3357        JDF     FMSDX          EXIT ON EOF                                     04 03352
004770 005012 R
004771 001020 A 3358        JBZ     FMSD1          SKIP ZERO ENTRIES                               04 03353
004772 004756 R
004773 074053 A 3359        STX     FMSDBF         SAVE BUFFER ADDRESS                             04 03354
004774 015005 A 3360        LDA     5,X            GET END ADDR+1                                  04 03355
004775 034046 A 3361        LDX     FMSDAA                                                         04 03356
004776 145000 A 3362        SUB     0,X                                                            04 03357
004777 001004 A 3363        JAN     *+4            COMPARE WITH NEXT AVAILABLE                     04 03358
005000 005003 R
005001 125000 A 3364        ADD     0,X                                                            04 03359
005002 055000 A 3365        STA     0,X            UPDATE NEXT AVAILABLE ADDRESS                   04 03360
005003 006505 A 3366        JSR     FMCN,X         COMPARE NAMES                                   04 03361
005004 001132 R
005005 105037 R 3367        MZE     FMSDNA                                                         04 03362
005006 105047 R 3368        MZE     FMSDBF                                                         04 03363
005007 001007 A 3369        JDFN    FMSD1          MATCH ?                                         04 03364
005010 004756 R
005011 005101 A 3370        INCR    1              YES                                             04 03365
005012 054033 A 3371 FMSDX  STA     FMSDFL         SAVE EXIT FLAG                                  04 03366
005013 024025 A 3372        LDB     FMSDFC         POINT B AT FCB                                  04 03367
005014 034027 A 3373        LDX     FMSDAA                                                         04 03368
005015 016003 A 3374        LDA     3,B                                                            04 03369
005016 145000 A 3375        SUB     0,X                                                            04 03370
005017 001004 A 3376        JAN     *+4                                                            04 03371
005020 005023 R
005021 125000 A 3377        ADD     0,X                                                            04 03372
005022 055000 A 3378        STA     0,X            UPDATE NEXT AVAILABLE ADDRESS                   04 03373
005023 010460 A 3379        LDA     BR15                                                           04 03374
005024 007400 A 3380        ROF                                                                    04 03375
005025 124020 A 3381        ADD     FMSDFL         LOAD OVFL                                       04 03376
005026 005001 A 3382        TZA                    SET A=0 TO FLAG NO ERROR                        04 03377
005027 034017 A 3383        LDX     FMSDBF         POINT X AT ITEM AT EXIT                         04 03378
005030 001000 A 3384        JMP*    FMSDXX         EXIT                                            04 03379
005031 105035 R
                3385 *********                                                                    04 03380
                3386 * ENTRY *                                                                    04 03381
                3387 *********                                                                    04 03382
005032 074002 A 3388 FMSD   STX     FMSDXX         STORE EXIT                                      04 03383
005033 006505 A 3389        JSR     FMPT,X         XFER PARAMETERS                                 04 03384
005034 004457 R
005035          3390 FMSDXX BSS     1              EXIT ADDRESS                                    04 03385
005036 000006 A 3391        DATA    6              6 PARAMETERS                                    04 03386
005037          3392 FMSDNA BSS     1              ADDRESS OF NAME                                 04 03387
005040          3393 FMSDLU BSS     1              ADDRESS OF LUN                                  04 03388
005041          3394 FMSDFC BSS     1              FCB ADDRESS                                     04 03389
005042          3395 FMSDPB BSS     1              POINTER BLOCK ADDRESS                           04 03390
005043          3396 FMSDBP BSS     1              BUFFER POINTER ADDRESS                          04 03391
005044          3397 FMSDAA BSS     1              ADDRESS OF NEXT AVAIL RECORD                    04 03392
005045 004756 R 3398        DATA    FMSD1          FMSD START ADDRESS                              04 03393
005046          3399 FMSDFL BSS     1              EXIT FLAG                                       04 03394
005047          3400 FMSDBF BSS     1              ADDRESS OF NAME IN BUFFER                       04 03395
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                                 3401          EJEC                                                                                  04 03396
                                 3402 ********************************************************************************************* 04 03397
                                 3403 *                                                                                           * 04 03398
                                 3404 *   O U T P U T   V O R T E X   H E A D E R ( F M V H I , F M V H )                         * 04 03399
                                 3405 *                                                                                           * 04 03400
                                 3406 * FUNCTION: TO PROCESS OUTPUT OF THE STANDARD VORTEX HEADER.                                 * 04 03401
                                 3407 *                                                                                           * 04 03402
                                 3408 * ENTRY: FMVHI(INITIALIZE)                                                                   * 04 03403
                                 3409 *         FMVH (OUTPUT)                                                                    * 04 03404
                                 3410 *                                                                                           * 04 03405
                                 3411 * CALLING SEQUENCE: JSR    FMVH(OR FMVHI),X                                                  * 04 03406
                                 3412 *                  DATA   ADDRESS OF LINE COUNTER                                           * 04 03407
                                 3413 *                                                                                           * 04 03408
                                 3414 * EXIT : FMVHI: PAGE NO FIELD FMPN='   0'                                                   * 04 03409
                                 3415 *                DATE LOADED FROM V$DATE                                                    * 04 03410
                                 3416 *                JOB NAME LOADED FROM V$JNAM                                                * 04 03411
                                 3417 *                LINE COUNT=-1 TO FLAG PAGE END                                             * 04 03412
                                 3418 *                                                                                           * 04 03413
                                 3419 *          FMVH : PAGE NO INCREMENTED                                                       * 04 03414
                                 3420 *                 LINE COUNT=V$LCNT-3                                                       * 04 03415
                                 3421 *                                                                                           * 04 03416
                                 3422 * ERRORS: A=5 ON FMVH EXIT IF I/O ERROR                                                     * 04 03417
                                 3423 *                                                                                           * 04 03418
                                 3424 ********************************************************************************************* 04 03419
                                 3426 **********************                                                                        04 03421
                                 3427 * INITIALIZE ENTRY *                                                                        04 03422
                                 3428 **********************                                                                        04 03423
005050 010000 L                  3429 FMVHI1 LDA      ='   '                                                                       04 03424
005051 054070 A                  3430        STA      FMPN                                                                         04 03425
005052 110425 A                  3431        ORA      BS4          LOAD PAGE NUMBER FIELD WITH '   0'                          04 03426
005053 054067 A                  3432        STA      FMPN+1                                                                       04 03427
005054 005301 A                  3433        DECR     1                                                                            04 03428
005055 034050 A                  3434        LDX      FMVHLC                                                                       04 03429
005056 050000 A                  3435        STA      0,X          SET LINE COUNT TO -1 TO FLAG PAGE END                           04 03430
005057 010423 A                  3436        LDA      FOUR                                                                         04 03431
005060 006505 A                  3437        JSR      FMMV,X       MOVE DATE STRING TO HEADER                                      04 03432
005061 003735 R
005062 000070 A                  3438        DATA     V$DATE       ..                                                              04 03433
005063 005145 R                  3439        DATA     FMDA                                                                         04 03434
005064 010423 A                  3440        LDA      FOUR                                                                         04 03435
005065 006505 A                  3441        JSR      FMMV,X       MOVE JOB NAME STRING TO LIST HEADER                             04 03436
005066 003735 R
005067 000050 A                  3442        DATA     V$JNAM                                                                       04 03437
005070 005152 R                  3443        DATA     FMJN                                                                         04 03438
005071 001000 A                  3444        JMP*     FMVHXX       EXIT                                                            04 03439
005072 105124 R
                                 3445 **************************                                                                    04 03440
                                 3446 * OUTPUT HEADER ENTRY *                                                                    04 03441
                                 3447 **************************                                                                    04 03442
005073 006505 A                  3448 FMVH1  JSR      FMDS,X       BUMP PAGE NUMBER                                                04 03443
005074 002152 R
005075 005142 R                  3449        DATA     FMPN                                                                         04 03444
005076 006505 A                  3450        JSR      FMWL,X       WRITE HEADER                                                    04 03445
005077 005342 R
005100 005134 R                  3451        PZE      FMHD                                                                         04 03446
005101 105126 R                  3452        MZE      FMVHLC                                                                       04 03447
005102 001016 A                  3453        JANZ*    FMVHXX       EXIT ON I/O ERROR                                               04 03448
005103 105124 R
005104 034021 A                  3454        LDX      FMVHLC                                                                       04 03449
005105 010054 A                  3455        LDA      V$LCNT                                                                       04 03450
005106 140464 A                  3456        SUB      THREE                                                                        04 03451
005107 050000 A                  3457        STA      0,X          RELOAD LINE COUNT                                               04 03452
005110 006505 A                  3458        JSR      FMLF,X       LINE FEED                                                       04 03453
005111 003320 R
005112 105126 R                  3459        MZE      FMVHLC                                                                       04 03454
005113 001000 A                  3460        JMP*     FMVHXX       EXIT                                                            04 03455
005114 105124 R
                                 3461 ***********                                                                               04 03456
                                 3462 * ENTRIES *                                                                               04 03457
                                 3463 ***********                                                                               04 03458
005115 005001 A                  3464 FMVH   TZA                   SET A=0 TO FLAG FMVH ENTRY                                   04 03459
005116 001000 A                  3465        JMP      *+3                                                                         04 03460
005117 005121 R
005120 005301 A                  3466 FMVHI  DECR     1            SET A=-1 TO FLAG FMVHI ENTRY                                 04 03461
005121 074002 A                  3467        STX      FMVHXX       SAVE RETURN                                                  04 03462
005122 006505 A                  3468        JSR      FMPT,X       XFER PARAMS                                                  04 03463
005123 004457 R
005124                           3469 FMVHXX BSS      1            EXIT                                                         04 03464
005125 000001 A                  3470        DATA     1            1 PARAMETER                                                  04 03465
005126                           3471 FMVHLC BSS      1            ADDRESS OF LINE COUNTER                                      04 03466
005127 005130 R                  3472        DATA     *+1                                                                       04 03467
005130 001010 A                  3473        JAZ      FMVH1        TEST ENTRY SWITCH                                            04 03468
005131 005073 R
005132 001000 A                  3474        JMP      FMVHI1                                                                    04 03469
005133 005050 R
                                 3475 ********************************                                                          04 03470
                                 3476 * STANDARD VORTEX HEADER DCB *                                                          04 03471
                                 3477 ********************************                                                          04 03472
005134 000027 A                  3478 FMHD   DATA     FMHDE-FMHDS                                                              04 03473
005135 005137 R                  3479        DATA     FMHDS                                                                    04 03474
005136 000001 A                  3480        DATA     1                                                                        04 03475
005137 130720 A                  3481 FMHDS  DATA     '1PAGE '                                                                 04 03476
005140 140707 A
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005141 142640 A
005142 120240 A 3482 FMPN    DATA    *   0   *      PAGE NUMBER                                  04 03477
005143 120260 A
005144 120240 A
005145 120240 A 3483 FMDA    DATA    *           *  DATE                                         04 03478
005146 120240 A
005147 120240 A
005150 120240 A
005151 120240 A
005152 120240 A 3484 FMJN    DATA    *           *  JOB NAME                                     04 03479
005153 120240 A
005154 120240 A
005155 120240 A
005156 120240 A
                3485         IFF     VORTEX-2                                                 V2 04 03480
                3486         DATA    *VORTXII *                                               V2 04 03481
                3487         IFF     VORTEX-1                                                 V2 04 03482
005157 153317 A 3488         DATA    *VORTEX  *                                                  04 03483
005160 151324 A
005161 142730 A
005162 120240 A
005163 143315 A 3489         DATA    *FMAIN *                                                    04 03484
005164 140711 A
005165 147240 A
005166          3490 FMHDE   BSS     0                                                           04 03485
                3491         EJEC                                                                04 03486
                3492 ********************************************************************      04 03487
                3493 *                                                                  *      04 03488
                3494 *              W R I T E   T O   L O   D E V I C E                 *      04 03489
                3495 *                                                                  *      04 03490
                3496 *              ( F M W L I , F M W L , F M W L T )                 *      04 03491
                3497 *                                                                  *      04 03492
                3498 * FUNCTION: TO PROCESS LO OUTPUT                                   *      04 03493
                3499 *                                                                  *      04 03494
                3500 * ENTRY: FMWLI: INITIALIZE                                         *      04 03495
                3501 *         FMWL : OUTPUT                                            *      04 03496
                3502 *         FMWLT: TERMINATE                                         *      04 03497
                3503 *                                                                  *      04 03498
                3504 * CALLING SEQUENCE: JSR   FMWLI,X                                 *      04 03499
                3505 *                                                                  *      04 03500
                3506 *                   JSR   FMWL,X                                   *      04 03501
                3507 *                   DATA  DCB ADDRESS                              *      04 03502
                3508 *                   DATA  ADDRESS OF LINE COUNTER                  *      04 03503
                3509 *                                                                  *      04 03504
                3510 *                   JSR   FMWLT,X                                  *      04 03505
                3511 *                                                                  *      04 03506
                3512 * EXIT : A=0 IF NO ERROR                                          *      04 03507
                3513 *         LINE COUNT PROCESSED                                     *      04 03508
                3514 *                                                                  *      04 03509
                3515 * ERRORS:  A=5 ON I/O ERROR                                        *      04 03510
                3516 *                                                                  *      04 03511
                3517 ********************************************************************      04 03512
                3519 ********************                                                       04 03514
                3520 * INITIALIZE ENTRY *                                                      04 03515
                3521 ********************                                                       04 03516
005166 074156 A 3523 FMWLI   STX     FMWLXX          SAVE EXIT                                   04 03518
005167 006030 A 3524         LDXI    LOFCB           POINT X AT SYSTEM LO FCB                    04 03519
005170 000000 E
005171 015005 A 3525         LDA     5,X                                                         04 03520
005172 001010 A 3526         JAZ     FMWLCK          IS SYSTEM LO FCB ACTIVE ?              C.1  04 03521
005173 005207 R
005174 074125 A 3527         STX     FMWLW+4         YES. STORE FCB ADDRESS IN WRITE CALL        04 03522
005175 014154 A 3528         LDA     FMWLFC                                                      04 03523
005176 055000 A 3529         STA     0,X             STORE WORD COUNT IN FCB                     04 03524
005177 014153 A 3530         LDA     FMWLFC+1                                                    04 03525
005200 055001 A 3531         STA     1,X             STORE BUFFER ADDRESS                        04 03526
005201 015002 A 3532         LDA     2,X                                                         04 03527
005202 150463 A 3533         ANA     RHW             CLEAR MODE FIELD                            04 03528
005203 114150 A 3534         ORA     FMWLFC+2        OR IN MODE                                  04 03529
005204 055002 A 3535         STA     2,X                                                         04 03530
005205 001000 A 3536         JMP     FMWLZ                                                       04 03531
005206 005334 R
005207 002000 A 3537 FMWLCK  CALL    RMD,5               CHECK IF LO ON RMD                     C04 03532
005210 010252 R
005211 000005 A
005212 001016 A 3538         JANZ    FMWLI2          IF NOT ON RMD                          C.1  04 03533
005213 005235 R
                3539 FMWLI1  OPEN    FMWLFC,5,0,1    OPEN/LO/WAIT/LEAVE                          04 03534
005214 006505 A
005215 000404 A
005216 100000 A
005217 013005 A
005220 005352 R
005221 000000 A
005222 000000 A
                3540         STAT    ,FMWLI1,FMWLE,FMWLE,FMWLE,FMWLE                            04 03535
005223 006505 A
005224 000373 A
005225 005214 R
005226 005337 R
005227 005337 R
005230 005337 R
005231 005337 R
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005232 014124 A 3541          LDA     FMWLFC+5                                                    04 03536
005233 001016 A 3542          JANZ    FMWLZ           EXIT IF LO IS RMD                           04 03537
005234 005334 R
               005235 R 3543 FMWLI2 EQU     *                                                   C.1 04 03538
005235 005101 A 3544          INCR    1               LO IS NOT RMD                               04 03539
005236 054125 A 3545          STA     FMWLFL          SET RMD FLAG                                04 03540
005237 010465 A 3546          LDA     FIVE                                                        04 03541
005240 054113 A 3547          STA     FMWLFC+2        SET REPEAT COUNT TO 5                       04 03542
005241 001000 A 3548          JMP     FMWLZ           EXIT                                        04 03543
005242 005334 R
                      3549 ********************                                                  04 03544
                      3550 * TERMINATE ENTRY *                                                  04 03545
                      3551 ********************                                                  04 03546
005243 074101 A 3552 FMWLT    STX     FMWLXX          SAVE EXIT                                   04 03547
005244 014117 A 3553          LDA     FMWLFL                                                      04 03548
005245 001016 A 3554          JANZ    FMWLZ           IS LO RMD ?                                 04 03549
005246 005334 R
                      3555          CLOSE   FMWLFC,5,0,1      YES. CLOSE/LO/WAIT/UPDATE           04 03550
005247 006505 A
005250 000404 A
005251 100000 A
005252 013405 A
005253 005352 R
005254 000000 A
005255 000000 A
005256 001000 A 3556          JMP     FMWLZ                                                       04 03551
005257 005334 R
                      3557 ****************                                                    04 03552
                      3558 * OUTPUT ENTRY *                                                    04 03553
                      3559 ****************                                                    04 03554
005260 034067 A 3561 FMWL1    LDX     FMWLLC                                                      04 03556
005261 015000 A 3562          LDA     0,X                                                         04 03557
005262 005311 A 3563          DAR                     DECREMENT LINE COUNTER                      04 03558
005263 055000 A 3564          STA     0,X                                                         04 03559
005264 014077 A 3565          LDA     FMWLFL                                                      04 03560
005265 001010 A 3566          JAZ     FMWL2           IS LO RMD ?                                 04 03561
005266 005273 R
005267 014057 A 3567          LDA     FMWLDC          NO. GET DCB ADDRESS                         04 03562
005270 054031 A 3568          STA     FMWLW+4         STORE IN I/O CALL SEQ                       04 03563
005271 001000 A 3569          JMP     FMWLW           OUTPUT                                      04 03564
005272 005316 R
                      3570 **************                                                      04 03565
                      3571 * LO IS RMD *                                                      04 03566
                      3572 **************                                                      04 03567
005273 034053 A 3573 FMWL2    LDX     FMWLDC                                                      04 03568
005274 015001 A 3574          LDA     1,X             GET BUFFER ADDRESS                          04 03569
005275 054003 A 3575          STA     FMWLFA          STORE IN MOVE CALL                          04 03570
005276 015000 A 3576          LDA     0,X             GET OUTPUT COUNT                            04 03571
005277 006505 A 3577          JSR     FMMV,X          MOVE OUTPUT TO BLOCKING BUFFER              04 03572
005300 003735 R
005301                3578 FMWLFA BSS     1                                                       04 03573
005302 005356 R 3579          PZE     FMWLBF                                                      04 03574
005303 034043 A 3580          LDX     FMWLDC                                                      04 03575
005304 014045 A 3581          LDA     FMWLFC                                                      04 03576
005305 145000 A 3582          SUB     0,X             GET REMAINING WORD COUNT                    04 03577
005306 005012 A 3583          TAB                     IN B                                        04 03578
005307 124043 A 3584          ADD     FMWLFC+1                                                    04 03579
005310 005014 A 3585          TAX                     POINT X AT BLOCKING BUFFER                  04 03580
005311 014053 A 3586          LDA     FMWLBL                                                      04 03581
005312 055000 A 3587          STA     0,X             BLANK REST OF RECORD                        04 03582
005313 005322 A 3588          DBR                                                                 04 03583
005314 001026 A 3589          JBNZ    *-2             LOOP TILL DONE                              04 03584
005315 005312 R
                      3590 FMWLW    WRITE   FMWLFC,5,0,1  WRITE/LO/COMPLETE/ASCII               04 03585
005316 006505 A
005317 000404 A
005320 100000 A
005321 010405 A
005322 005352 R
005323 000000 A
005324 000000 A
                      3591          STAT    FMWLW,FMWLE,FMWLE,FMWLE,FMWLE     CHECK I/O         04 03586
005325 006505 A
005326 000373 A
005327 005316 R
005330 005337 R
005331 005337 R
005332 005337 R
005333 005337 R
005334 005001 A 3592 FMWLZ    TZA                     SET A=0 TO FLAG OK                          04 03587
005335 001000 A 3593          JMP*    FMWLXX                                                      04 03588
005336 105345 R
005337 010465 A 3594 FMWLE    LDA     FIVE            SET A=5 TO FLAG I/O ERROR                   04 03589
005340 001000 A 3595          JMP*    FMWLXX                                                      04 03590
005341 105345 R
005342 074002 A 3596 FMWL     STX     FMWLXX          STORE EXIT                                  04 03591
005343 006505 A 3597          JSR     FMPT,X          XFER PARAMETERS                             04 03592
005344 004457 R
005345                3598 FMWLXX BSS     1               EXIT ADDRESS                            04 03593
005346 000002 A 3599          DATA    2               2 PARAMETERS                                04 03594
005347                3600 FMWLDC BSS     1               DCB ADDRESS                             04 03595
005350                3601 FMWLLC BSS     1               ADDRESS OF LINE COUNTER                 04 03596
005351 005260 R 3602          DATA    FMWL1           FMWL START ADDRESS                          04 03597
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                    3603 FMWLFC FCB     120,FMWLBF,3,,'LO',' ',' '                                  04 03598
005352 000170 A
005353 005366 R
005354 001400 A
005355 000000 A
005356 000000 A
005357 000000 A
005360 000000 A
005361 146317 A
005362 120240 A
005363 120240 A
005364 000000 A 3604 FMWLFL DATA    0           RMD FLAG                                            04 03599
005365 000240 A 3605 FMWLBL DATA    0240        BLANK                                               04 03600
005366          3606 FMWLBF BSS     120         LO BLOCKING BUFFER                                  04 03601
                3607        EJEC                                                                    04 03602
                3608 ********************************************************************************* 04 03603
                3609 *                                                                             * 04 03604
                3610 *        W R I T E   R O T A T I N G   M E M O R Y ( F M W R )                * 04 03605
                3611 *                                                                             * 04 03606
                3612 * FUNCTION: TO WRITE A SECTOR FROM CORE TO THE ROTATING MEMORY                 * 04 03607
                3613 *                                                                             * 04 03608
                3614 * ENTRY: FCB LOADED                                                           * 04 03609
                3615 *                                                                             * 04 03610
                3616 * CALLING SEQUENCE: JSR   FMWR,X                                             * 04 03611
                3617 *                   DATA  ADDRESS OF LUN                                      * 04 03612
                3618 *                   DATA  FCB ADDRESS                                         * 04 03613
                3619 *                                                                             * 04 03614
                3620 * EXIT : A=0 IF NO ERRORS                                                     * 04 03615
                3621 *        OUTPUT COMPLETE                                                      * 04 03616
                3622 *                                                                             * 04 03617
                3623 * ERRORS:  A=5 ON I/O ERROR                                                   * 04 03618
                3624 *                                                                             * 04 03619
                3625 ********************************************************************************* 04 03620
005356 034040 A 3627 FMWR1  LDX     FMWRFC      GET FCB ADDRESS                                     04 03622
005357 074011 A 3628        STX     FMWRW+4     STORE IN I/O CALL                                   04 03623
005360 034035 A 3629        LDX     FMWRLU                                                          04 03624
005361 014006 A 3630        LDA     FMWRW+3     GET LUN WORD FROM CALL SEQ                          04 03625
005362 150462 A 3631        ANA     LHW         CLEAR LUN FIELD                                     04 03626
005363 115000 A 3632        ORA     0,X         OR IN LUN                                           04 03627
005364 054003 A 3633        STA     FMWRW+3     STORE IN I/O CALL                                   04 03628
                3634 FMWRW  WRITE   *,0                 WRITE/COMPLETE/BINARY                       04 03629
005365 006505 A
005366 000404 A
005367 100000 A
005370 000400 A
005371 005365 R
005372 000000 A
005373 000000 A
                3635        STAT    FMWRW,FMWRE,FMWRE,FMWRE,FMWRE   CHECK STATUS                  04 03630
005374 006505 A
005375 000373 A
005376 005565 R
005377 005606 R
005600 005606 R
005601 005606 R
005602 005606 R
005603 005001 A 3636        TZA                 SET A=0 TO FLAG OK                                  04 03631
005604 001000 A 3637        JMP*    FMWRXX                                                          04 03632
005605 105614 R
005606 010465 A 3638 FMWRE  LDA     FIVE        SET A=5 ON I/O ERROR                                04 03633
005607 001000 A 3639        JMP*    FMWRXX                                                          04 03634
005610 105614 R
005611 074002 A 3640 FMWR   STX     FMWRXX      STORE EXIT                                          04 03635
005612 006505 A 3641        JSR     FMPT,X      XFER PARAMETERS                                     04 03636
005613 004457 R
005614          3642 FMWRXX BSS     1           EXIT ADDRESS                                        04 03637
005615 000002 A 3643        DATA    2           2 PARAMETERS                                        04 03638
005616          3644 FMWRLU BSS     1           ADDRESS OF LUN                                      04 03639
005617          3645 FMWRFC BSS     1           FCB ADDRESS                                         04 03640
005620 005556 R 3646        DATA    FMWR1       FMWR START ADDRESS                                  04 03641
                3647        EJEC                                                                    04 03642
                3648 *                                                                              04 03643
                3649 *      SUBROUTINE TO DETERMINE IF LOGICAL UNIT IS                              04 03644
                3650 *      ASSIGNED TO TELETYPE OR CRT.  CALLING SEQUENCE IS:                      04 03645
                3651 *                                                                              04 03646
                3652 *                  JSR  V$DVTP,X                                               04 03647
                3653 *                                                                              04 03648
                3654 *      ENTRANCE PARAMETER:  A REGISTER CONTAINS LOG. UNIT NO.                  04 03649
                3655 *                                                                              04 03650
                3656 *      RETURN PARAMETER:  A REGISTER EQUALS ZERO - DEVICE IS                   04 03651
                3657 *                                          A TTY OR CRT.                       04 03652
                3658 *                                                                              04 03653
                3659 *                         A REGISTER NOT EQUAL ZERO - DEVICE                   04 03654
                3660 *                                          IS NOT A TTY OR CRT.                04 03655
                3661 *                                                                              04 03656
                3662 *      B REGISTER IS SAVED.                                                    04 03657
                3663 *                                                                              04 03658
                3664 *                                                                              04 03659
005621 054023 A 3665 V$DVTP STB     DVTPA                                                           04 03660
005622 120400 A 3666        ADD     V$LUT1                                                          04 03661
005623 005012 A 3667        TAB                                                                     04 03662
005624 016000 A 3668        LDA     0,B         GET CURRENT DST ENTRY NO.                           04 03663
005625 150463 A 3669        ANA     RMW                                                             04 03664
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005626 005311 A 3670           DAR                                CONVERT                                  04 03665
005627 054016 A 3671           STA     DVTPB                      TO                                       04 03666
005630 004201 A 3672           ASLA    1                          DISPLACEMENT                             04 03667
005631 124014 A 3673           ADD     DVTPB                      IN TABLE                                 04 03668
005632 120355 A 3674           ADD     V$DSTB                     ADD TABLE BASE                           04 03669
005633 005012 A 3675           TAB                                                                         04 03670
005634 016001 A 3676           LDA     1,B                        GET DEVICE NAME                          04 03671
005635 144011 A 3677           SUB     DVTPTY                     IS IT TY ?                               04 03672
005636 001010 A 3678           JAZ     DVTP1                      YES                                      04 03673
005637 005642 R
005640 016001 A 3679           LDA     1,B                        NO -                                     04 03674
005641 144006 A 3680           SUB     DVTPCT                     TRY FOR CT                               04 03675
005642 024002 A 3681 DVTP1     LDB     DVTPA                      RESTORE B                                04 03676
005643 006705 A 3682           IJMP    0,X                        RETURN                                   04 03677
005644 000000 A
005645 000000 A 3683 DVTPA     DATA    0                                                                   04 03678
005646 000000 A 3684 DVTPB     DATA    0                                                                   04 03679
005647 152331 A 3685 DVTPTY    DATA    'TY'                                                                04 03680
005650 141724 A 3686 DVTPCT    DATA    'CT'                                                                04 03681
                3687           EJECT                                                                       04 03682
                3688 *                                                                                     04 03683
                3689 *                                     SUBROUTINE TO DETERMINE IF LO LOGICAL           04 03684
                3690 *                                     UNIT AND SO LOGICAL UNIT ARE ASSIGNED           04 03685
                3691 *                                     TO THE SAME DEVICE.                             04 03686
                3692 *                                                                                     04 03687
                3693 *                                     CALLING SEQUENCE:                               04 03688
                3694 *                                                                                     04 03689
                3695 *                                     JSR  V$SOLO,X                                   04 03690
                3696 *                                                                                     04 03691
                3697 *                                     ENTRANCE PARAMETERS - NONE                      04 03692
                3698 *                                                                                     04 03693
                3699 *                                     RETURN PARAMETER - A REGISTER = ZERO,           04 03694
                3700 *                                        SAME DEVICE.  A REGISTER NOT = ZERO,         04 03695
                3701 *                                        DIFFERENT DEVICES.                           04 03696
                3702 *                                                                                     04 03697
                3703 *                                     B REGISTER IS PRESERVED DURING EXECUTION.       04 03698
                3704 *                                                                                     04 03699
005651 074012 A 3705 V$SOLO    STX     SOL01                                                               04 03700
005652 030400 A 3706           LDX     V$LUT1                                                              04 03701
005653 015003 A 3707           LDA     3,X                        GET SO CURRENT                           04 03702
005654 150463 A 3708           ANA     RHW                        ASSIGNMENT                               04 03703
005655 054007 A 3709           STA     SOL02                                                               04 03704
005656 015005 A 3710           LDA     5,X                        GET LO CURRENT                           04 03705
005657 150463 A 3711           ANA     RHW                        ASSIGNMENT                               04 03706
005660 144004 A 3712           SUB     SOL02                      TAKE DIFFERENCE                          04 03707
005661 034002 A 3713           LDX     SOL01                                                               04 03708
005662 006705 A 3714           IJMP    0,X                        RETURN                                   04 03709
005663 000000 A
005664 000000 A 3715 SOL01     DATA    0                                                                   04 03710
005665 000000 A 3716 SOL02     DATA    0                                                                   04 03711
                3717 ****************                                                                      04 03712
                3718 * FMAIN BUFFER *                                                                      04 03713
                3719 ****************                                                                      04 03714
005666 120240 A 3720           DATA    *                                                                   04 03715
005667          3721 FMBF      BSS     120                        RMD BUFFER                               04 03716
                3722 ********************************************************************************** 04 03717
                3723 *                                                                                     04 03718
                3724 *                                  PROCESS ADD (FMAD)                                 04 03719
                3725 *                                                                                     04 03720
                3726 * FUNCTION: TO ADD AN OBJECT MODULE TO A PARTITION OF A RMD                           04 03721
                3727 *                                                                                     04 03722
                3728 * ENTRY: NO SPECIAL CONDITIONS                                                        04 03723
                3729 *                                                                                     04 03724
                3730 * CALLING SEQUENCE: JSR   FMAD,X                                                     04 03725
                3731 *                    DATA  ADDRESS OF COMMAND BLOCK                                   04 03726
                3732 *                    DATA  FCB ADDRESS                                                04 03727
                3733 *                    DATA  ADDRESS OF LINE COUNTER                                    04 03728
                3734 *                                                                                     04 03729
                3735 * COMMAND BLOCK:  WORD 0: LOGICAL UNIT NUMBER                                        04 03730
                3736 *                 WORD 1: KEY                                                        04 03731
                3737 *                                                                                     04 03732
                3738 * EXIT:  A=0 IF NO ERRORS                                                            04 03733
                3739 *        OBJECT MODULE ADDED TO PARTITION OF RMD.                                     04 03734
                3740 *        ALL ASSOCIATED ENTRY NAMES ADDED TO PARTITION DIRECTORY.                     04 03735
                3741 *                                                                                     04 03736
                3742 * ERRORS:  A=1  IF LUN OR KEY ERROR                                                  04 03737
                3743 *           A=2  IF NAME ALREADY IN DIRECTORY                                         04 03738
                3744 *           A=4  IF SPACE ON RMD IS EXHAUSTED                                         04 03739
                3745 *           A=5  IF I/O ERROR                                                         04 03740
                3746 *           A=6  IF DIRECTORY STRUCTUR ERROR                                          04 03741
                3747 *           A=7  IF CHECK-SUM ERROR                                                   04 03742
                3748 *           A=8  IF NO ENTRY NAME                                                     04 03743
                3749 *           A=9  IF RECORD SIZE ERROR                                                 04 03744
                3750 *           A=10 IF LOADER CODE ERROR                                                 04 03745
                3751 *           A=11 IF SEQUENCE ERROR                                                    04 03746
                3752 *           A=12 IF STRUCTUR ERROR                                                    04 03747
                3753 *           A=13 IF INPUT LUN NOT SPECIFIED                                           04 03748
                3754 *           A=14 IF SPACE IN MEMORY EXHAUSTED                                         04 03749
                3755 *                                                                                     04 03750
                3756 ********************************************************************************** 04 03751
006057 R        3757 FMAD01    EQU     *                                                                   04 03752
                3758 ********************                                                                  04 03753
                3759 * RESET LINE COUNTER *                                                                04 03754
```

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                    3760 ************************                                                    04 03755
006057 034540 A     3761         LDX      FMADLC                                                     04 03756
006060 005001 A     3762         TZA                                                                 04 03757
006061 055000 A     3763         STA      0,X          RESET LINE COUNTER                            04 03758
       006062 R     3764 FMAD02  EQU      *                                                          04 03759
006062 054571 A     3765         STA      FMADSW       CLEAR CONTROL SWITCH                  C.1   04 03760
                    3766 ****************                                                            04 03761
                    3767 * INIT. STACKS *                                                           04 03762
                    3768 ****************                                                            04 03763
006063 006030 A     3769         LDXI     FMMENT                                                     04 03764
006064 006701 R
006065 015000 A     3770         LDA      0,X                                                        04 03765
006066 055001 A     3771         STA      1,X                                                        04 03766
006067 055003 A     3772         STA      3,X                                                        04 03767
006070 055004 A     3773         STA      4,X                                                        04 03768
                    3774 **************                                                              04 03769
                    3775 * OPEN 'SW' *                                                              04 03770
                    3776 **************                                                              04 03771
006071 014577 A     3777         LDA      FMSWFC+2     SET                                           04 03772
006072 150463 A     3778         ANA      RHW           MODE                                         04 03773
006073 110432 A     3779         ORA      BS9            FOR                                         04 03774
006074 054574 A     3780         STA      FMSWFC+2         DIRECT ACCESS - RELATIVE                  04 03775
                    3781         OPEN     FMSWFC,SW,0,0 OPEN & REWIND SW                             04 03776
006075 006505 A
006076 000404 A
006077 100000 A
006100 003146 A
006101 006667 R
006102 000000 A
006103 000000 A
006104 014570 A     3782         LDA      FMSWFC+6     SET CURRENT END-OF-FILE TO THE                04 03777
006105 054565 A     3783         STA      FMSWFC+4     END OF THE FILE                               04 03778
                    3784 ************************                                                    04 03779
                    3785 * RESET RECORD COUNT *                                                     04 03780
                    3786 ************************                                                    04 03781
006106 005301 A     3787         DECR     A                                                          04 03782
006107 054516 A     3788         STA      FMMRCT                                                     04 03783
                    3789 ****************************                                              04 03784
                    3790 * RESET WORDS PER SECTOR *                                                 04 03785
                    3791 ****************************                                              04 03786
006110 006010 A     3792         LDAI     60                                                         04 03787
006111 000074 A
006112 054514 A     3793         STA      FMMWPS                                                     04 03788
                    3794 ****************                                                            04 03789
                    3795 * READ RECORD *                                                            04 03790
                    3796 ****************                                                            04 03791
006113 006505 A     3797         JSR      FMIR,X       INPUT RECORD                                  04 03792
006114 007371 R
006115 006642 R     3798         DATA     FMMBUF       BUFFER ADDRESS LOCATION                       04 03793
006116 006626 R     3799         DATA     FMMRCT       RECORD COUNT                                  04 03794
006117 006627 R     3800         DATA     FMMWPS       ADDRESS OF WORDS PER SECTOR                   04 03795
006120 107273 R     3801         MZE      FMICBA       FCB ADDRESS                                   04 03796
006121 007260 R     3802         DATA     FMOMLU       ADDRESS OF LOGICAL UNIT NUMBER                04 03797
006122 001002 A     3803         JAP      FMAD05       JUMP IF NOT 'EOF'                             04 03798
006123 006127 R
006124 005001 A     3804         TZA                                                                 04 03799
006125 001000 A     3805         JMP*     FMADXX       NORMAL EXIT                                   04 03800
006126 106614 R
       006127 R     3806 FMAD05  EQU      *                                                          04 03801
006127 001016 A     3807         JANZ*    FMADXX       EXIT IF ERROR                                 04 03802
006130 106614 R
       006131 R     3808 FMAD10  EQU      *            NOTE: (FMMBUF) = BUFFER ADDRESS               04 03803
006131 034510 A     3809         LDX      FMMBUF       GET BUFFER ADDRESS                            04 03804
006132 015000 A     3810         LDA      0,X          GET FIRST WORD OF BUFFER                      04 03805
006133 110434 A     3811         ORA      BS11         SET NOT END RECORD BIT                        04 03806
006134 134465 A     3812         ERA      FMMFPW       IS IT FIRST WORD OF OBJECT MODULE?            04 03807
006135 001010 A     3813         JAZ      FMAD12       JUMP IF IT IS                                 04 03808
006136 006143 R
       006137 R     3814 FMAD11  EQU      *                                                          04 03809
006137 006010 A     3815         LDAI     12           SET STRUCTOR ERROR                            04 03810
006140 000014 A
006141 001000 A     3816         JMP*     FMADXX       EXIT WITH ERROR                               04 03811
006142 106614 R
                    3817 ****************                                                            04 03812
                    3818 * PROCESS OM *                                                             04 03813
                    3819 ****************                                                            04 03814
       006143 R     3820 FMAD12  EQU      *                                                          04 03815
006143 015002 A     3821         LDA      2,X          GET OBJECT MODULE SIZE                        04 03816
006144 054463 A     3822         STA      FMMOMS       SAVE IT                                       04 03817
006145 005041 A     3823         TXA                                                                 04 03818
006146 120464 A     3824         ADD      THREE        CREATE OBJECT MODULE NAME ADDRESS             04 03819
006147 054005 A     3825         STA      FMAD14                                                     04 03820
006150 120423 A     3826         ADD      FOUR         CREATE OBJECT MODULE DATE ADDRESS             04 03821
006151 054010 A     3827         STA      FMAD16                                                     04 03822
006152 010423 A     3828         LDA      FOUR                                                       04 03823
006153 006505 A     3829         JSR      FMMV,X       MOVE OM NAME                                  04 03824
006154 003735 R
006155 000000 A     3830 FMAD14  DATA     0            FROM ADDRESS                                  04 03825
006156 006631 R     3831         DATA     FMMOMN       TO ADDRESS                                    04 03826
006157 010423 A     3832         LDA      FOUR                                                       04 03827
006160 006505 A     3833         JSR      FMMV,X       MOVE OM DATE                                  04 03828
006161 003735 R
006162 000000 A     3834 FMAD16  DATA     0            FROM ADDRESS                                  04 03829
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006163 006635 R 3835          DATA    FMMDMD    TO ADDRESS                                  04 03830
006164 006010 A 3836          LDAI    11                                                    04 03831
006165 000013 A
       006166 R 3837 FMAD17   EQU     *                                                     04 03832
006166 054452 A 3838          STA     FMMLTP    INITIATE LOADER TEXT POSITION               04 03833
       006167 R 3839 FMAD18   EQU     *                                                     04 03834
006167 006505 A 3840          JSR     FMCC,X    COMPUTE CHECK-SUM                           04 03835
006170 006746 R
006171 106642 R 3841          MZE     FMMBUF    BUFFER ADDRESS                              04 03836
006172 001010 A 3842          JAZ     FMAD20    JUMP IF CHECK-SUM OK                        04 03837
006173 006177 R
006174 010467 A 3843          LDA     SEVEN     SET CHECK-SUM ERROR                         04 03838
006175 001000 A 3844          JMP*    FMADXX    EXIT WITH ERROR                             04 03839
006176 106614 R
       006177 R 3845 FMAD20   EQU     *                                                     04 03840
006177 034442 A 3846          LDX     FMMBUF    GET BUFFER ADDRESS                          04 03841
006200 015000 A 3847          LDA     0,X                                                   04 03842
006201 150463 A 3848          ANA     BHW       EXTRACT RECORD COUNT                        04 03843
006202 134423 A 3849          ERA     FMMRCT    IS RECORD COUNT OK?                         04 03844
006203 001010 A 3850          JAZ     FMAD22    JUMP IF RECORD COUNT MATCHES                04 03845
006204 006211 R
006205 006010 A 3851          LDAI    11        SEQUENCE ERROR                              04 03846
006206 000013 A
006207 001000 A 3852          JMP*    FMADXX    EXIT WITH ERROR                             04 03847
006210 106614 R
       006211 R 3853 FMAD22   EQU     *                                                     04 03848
006211 014442 A 3854          LDA     FMADSW                                          C.1   04 03849
006212 001010 A 3855          JAZ     FMAD2A    SWITCH SET ?                          C.1   04 03850
006213 006220 R
006214 005001 A 3856          TZA               YES                                   C.1   04 03851
006215 054436 A 3857          STA     FMADSW    CLEAR IT                              C.1   04 03852
006216 001000 A 3858          JMP     FMAD4A    CONTINUE NAME PROCESSING              C.1   04 03853
006217 006500 R
       006220 R 3859 FMAD2A   EQU     *                                               C.1   04 03854
006220 014420 A 3860          LDA     FMMLTP    GET LOADER TEXT POINTER                     04 03855
006221 006140 A 3861          SUBI    60        AT END OF RECORD?                           04 03856
006222 000074 A
006223 001004 A 3862          JAN     FMAD24    JUMP IF NOT AT END OF RECORD                04 03857
006224 006340 R
                3863 ****************                                                        04 03858
                3864 * WRITE RECORD *                                                       04 03859
                3865 ****************                                                        04 03860
       006225 R 3866 FMAD2B   EQU     *                                               C.1   04 03861
006225 006505 A 3867          JSR     FMOR,X    OUTPUT RECORD                               04 03862
006226 010004 R
006227 006642 R 3868          DATA    FMMBUF    BUFFER ADDRESS LOCATION                     04 03863
006230 006626 R 3869          DATA    FMMRCT    ADDRESS OF RECORD COUNT                     04 03864
006231 006627 R 3870          DATA    FMMWPS    ADDRESS OF WORDS PER SECTOR                 04 03865
006232 006667 R 3871          DATA    FMSWFC    FCB ADDRESS                                 04 03866
006233 006625 R 3872          DATA    FMSWLU    ADDRESS OF LOGICAL UNIT NUMBER              04 03867
006234 001016 A 3873          JANZ*   FMADXX    EXIT IF ERROR                               04 03868
006235 106614 R/
006236 034403 A 3874          LDX     FMMBUF    GET BUFFER ADDRESS                          04 03869
006237 015000 A 3875          LDA     0,X                                                   04 03870
006240 150434 A 3876          ANA     BS11      EXTRACT BIT-11                              04 03871
006241 001016 A 3877          JANZ    FMAD23    JUMP IF NOT END OF TEXT RECORD              04 03872
006242 006311 R
                3878 ****************************************                                04 03873
                3879 * PUT SECTOR COUNT IN COMMAND BLOCK *                                   04 03874
                3880 ****************************************                                04 03875
006243 014362 A 3881          LDA     FMMRCT    GET RECORD COUNT                            04 03876
006244 005111 A 3882          IAR               INCREMENT COUNT                             04 03877
006245 005002 A 3883          TZB                                                           04 03878
006246 004541 A 3884          LLSR    1         DIVIDE BY 2                                 04 03879
006247 001020 A 3885          JBZ     *+3       JUMP IF EVEN NUMBER OF RECORDS              04 03880
006250 006252 R
006251 005111 A 3886          IAR               INCREMENT SECTOR COUNT IF ODD               04 03881
006252 034343 A 3887          LDX     FMADCB    GET COMMAND BLOCK ADDRESS                   04 03882
006253 055005 A 3888          STA     5,X       SET SECTOR COUNT IN COMMAND BLOCK           04 03883
006254 054371 A 3889          STA     FMADSC    SAVE COUNT                                  04 03884
                3890 ************************************                                    04 03885
                3891 * PUT FCB ADDRESS IN COMMAND BLOCK *                                   04 03886
                3892 ************************************                                    04 03887
006255 006010 A 3893          LDAI    FMMFCB    GET FCB ADDRESS                             04 03888
006256 006655 R
006257 034336 A 3894          LDX     FMADCB    GET ADDRESS OF COMMAND BLOCK                04 03889
006260 055006 A 3895          STA     6,X       SET FCB ADDRESS                             04 03890
                3896 **************                                                        04 03891
                3897 * LIST DATA *                                                         04 03892
                3898 **************                                                        04 03893
006261 006505 A 3899          JSR     FMLT,X    LIST OBJECT MODULE DATA                     04 03894
006262 007624 R
006263 106616 R 3900          MZE     FMADCB    ADDRESS OF COMMAND BLOCK                    04 03895
006264 106617 R 3901          MZE     FMADFC    ADDRESS OF FCB                              04 03896
006265 106620 R 3902          MZE     FMADLC    LINE COUNT                                  04 03897
006266 006630 R 3903          DATA    FMADID    ADDRESS OF ID DATA                          04 03898
006267 001016 A 3904          JANZ*   FMADXX    EXIT WITH ERROR                             04 03899
006270 106614 R
                3905 ********************                                                  04 03900
                3906 * SET KEY IN FCB *                                                   04 03901
                3907 ********************                                                  04 03902
006271 034324 A 3908          LDX     FMADCB    GET COMMAND BLOCK ADDRESS                   04 03903
006272 014364 A 3909          LDA     FMMFCB+2                                              04 03904
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006273 150462 A 3910          ANA     LHW                                                    04 03905
006274 115001 A 3911          ORA     1,X                                                    04 03906
006275 054361 A 3912          STA     FMMFCB+2                                               04 03907
               3913 ************************************                                     04 03908
               3914 * COPY SW TO OUTPUT LOGICAL UNIT *                                     04 03909
               3915 ************************************                                     04 03910
006276 006505 A 3916          JSR     FMCP,X          COPY                                   04 03911
006277 007023 R
006300 006625 R 3917          DATA    FMSWLU          ADDRESS OF INPUT LUN                   04 03912
006301 006667 R 3918          DATA    FMSWFC          ADDRESS OF INPUT FCB                   04 03913
006302 106616 R 3919          MZE     FMADCB          ADDRESS OF OUTPUT LUN                  04 03914
006303 006655 R 3920          DATA    FMMFCB          ADDRESS OF OUTPUT FCB                  04 03915
006304 006646 R 3921          DATA    FMADSC          ADDRESS OF SECTOR COUNT                04 03916
006305 001010 A 3922          JAZ     FMAD02          INPUT NEXT O.M. IF NO ERRORS           04 03917
006306 006062 R
006307 001000 A 3923          JMP*    FMADXX          EXIT                                   04 03918
006310 106614 R.
       006311 R 3924 FMAD23 EQU     *                                                      04 03919
               3925 ***************                                                      04 03920
               3926 * READ RECORD *                                                      04 03921
               3927 ***************                                                      04 03922
006311 006505 A 3928          JSR     FMIR,X          INPUT RECORD                           04 03923
006312 007371 R
006313 006642 R 3929          DATA    FMMBUF          BUFFER ADDRESS LOCATION                04 03924
006314 006626 R 3930          DATA    FMMRCT          ADDRESS OF RECORD COUNT                04 03925
006315 006627 R 3931          DATA    FMMWPS          ADDRESS OF WORDS PER SECTOR            04 03926
006316 107273 R 3932          MZE     FMICBA          FCB ADDRESS                            04 03927
006317 007260 R 3933          DATA    FMOMLU          ADDRESS OF LOGICAL UNIT NUMBER         04 03928
006320 001016 A 3934          JANZ*   FMADXX          EXIT IF ERROR                          04 03929
006321 106614 R
006322 034317 A 3935          LDX     FMMBUF          GET BUFFER ADDRESS                     04 03930
006323 015000 A 3936          LDA     0,X                                                    04 03931
006324 154276 A 3937          ANA     FMMRLT          EXTRACT BITS - 14, 13 & 8              04 03932
006325 134275 A 3938          ERA     FMMRLT          IS THIS AN OBJECT MODULE RECORD?       04 03933
006326 001016 A 3939          JANZ    FMAD11          JUMP IF NOT AN OBJECT MODULE RECORD    04 03934
006327 006137 R
006330 014310 A 3940          LDA     FMMLTP          GET LOADER TEXT POSITION               04 03935
006331 006140 A 3941          SUBI    60                                                     04 03936
006332 000074 A
006333 120422 A 3942          ADD     TWO                                                    04 03937
006334 001002 A 3943          JAP     FMAD17          RESET 'FMMLTP' IF NOT ALREADY RESET    04 03938
006335 006166 R
006336 001000 A 3944          JMP     FMAD18                                                 04 03939
006337 006167 R
               3945 ********************                                                 04 03940
               3946 * PROCESS RECORD *                                                   04 03941
               3947 ********************                                                 04 03942
       006340 R 3948 FMAD24 EQU     *                                                      04 03943
006340 014300 A 3949          LDA     FMMLTP          GET LOADER TEXT POINTER                04 03944
006341 124300 A 3950          ADD     FMMBUF          ADD BUFFER ADDRESS                     04 03945
006342 005014 A 3951          TAX                                                            04 03946
006343 015000 A 3952          LDA     0,X             GET LOADER CODE WORD                   04 03947
006344 001010 A 3953          JAZ     FMAD40          JUMP IF LC + LSC = 0                   04 03948
006345 006442 R
006346 004555 A 3954          LLSR    13                                                     04 03949
006347 001010 A 3955          JAZ     FMAD28          JUMP IF LC = 0 (SEE SUBCODE)           04 03950
006350 006370 R
006351 005311 A 3956          DAR                                                            04 03951
006352 001010 A 3957          JAZ     FMAD26          JUMP IF LC = 1 (UNUSED)                04 03952
006353 006365 R
006354 005311 A 3958          DAR                                                            04 03953
006355 001010 A 3959          JAZ     FMAD38          JUMP IF LC = 2                         04 03954
006356 006441 R
006357 005311 A 3960          DAR                                                            04 03955
006360 001010 A 3961          JAZ     FMAD36          JUMP IF LC = 3                         04 03956
006361 006440 R
006362 005311 A 3962          DAR                                                            04 03957
006363 001010 A 3963          JAZ     FMAD44          JUMP IF LC = 4                         04 03958
006364 006602 R
       006365 R 3964 FMAD26 EQU     *                                                      04 03959
006365 010471 A 3965          LDA     TEN             LOADER CODE ERROR                      04 03960
006366 001000 A 3966          JMP*    FMADXX          EXIT WITH ERROR                        04 03961
006367 106614 R
       006370 R 3967 FMAD28 EQU     *                                                      04 03962
006370 004444 A 3968          LLRL    4               GET LOADER SUB-CODE (LSC)              04 03963
006371 140423 A 3969          SUB     FOUR                                                   04 03964
006372 001004 A 3970          JAN     FMAD38          JUMP IF LSC = 0,1,2 OR 3               04 03965
006373 006441 R
006374 140464 A 3971          SUB     THREE                                                  04 03966
006375 001004 A 3972          JAN     FMAD26          JUMP IF LSC = 4,5 OR 6                 04 03967
006376 006365 R
006377 001010 A 3973          JAZ     FMAD38          JUMP IF LSC = 7                        04 03968
006400 006441 R
006401 140422 A 3974          SUB     TWO                                                    04 03969
006402 001004 A 3975          JAN     FMAD30          JUMP IF LSC = 010                      04 03970
006403 006413 R
006404 001010 A 3976          JAZ     FMAD34          JUMP IF LSC = 011                      04 03971
006405 006437 R
006406 140464 A 3977          SUB     THREE                                                  04 03972
006407 001004 A 3978          JAN     FMAD32          JUMP IF LSC = 012 OR 013               04 03973
006410 006427 R
006411 001000 A 3979          JMP     FMAD26          JUMP IF LSC > 013                      04 03974
006412 006365 R
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                006413 R 3980 FMAD30 EQU     *                                                          04 03975
006413 002000 A 3981         JMPM    FMAD42  GET NAME                                                   04 03976
006414 006445 R
006415 006505 A 3982         JSR     FMPU,X  PUT ENTRY NAME INTO STACK                                  04 03977
006416 010106 R
006417 006701 R 3983         DATA    FMMENT  STACK ADDRESS                                              04 03978
006420 006643 R 3984         DATA    FMMITM  ITEM ADDRESS                                               04 03979
006421 001002 A 3985         JAP     FMAD34  JUMP IF PUT IN STACK                                       04 03980
006422 006437 R
                006423 R 3986 FMAD31 EQU     *                                                          04 03981
006423 006010 A 3987         LDAI    14      MEMORY EXHAUSTED                                           04 03982
006424 000016 A
006425 001000 A 3988         JMP*    FMADXX  EXIT WITH ERROR                                            04 03983
006426 106614 R
                006427 R 3989 FMAD32 EQU     *                                                          04 03984
006427 002000 A 3990         JMPM    FMAD42  GET NAME                                                   04 03985
006430 006445 R
006431 006505 A 3991         JSR     FMPU,X  PUT EXTERNAL NAME INTO STACK                               04 03986
006432 010106 R
006433 006704 R 3992         DATA    FMMEXT  STACK ADDRESS                                              04 03987
006434 006643 R 3993         DATA    FMMITM  ITEM ADDRESS                                               04 03988
006435 001004 A 3994         JAN     FMAD31  JUMP IF NOT ABLE TO PUT ENTRY IN STACK                     04 03989
006436 006423 R
006437 044201 A 3995 FMAD34  INR     FMMLTP  *                                                          04 03990
006440 044200 A 3996 FMAD36  INR     FMMLTP    *                                                        04 03991
006441 044177 A 3997 FMAD38  INR     FMMLTP      * UPDATE (FMMLTP) AND RETURN                           04 03992
006442 044176 A 3998 FMAD40  INR     FMMLTP    *                                                        04 03993
006443 001000 A 3999         JMP     FMAD22  *                                                          04 03994
006444 006211 R
                4000 **********************                                                          04 03995
                4001 * GET NAME FROM TEXT *                                                          04 03996
                4002 **********************                                                          04 03997
006445 000000 A 4003 FMAD42  DATA    0                                                                  04 03998
006446 006010 A 4004         LDAI    FMMITM  GET ADDRESS OF ITEM                                        04 03999
006447 006643 R
006450 004241 A 4005         LRLA    1       COMPUTE BYTE ADDRESS                                       04 04000
006451 054124 A 4006         STA     F..ADIA                                                            04 04001
006452 014151 A 4007         LDA     FMMBLK                                                             04 04002
006453 006505 A 4008         JSR     F..CA,X CLEAR OUT ITEM BUFFER                                      04 04003
006454 010130 R
006455 000003 A 4009         DATA    3       COUNT                                                      04 04004
006456 006643 R 4010         DATA    FMMITM  ADDRESS                                                    04 04005
006457 014161 A 4011         LDA     FMXLTP                                                             04 04006
006460 124161 A 4012         ADD     FMMBUF  COMPUTE NAME ADDRESS                                       04 04007
006461 054003 A 4013         STA     *+4                                                        C.1     04 04008
006462 010464 R 4014         LDA     THREE                                                      C.1     04 04009
006463 006505 A 4015         JSR     FMMV,X  MOVE NAME                                          C.1     04 04010
006464 003735 R
006465 000000 A 4016         DATA    0                                                          C.1     04 04011
006466 006651 R 4017         DATA    FMADNB+1                                                   C.1     04 04012
006467 014151 A 4018         LDA     FMMLTP                                                     C.1     04 04013
006470 140000 L 4019         SUB     =58                                                        C.1     04 04014
006471 001004 A 4020         JAN     FMAD4C  BUFFER OVERFLOW ?                                  C.1     04 04015
006472 006516 R
006473 003211 A 4021         CPA             YES                                                C.1     04 04016
006474 054152 A 4022         STA     FMADCT  SAVE COUNT                                         C.1     04 04017
006475 044156 A 4023         INR     FMADSW  SET CONTROL SWITCH                                 C.1     04 04018
006476 001000 A 4024         JMP     FMAD2B  AND GET NEXT RECORD                                C.1     04 04019
006477 006220 R
006500 014141 A 4025 FMAD4A  LDA     FMMBUF                                                     C.1     04 04020
006501 120422 A 4026         ADD     TWO                                                        C.1     04 04021
006502 005014 A 4027         TAX             POINT X AT BUFFER                                  C.1     04 04022
006503 006010 A 4028 FMAD4B  LDAI    FMADNB+4                                                   C.1     04 04023
006504 006654 R
006505 124141 A 4029         ADD     FMADCT                                                     C.1     04 04024
006506 005012 A 4030         TAB             POINT B AT NAME BLOCK                              C.1     04 04025
006507 015000 A 4031         LDC     0,X                                                        C.1     04 04026
006510 056000 A 4032         STC     0,B     MOVE NAME                                          C.1     04 04027
006511 005144 A 4033         INX             BUMP BUFFER POINTER                                C.1     04 04028
006512 044134 A 4034         INR     FMADCT  BUMP COUNT                                         C.1     04 04029
006513 014133 A 4035         LDA     FMADCT                                                     C.1     04 04030
006514 001016 A 4036         JANZ    FMAD4B  LOOP TILL DONE                                     C.1     04 04031
006515 006503 R
006516 034131 A 4037 FMAD4C  LX      FMADNB  RESTORE X                                          C.1     04 04032
006517 015000 A 4038         LDC     0,X                                                                04 04033
006520 150472 A 4039         ANA     BM17                                                               04 04034
006521 025001 A 4040         SLL     1                                                                  04 04035
006522 004442 A 4041         LLRL    2       GET FIRST CHARACTER                                        04 04036
006523 002000 A 4042         JMPM    FMAD43  STORE IT IN ITEM BUFFER                                    04 04037
006524 006550 R
006525 004446 A 4043         LLRL    6       GET SECOND CHARACTER                                       04 04038
006526 002000 A 4044         JMPM    FMAD43  STORE IT IN ITEM BUFFER                                    04 04039
006527 006550 R
006530 004446 A 4045         LLRL    6       GET THIRD CHARACTER                                        04 04040
006531 002000 A 4046         JMPM    FMAD43  STORE IT IN ITEM BUFFER                                    04 04041
006532 006550 R
006533 004442 A 4047         LLRL    2                                                                  04 04042
006534 025002 A 4048         SLL     2,X                                                                04 04043
006535 004444 A 4049         LLRL    4       GET FOURTH CHARACTER                                       04 04044
006536 002000 A 4050         JMPM    FMAD43  STORE IT IN ITEM BUFFER                                    04 04045
006537 006550 R
006540 004446 A 4051         LLRL    6       GET FIFTH CHARACTER                                        04 04046
006541 002000 A 4052         JMPM    FMAD43  STORE IT IN ITEM BUFFER                                    04 04047
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006542 006550 R
006543 004446 A 4053          LLRL    6               GET SIXTH CHARACTER                    04 04048
006544 002000 A 4054          JMPM    FMAD43          STORE IT IN ITEM BUFFER                04 04049
006545 006550 R
006546 001000 A 4055          JMP*    FMAD42                                                 04 04050
006547 106445 R
006550 000000 A 4056 FMAD43   DATA    0                                                      04 04051
006551 064026 A 4057          STB     FMAD52          SAVE (BR)                              04 04052
006552 074026 A 4058          STX     FMAD54          SAVE (XR)                              04 04053
006553 150474 A 4059          ANA     BM77            CLEAN-UP CHARACTER                     04 04054
006554 001010 A 4060          JAZ*    FMAD43          RETURN IF BLANK                        04 04055
006555 106550 R
006556 054020 A 4061          STA     FMAD50          SAVE CHARACTER                         04 04056
006557 014016 A 4062          LDA     FMADIA          GET ITEM BYTE ADDRESS                  04 04057
006560 005002 A 4063          TZB                                                            04 04058
006561 004541 A 4064          LLSR    1               COMPUTE WORD ADDRESS                   04 04059
006562 005014 A 4065          TAX                                                            04 04060
006563 014013 A 4066          LDA     FMAD50                                                 04 04061
006564 001026 A 4067          JBNZ    *+3             JUMP IF RIGHT BYTE STORE               04 04062
006565 006567 R
006566 004250 A 4068          LRLA    8               POSITION FOR LEFT BYTE STORE           04 04063
006567 125000 A 4069          ADD     0,X             ADD CHARACTER TO BUFFER                04 04064
006570 055000 A 4070          STA     0,X                                                    04 04065
006571 044004 A 4071          INR     FMADIA          INCREMENT ITEM BYTE ADDRESS            04 04066
006572 024005 A 4072          LDB     FMAD52          RESET (BR)                             04 04067
006573 034005 A 4073          LDX     FMAD54          RESET (XR)                             04 04068
006574 001000 A 4074          JMP*    FMAD43          RETURN                                 04 04069
006575 106550 R
006576         4075 FMADIA    BSS     1               ITEM BYTE ADDRESS                      04 04070
006577         4076 FMAD50    BSS     1               CHARACTER                              04 04071
006600         4077 FMAD52    BSS     1               (BR)                                   04 04072
006601         4078 FMAD54    BSS     1               (XR)                                   04 04073
006602 015000 A 4079 FMAD44   LDA     0,X             PUT REPEAT COUNT INTO LOW ORDER        04 04074
006603 006130 A 4080          ANAI    017777          PART OF A-REGISTER                     04 04075
006604 017777 A
006605 124033 A 4081          ADD     FMMLTP                                                 04 04076
006606 054032 A 4082          STA     FMMLTP                                                 04 04077
006607 001000 A 4083          JMP     FMAD38          PLUS TWO MORE WORDS                    04 04078
006610 006441 R
               4084 **********                                                               04 04079
               4085 * ENTRY *                                                                04 04080
               4086 **********                                                               04 04081
006611 074002 A 4087 FMAD     STX     FMADXX          SAVE EXIT                              04 04082
006612 006505 A 4088          JSR     FMFT,X          XFER PARAMETERS                        04 04083
006613 004457 R
006614         4089 FMADXX    BSS     1               RETURN ADDRESS                         04 04084
006615 000003 A 4090          DATA    3               3 PARAMETERS                           04 04085
006616         4091 FMADCB    BSS     1               ADDRESS OF COMMAND BLOCK               04 04086
006617         4092 FMADFC    BSS     1               FCB ADDRESS                            04 04087
006620         4093 FMADLC    BSS     1               ADDRESS OF LINE COUNTER                04 04088
006621 006057 R 4094          DATA    FMAD01          FMAD START ADDRESS                     04 04089
006622 064400 A 4095 FMMFPW   DATA    064400          FIRST PROGRAM WORD                     04 04090
006623 060400 A 4096 FMMRLT   DATA    060400          LAST PROGRAM WORD                      04 04091
006624 120240 A 4097 FMMBLK   DATA    '  '                                                   04 04092
006625 000146 A 4098 FMSWLU   DATA    102             SW LOGICAL UNIT NUMBER                 04 04093
006626         4099 FMMRCT    BSS     1               RECORD COUNT                           04 04094
006627         4100 FMMWPS    BSS     1               WORDS PER SECTOR                       04 04095
               4101 ********************************************                             04 04096
006630 R       4102 FMADID    EQU     *               ID INFORMATION                         04 04097
006630         4103 FMMOMS    BSS     1               OM SIZE                                04 04098
006631         4104 FMMOMN    BSS     4               OM NAME                                04 04099
006635         4105 FMMOMD    BSS     4               OM DATE                                04 04100
               4106 ********************************************                             04 04101
006641         4107 FMMLTP    BSS     1               LOADER TEXT POSITION                   04 04102
006642         4108 FMMBUF    BSS     1               BUFFER ADDR                            04 04103
006643         4109 FMMITM    BSS     3               ITEM BUFFER                            04 04104
006646         4110 FMADSC    BSS     1               SECTOR COUNT                           04 04105
006647 000000 A 4111 FMADCT    DATA    0               COUNTER                          C.1   04 04106
006650 006651 R 4112 FMADNB    DATA    *+1                                              C.1   04 04107
006651 000000 A 4113          DATA    0,0,0           NAME BUFFER                      C.1   04 04108
006652 000000 A
006653 000000 A
006654 000000 A 4114 FMADSW    DATA    0               CONTROL SWITCH                   C.1   04 04109
               4115 FMMFCB    FCB     120,FMBF,3,0,0                                         04 04110
006655 000170 A
006656 005667 R
006657 001400 A
006660 000000 A
006661 000000 A
006662 000000 A
006663 000000 A
006664 000000 A
006665 000000 A
006666 000000 A
               4116 FMSWFC    FCB     120,FMBF,2,'B','SW','  ','  '                          04 04111
006667 000170 A
006670 005667 R
006671 001302 A
006672 000000 A
006673 000000 A
006674 000000 A
006675 000000 A
006676 151727 A
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006677 180240 A
006700 120240 A
                    4117 ************************                                                                  04 04112
                    4118 * STACK CONTROL BLOCK *                                                                  04 04113
                    4119 ************************                                                                  04 04114
       006701 R     4120 FMMENT EQU     *           ENTRY NAME STACK                                              04 04115
006701 010273 R     4121        DATA    FMBENT       BASE ADDRESS                                                 04 04116
006702 010273 R     4122        DATA    FMTENT       TOP ADDRESS                                                  04 04117
006703 000003 A     4123        DATA    3            ENTRY LENGTH                                                 04 04118
       006704 R     4124 FMMEXT EQU     *           EXTERNAL NAME STACK                                           04 04119
006704 010273 R     4125        DATA    FMBEXT       BASE ADDRESS                                                 04 04120
006705 010273 R     4126        DATA    FMTEXT       TOP ADDRESS                                                  04 04121
006706 000003 A     4127        DATA    3            ENTRY LENGTH                                                 04 04122
       006705 R     4128 FMESTK EQU     *-2         LAST TOP ADDRESS                                              04 04123
006707 177777 A     4129        DATA    -1          END OF STACK FLAG                                             04 04124
                    4130        EJEC                                                                              04 04125
                    4131 ********************************************************************************      04 04126
                    4132 *                                                                                       04 04127
                    4133 *              COMPUTE OBJECT MODULE TEXT CHECK-SUM (FMCC)                              04 04128
                    4134 *                                                                                       04 04129
                    4135 * FUNCTION: TO COMPUTE THD CHECK-SUM OF AN OBJECT MODULE TEXT RECORD                    04 04130
                    4136 *                                                                                       04 04131
                    4137 * ENTRY: NO SPECIAL CONDITIONS                                                         04 04132
                    4138 *                                                                                       04 04133
                    4139 * CALLING SEQUENCE: JSR  FMCC,X                                                       04 04134
                    4140 *                    DATA BUFFER ADDRESS                                                04 04135
                    4141 *                                                                                       04 04136
                    4142 * EXIT: A=0 IF GOOD CHECK-SUM                                                         04 04137
                    4143 *       A NOT 0 IF BAD CHECK-SUM                                                       04 04138
                    4144 *                                                                                       04 04139
                    4145 ********************************************************************************      04 04140
       006710 R     4146 FMCC00 EQU     *                                                                     04 04141
006710 034042 A     4147        LDX     FMCCBA      GET BUFFER ADDRESS                                        04 04142
006711 015000 A     4148        LDA     0,X         GET FIRST WORD OF BUFFER                                  04 04143
006712 001002 A     4149        JAP     FMCC01      JUMP IF NOT CHECK-SUM SUPPRESS                            04 04144
006713 006724 R
006714 150460 A     4150        ANA     BR15        TURN OFF CHECK-SUM SUPPRESS BIT                           04 04145
006715 055000 A     4151        STA     0,X                                                                   04 04146
006716 005001 A     4152        TZA                                                                           04 04147
006717 055001 A     4153        STA     1,X         RESET CHECK-SUM WORD                                      04 04148
006720 002000 A     4154        JMPM    FMCC10      COMPUTE NEW CHECK-SUM                                     04 04149
006721 006730 R
006722 034030 A     4155        LDX     FMCCBA      GET BUFFER ADDRESS                                        04 04150
006723 055001 A     4156        STA     1,X         STORE CORRECT CHECK-SUM                                   04 04151
       006724 R     4157 FMCC01 EQU     *                                                                     04 04152
006724 002000 A     4158        JMPM    FMCC10      COMPUTE CHECK-SUM                                         04 04153
006725 006730 R
006726 001000 A     4159        JMP*    FMCCXX      RETURN                                                    04 04154
006727 106751 R
                    4160 ********************                                                                  04 04155
                    4161 * COMPUTE CHECK-SUM *                                                                 04 04156
                    4162 ********************                                                                  04 04157
006730 000000 A     4163 FMCC10 DATA    0                                                                     04 04158
006731 005002 A     4164        IZB                                                                           04 04159
       006732 R     4165 FMCC02 EQU     *                                                                     04 04160
006732 005021 A     4166        TBA                                                                           04 04161
006733 135000 A     4167        ERA     0,X         COMPUTE CHECK-SUM                                         04 04162
006734 005012 A     4168        TAB                 SAVE ACCUMULATED CHECK-SUM IN B-REG.                      04 04163
006735 005145 A     4169        IMCR    045         A=X=X+1                                                   04 04164
006736 144014 A     4170        SUB     FMCCBA                                                                04 04165
006737 006140 A     4171        SUBI    60                                                                    04 04166
006740 000074 A
006741 001004 A     4172        JAN     FMCC02      JUMP IF NOT AT END OF BUFFER                              04 04167
006742 006732 R
006743 005021 A     4173        TBA                                                                           04 04168
006744 001000 A     4174        JMP*    FMCCXX      RETURN                                                    04 04169
006745 106751 R
                    4175 *********                                                                            04 04170
                    4176 * ENTRY *                                                                            04 04171
                    4177 *********                                                                            04 04172
006746 074002 A     4178 FMCC   STX     FMCCXX      SAVE EXIT                                                 04 04173
006747 006505 A     4179        JSR     FMPT,X      XFER PARAMETERS                                           04 04174
006750 004457 R
006751              4180 FMCCXX BSS     1           RETURN ADDRESS                                            04 04175
006752 000001 A     4181        DATA    1*          1 PARAMETER                                               04 04176
006753              4182 FMCCBA BSS     1           ADDRESS OF BUFFER                                         04 04177
006754 006710 R     4183        DATA    FMCC00      FMCC START ADDRESS                                        04 04178
                    4184        EJEC                                                                          04 04179
                    4185 ********************************************************************************      04 04180
                    4186 *                                                                                       04 04181
                    4187 *                          COPY RMD TO RMD (FMCP)                                       04 04182
                    4188 *                                                                                       04 04183
                    4189 * FUNCTION: TO COPY FROM A FILE ON A RMD TO A FILE ON A RMD                            04 04184
                    4190 *                                                                                       04 04185
                    4191 * ENTRY: NO SPECIAL CONDITIONS                                                         04 04186
                    4192 *                                                                                       04 04187
                    4193 * CALLING SEQUENCE: JSR   FMCP,X                                                       04 04188
                    4194 *                    DATA  ADDRESS OF INPUT LUN                                         04 04189
                    4195 *                    DATA  ADDRESS OF INPUT FCB                                         04 04190
                    4196 *                    DATA  ADDRESS OF OUTPUT LUN                                        04 04191
                    4197 *                    DATA  ADDRESS OF OUTPUT FCB                                        04 04192
                    4198 *                    DATA  ADDRESS OF SECTOR COUNT                                      04 04193
                    4199 *                                                                                       04 04194
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                    4200 * EXIT: A=0 IF NO ERRORS                                                                  04 04195
                    4201 *                                                                                         04 04196
                    4202 * ERRORS: A=5 IF I/O ERROR                                                                04 04197
                    4203 *                                                                                         04 04198
                    4204 ********************************************************************************        04 04199
          006755 R  4205 FMCP00 EQU     *                                                                        04 04200
                    4206 ********************                                                                   04 04201
                    4207 * SET ACCESS METHOD *                                                                   04 04202
                    4208 ********************                                                                   04 04203
006755 034053 A     4209          LDX     FMCPIF                                                               04 04204
006756 005101 A     4210          INCR    A                                                                    04 04205
006757 055003 A     4211          STA     3,X         RESET RELATIVE POINTER                                   04 04206
006760 015002 A     4212          LDA     2,X                                                                  04 04207
006761 150463 A     4213          ANA     RHW                                                                  04 04208
006762 114053 A     4214          ORA     FMCPSA      SET SEQUENTIAL ACCESS                                    04 04209
006763 055002 A     4215          STA     2,X                                                                  04 04210
006764 034046 A     4216          LDX     FMCPOF                                                               04 04211
006765 005101 A     4217          INCR    A                                                                    04 04212
006766 055003 A     4218          STA     3,X         RESET RELATIVE POINTER                                   04 04213
006767 015002 A     4219          LDA     2,X                                                                  04 04214
006770 150463 A     4220          ANA     RHW                                                                  04 04215
006771 114044 A     4221          ORA     FMCPSA      SET SEQUENTIAL ACCESS                                    04 04216
006772 055002 A     4222          STA     2,X                                                                  04 04217
                    4223 *************                                                                          04 04218
                    4224 * COPY FILE *                                                                         04 04219
                    4225 *************                                                                          04 04220
          006773 R  4226 FMCP30 EQU     *                                                                        04 04221
006773 006505 A     4227          JSR     FMRR,X      READ RMD                                                 04 04222
006774 004722 R
006775 107030 R     4228          MZE     FMCPIL      ADDRESS OF LUN                                           04 04223
006776 107031 R     4229          MZE     FMCPIF      ADDRESS OF FCB                                           04 04224
006777 007037 R     4230          DATA    FMCPDC      DUMMY CELL                                               04 04225
007000 001016 A     4231          JANZ*   FMCPXX      EXIT IF ERROR                                            04 04226
007001 107026 R
007002 005144 A     4232          IXR                                                                          04 04227
007003 024027 A     4233          LDB     FMCPOF      GET ADDRESS OF OUTPUT FCB                                04 04228
007004 076001 A     4234          STX     1,B         SET BUFFER ADDRESS                                       04 04229
007005 006505 A     4235          JSR     FMWR,X      WRITE RMD                                                04 04230
007006 005611 R
007007 107032 R     4236          MZE     FMCPOL      ADDRESS OF LUN                                           04 04231
007010 107033 R     4237          MZE     FMCPOF      ADDRESS OF FCB                                           04 04232
007011 001016 A     4238          JANZ*   FMCPXX      EXIT IF ERROR                                            04 04233
007012 107026 R
                    4239 ****************************                                                           04 04234
                    4240 * DECREMENT SECTOR COUNT *                                                           04 04235
                    4241 ****************************                                                           04 04236
007013 034020 A     4242          LDX     FMCPSC      GET SECTOR COUNT ADDRESS                                 04 04237
007014 015000 A     4243          LDA     0,X         GET SECTOR COUNT                                         04 04238
007015 005311 A     4244          DAR                                                                          04 04239
007016 055000 A     4245          STA     0,X                                                                  04 04240
007017 001010 A     4246          JAZ*    FMCPXX      EXIT IF ALL DONE                                         04 04241
007020 107026 R
007021 001000 A     4247          JMP     FMCP30      DO IT AGAIN                                              04 04242
007022 006773 R
                    4248 *********                                                                              04 04243
                    4249 * ENTRY *                                                                              04 04244
                    4250 *********                                                                              04 04245
007023 074002 A     4251 FMCP     STX     FMCPXX      SAVE EXIT                                                04 04246
007024 006505 A     4252          JSR     FMPT,X      XFER PARAMETERS                                          04 04247
007025 004457 R
007026              4253 FMCPXX   BSS     1           RETURN ADDRESS                                           04 04248
007027 000005 A     4254          DATA    5           5 PARAMETERS                                             04 04249
007030              4255 FMCPIL   BSS     1           ADDRESS OF INPUT LUN                                     04 04250
007031              4256 FMCPIF   BSS     1           ADDRESS OF INPUT FCB                                     04 04251
007032              4257 FMCPOL   BSS     1           ADDRESS OF OUTPUT LUN                                    04 04252
007033              4258 FMCPOF   BSS     1           ADDRESS OF OUTPUT FCB                                    04 04253
007034              4259 FMCPSC   BSS     1           ADDRESS OF SECTOR COUNT                                  04 04254
007035 006755 R     4260          DATA    FMCP00      FMCP START ADDRESS                                       04 04255
007036 001400 A     4261 FMCPSA   DATA    001400      SEQUENTIAL ACCESS CODE                                   04 04256
007037              4262 FMCPDC   BSS     1           DUMMY CELL                                               04 04257
                    4263          EJEC                                                                         04 04258
                    4264 ********************************************************************************        04 04259
                    4265 *                                                                                         04 04260
                    4266 *                        GET ITEM FROM STACK (FMGT)                                      04 04261
                    4267 *                                                                                         04 04262
                    4268 * FUNCTION: GET ITEM FROM TOP OF STACK                                                   04 04263
                    4269 *                                                                                         04 04264
                    4270 * ENTRY: NO SPECIAL CONDITION                                                           04 04265
                    4271 *                                                                                         04 04266
                    4272 * CALLING SEQUENCE: JSR  FMGT,X                                                         04 04267
                    4273 *                    DATA ADDRESS OF STACK CONTROL BLOCK                                 04 04268
                    4274 *                    DATA ADDRESS OF WHERE TO PUT ITEM                                   04 04269
                    4275 *                                                                                         04 04270
                    4276 * EXIT: A-REG. = +1 IF ITEM TAKEN FROM STACK                                           04 04271
                    4277 *       A-REG. = -1 IF NO ITEM TAKEN FROM STACK                                       04 04272
                    4278 *                                                                                         04 04273
                    4279 ********************************************************************************        04 04274
          007040 R  4280 FMGT00 EQU     *                                                                        04 04275
007040 034071 A     4281          LDX     FMGTSA      GET STACK ADDRESS                                        04 04276
007041 015000 A     4282          LDA     0,X         GET BASE ADDRESS                                         04 04277
007042 145001 A     4283          SUB     1,X         - TOP ADDRESS                                            04 04278
007043 001004 A     4284          JAN     FMGT02      JUMP IF SOMETHING IN STACK                               04 04279
007044 007050 R
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007045 005301 A 4285          DECR    A               NOTHING IN STACK                    04 04280
007046 001000 A 4286          JMP*    FMGTXX          RETURN                              04 04281
007047 107130 R
       007050 R 4287 FMGT02   EQU     *                                                   04 04282
007050 015001 A 4288          LDA     1,X             GET TOP ADDRESS                     04 04283
007051 054046 A 4289          STA     FMGT14          FROM ADDRESS                        04 04284
007052 145002 A 4290          SUB     2,X             - ENTRY LENGTH                      04 04285
007053 054045 A 4291          STA     FMGT14+1        TO ADDRESS                          04 04286
007054 054033 A 4292          STA     FMGT10          FROM ADDRESS                        04 04287
007055 015002 A 4293          LDA     2,X             GET ENTRY LENGTH                    04 04288
007056 054026 A 4294          STA     FMGT08          COUNT                               04 04289
007057 006017 A 4295          LDAE    FMESTK          GET TOP OF ALL STACKS               04 04290
007060 006705 R
007061 145000 A 4296          SUB     0,X             - BASE                              04 04291
007062 125002 A 4297          ADD     2,X             + ENTRY LENGTH                      04 04292
007063 054027 A 4298          STA     FMGT12          SIZE                                04 04293
007064 024046 A 4299          LDB     FMGTIA          GET ITEM ADDRESS                    04 04294
007065 064023 A 4300          STB     FMGT10+1        TO ADDRESS                          04 04295
                4301 **************************                                        04 04296
                4302 * UPDATE BASE & TOP POINTERS *                                      04 04297
                4303 **************************                                        04 04298
007066 005042 A 4304          TXB                                                         04 04299
       007067 R 4305 FMGT04   EQU     *                                                   04 04300
007067 016001 A 4306          LDA     1,B             GET TOP ADDRESS                     04 04301
007070 145002 A 4307          SUB     2,X             - ENTRY LENGTH                      04 04302
007071 056001 A 4308          STA     1,B             PUT BACK                            04 04303
007072 005122 A 4309          IBR                                                         04 04304
007073 005122 A 4310          IBR                                                         04 04305
007074 005122 A 4311          IBR                                                         04 04306
007075 016000 A 4312          LDA     0,B             GET BASE ADDRESS                    04 04307
007076 001004 A 4313          JAN     FMGT06          JUMP IF AT END OF STACKS            04 04308
007077 007104 R
007100 145002 A 4314          SUB     2,X             - ENTRY LENGTH                      04 04309
007101 056000 A 4315          STA     0,B             PUT BACK                            04 04310
007102 001000 A 4316          JMP     FMGT04                                              04 04311
007103 007067 R
       007104 R 4317 FMGT06   EQU     *                                                   04 04312
007104 006010 A 4318          LDAI    0               COUNT                               04 04313
007105 000000 A
       007105 R 4319 FMGT08   EQU     *-1                                                 04 04314
007106 006505 A 4320          JSR     FMMV,X          GET ITEM FROM STACK                 04 04315
007107 003735 R
007110 000000 A 4321 FMGT10   DATA    0               FROM ADDRESS                        04 04316
007111 000000 A 4322          DATA    0               TO ADDRESS                          04 04317
007112 006010 A 4323          LDAI    0               COUNT                               04 04318
007113 000000 A
       007113 R 4324 FMGT12   EQU     *-1                                                 04 04319
007114 001010 A 4325          JAZ     FMGT16          JUMP IF COUNT ZERO                  04 04320
007115 007122 R
007116 006505 A 4326          JSR     FMMV,X          DELETE ITEM FROM STACK              04 04321
007117 003735 R
007120 000000 A 4327 FMGT14   DATA    0               FROM ADDRESS                        04 04322
007121 000000 A 4328          DATA    0               TO ADDRESS                          04 04323
       007122 R 4329 FMGT16   EQU     *                                                   04 04324
007122 005101 A 4330          INCR    A               GOT ITEM FROM STACK                 04 04325
007123 001000 A 4331          JMP*    FMGTXX          RETURN                              04 04326
007124 107130 R
                4332 *********                                                           04 04327
                4333 * ENTRY *                                                           04 04328
                4334 *********                                                           04 04329
007125 074002 A 4335 FMGT     STX     FMGTXX          SAVE EXIT                           04 04330
007126 006505 A 4336          JSR     FMPT,X          XFER PARAMETERS                     04 04331
007127 004457 R
007130          4337 FMGTXX   BSS     1               RETURN ADDRESS                      04 04332
007131 000002 A 4338          DATA    2               2 PARAMETERS                        04 04333
007132          4339 FMGTSA   BSS     1               ADDRESS OF STACK CONTROL BLOCK      04 04334
007133          4340 FMGTIA   BSS     1               ITEM ADDRESS                        04 04335
007134 007040 R 4341          DATA    FMGT00          FMGT START ADDRESS                  04 04336
                4342          END                                                         04 04337
                4343 ********************************************************************* 04 04338
                4344 *                                                                   04 04339
                4345 *                        PROCESS INPUT (FMIP)                       04 04340
                4346 *                                                                   04 04341
                4347 * FUNCTION: BUILD AN FCB FOR THE INPUT LOGICAL UNIT                 04 04342
                4348 *                                                                   04 04343
                4349 * ENTRY: NO SPECIAL CONDITIONS                                      04 04344
                4350 *                                                                   04 04345
                4351 * CALLING SEQUENCE: JSR   FMIP,X                                   04 04346
                4352 *                   DATA  ADDRESS OF COMMAND BLOCK                  04 04347
                4353 *                   DATA  FCB ADDRESS                               04 04348
                4354 *                   BSS   1 (DUMMY)                                 04 04349
                4355 *                                                                   04 04350
                4356 * EXIT: A=0 FCB BUILT FOR OBJECT MODULE INPUT                       04 04351
                4357 *                                                                   04 04352
                4358 * NOTE: THE FCB IS REFERENCED BY 'FMOMFC'                           04 04353
                4359 *       THE LUN IS REFERENCED BY 'FMOMLU'                          04 04354
                4360 *                                                                   04 04355
                4361 ********************************************************************* 04 04356
       007135 R 4362 FMIP00   EQU     *                                                   04 04357
                4363 **********************                                           04 04358
                4364 * SET BUFFER ADDRESS *                                            04 04359
                4365 **********************                                           04 04360
007135 034117 A 4366          LDX     FMIPFC          GET FCB ADDRESS                     04 04361
```

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007136 015001 A 4367          LDA     1,X         GET BUFFER ADDRESS                                  04 04362
007137 054122 A 4368          STA     FMOMFC+1    SET BUFFER ADDRESS                                  04 04363
               4369 ***********                                                                       04 04364
               4370 * SET KEY *                                                                      04 04365
               4371 ***********                                                                       04 04366
007140 034113 A 4372          LDX     FMIPCB      GET ADDRESS OF COMMAND BLOCK                        04 04367
007141 014121 A 4373          LDA     FMOMFC+2    GET WORD WITH ACCESS METHOD + PROTECT KEY           04 04368
007142 150462 A 4374          ANA     LHW         CLEAR OUT PROTECT KEY                               04 04369
007143 115001 A 4375          ORA     1,X         OR IN PROTECT KEY                                   04 04370
007144 054115 A 4376          STA     FMOMFC+2                                                        04 04371
               4377 ****************                                                                  04 04372
               4378 * SET FILE NAME *                                                                04 04373
               4379 ****************                                                                  04 04374
007145 015002 A 4380          LDA     2,X                                                             04 04375
007146 054121 A 4381          STA     FMOMFC+7                                                        04 04376
007147 015003 A 4382          LDA     3,X                                                             04 04377
007150 054120 A 4383          STA     FMOMFC+8                                                        04 04378
007151 015004 A 4384          LDA     4,X                                                             04 04379
007152 054117 A 4385          STA     FMOMFC+9                                                        04 04380
               4386 ***********                                                                       04 04381
               4387 * SET LUN *                                                                      04 04382
               4388 ***********                                                                       04 04383
007153 015000 A 4389          LDA     0,X                                                             04 04384
007154 054103 A 4390          STA     FMOMLU                                                          04 04385
               4391 ******************************                                                  04 04386
               4392 * CHECK FOR LUN = 'SI' = RMD *                                                    04 04387
               4393 ******************************                                                  04 04388
007155 054002 A 4394          STA     *+3         STORE IN CALL TO RMD                          C.1 04 04389
007156 002000 A 4395          CALL    RMD,0       CHECK IF LUN IS ON RMD                        C.1 04 04390
007157 010252 R
007160 000000 A
007161 001010 A 4396          JAZ     FMIP20      IF ON A RMD                                    D.104 04391
007162 007172 R
       007163 R 4397 FMIP05   EQU     *                                                           C.1 04 04392
007163 006010 A 4398          LDAI    60                                                              04 04393
007164 000074 A
007165 054073 A 4399          STA     FMOMFC      SET INPUT RECORD SIZE                               04 04394
007166 006020 A 4400          LDBI    SIFCB       (B) = UNIVERSAL FCB ADDRESS                         04 04395
007167 000001 E
007170 001000 A 4401          JMP     FMIP25                                                          04 04396
007171 007207 R
       007172 R 4402 FMIP20   EQU     *                                                               04 04397
               4403 ************************************                                              04 04398
               4404 * CHECK FOR LUN = 4,5,6,7,8,9,10 *                                              04 04399
               4405 ************************************                                              04 04400
007172 006010 A 4406          LDAI    120                                                             04 04401
007173 000170 A
007174 054064 A 4407          STA     FMOMFC      SET INPUT RECORD SIZE                               04 04402
007175 014062 A 4408          LDA     FMOMLU      GET LUN                                             04 04403
007176 140423 A 4409          SUB     FOUR                                                            04 04404
007177 001004 A 4410          JAN     FMIP05      JUMP IF LUN < 4                                D.104 04405
007200 007163 R
007201 140467 A 4411          SUB     SEVEN                                                           04 04406
007202 001002 A 4412          JAP     FMIP30      JUMP IF LUN > 10                                    04 04407
007203 007226 R
007204 034053 A 4413          LDX     FMOMLU                                                          04 04408
007205 006025 A 4414          LDBE    FMIPUB,X    (B) = UNIVERSAL FCB ADDRESS                         04 04409
007206 007270 R
       007207 R 4415 FMIP25   EQU     *                                                               04 04410
               4416 **********************                                                          04 04411
               4417 * BUILD UNIVERSAL FCB *                                                          04 04412
               4418 **********************                                                          04 04413
007207 064063 A 4419          STB     FMICBA      SAVE UNIVERSAL FCB ADDRESS                          04 04414
007210 014052 A 4420          LDA     FMOMFC+2                                                        04 04415
007211 150462 A 4421          ANA     LHW         AND OUT ACCESS METHOD                               04 04416
007212 054050 A 4422          STA     FMOMFC+2                                                        04 04417
007213 016002 A 4423          LDA     2,B                                                             04 04418
007214 150463 A 4424          ANA     RHW         AND OUT PROTECT KEY                                 04 04419
007215 114045 A 4425          ORA     FMOMFC+2                                                        04 04420
007216 056002 A 4426          STA     2,B         SET ACCESS METHOD & PROTECT KEY                     04 04421
007217 014041 A 4427          LDA     FMOMFC                                                          04 04422
007220 056000 A 4428          STA     0,B         SET RECORD LENGTH                                   04 04423
007221 014040 A 4429          LDA     FMOMFC+1                                                        04 04424
007222 056001 A 4430          STA     1,B         SET BUFFER ADDRESS                                  04 04425
007223 005001 A 4431          TZA                                                                     04 04426
007224 001000 A 4432          JMP*    FMIPXX      RETURN                                              04 04427
007225 107252 R
       007226 R 4433 FMIP30   EQU     *                                                               04 04428
               4434 **********************                                                          04 04429
               4435 * BUILD 'FMOMFC' FCB *                                                          04 04430
               4436 **********************                                                          04 04431
007226 006010 A 4437          LDAI    FMOMFC                                                          04 04432
007227 007261 R
007230 054042 A 4438          STA     FMICBA      SAVE 'FMOMFC' FCB ADDRESS                           04 04433
007231 014006 A 4439          LDA     FMIP10+3                                                        04 04434
007232 150462 A 4440          ANA     LHW                                                             04 04435
007233 114024 A 4441          ORA     FMOMLU      ENTER LUN IN OPEN CALL                              04 04436
007234 054003 A 4442          STA     FMIP10+3                                                        04 04437
               4443 **********************                                                          04 04438
               4444 * OPEN + REWIND LU *                                                           04 04439
               4445 **********************                                                          04 04440
       007235 R 4446 FMIP10   EQU     *                                                               04 04441
               4447          OPEN    FMOMFC,0,0,0                                                    04 04442
```

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007235 006503 A
007236 000404 A
007237 100000 A
007240 003000 A
007241 007261 R
007242 000000 A
007243 000000 A
007244 005001 A 4448          TZA                                                    04 04443
007245 001000 A 4449          JMP*    FMIPXX          RETURN                         04 04444
007246 107252 R
                4450 **********                                                     04 04445
                4451 * ENTRY *                                                      04 04446
                4452 **********                                                     04 04447
007247 074002 A 4453 FMIP     STX     FMIPXX          SAVE EXIT                      04 04448
007250 006505 A 4454          JSR     FMPT,X          XFER PARAMETERS                04 04449
007251 004457 R
007252          4455 FMIPXX   BSS     1               RETURN ADDRESS                 04 04450
007253 000003 A 4456          DATA    3               3 PARAMETERS                   04 04451
007254          4457 FMIPCB   BSS     1               ADDRESS OF COMMAND BLOCK       04 04452
007255          4458 FMIPFC   BSS     1               FCB ADDRESS                    04 04453
007256          4459          BSS     1                                              04 04454
007257 007135 R 4460          DATA    FMIP00          FMIP START ADDRESS             04 04455
007260          4461 FMDMLU   BSS     1               INPUT LUN                      04 04456
                4462 FMDMFC   FCB     120,0,3,0,0     INPUT FCB                      04 04457
007261 000170 A
007262 000000 A
007263 001400 A
007264 000000 A
007265 000000 A
007266 000000 A
007267 000000 A
007270 000000 A
007271 000000 A
007272 000000 A
007273          4463 FMICBA   BSS     1               INPUT FCB ADDRESS              04 04458
        007270 R 4464 FMIPUB  EQU     *-4                                            04 04459
007274 000000 E 4465          DATA    PIFCB           PI                             04 04460
007275 005170 E 4466          DATA    LOFCB           LO                             04 04461
007276 000000 E 4467          DATA    BIFCB           BI                             04 04462
007277 000000 E 4468          DATA    BOFCB           BO                             04 04463
007300 000000 E 4469          DATA    SSFCB           SS                             04 04464
007301 000000 E 4470          DATA    GOFCB           GO                             04 04465
007302 000000 E 4471          DATA    POFCB           PO                             04 04466
                4472          EXT     PIFCB,LOFCB,BIFCB,BOFCB,SSFCB,GOFCB,POFCB      04 04467
                4473          EXT     SIFCB                                          04 04468
                4474          EXT     V*CKSI                                         04 04469
                4475          EJEC                                                   04 04470
                4476 ********************************************************************** 04 04471
                4477 *                                                                04 04472
                4478 *                          INPUT RECORD (FMIR)                   04 04473
                4479 *                                                                04 04474
                4480 * FUNCTION: INPUT A RECORD IF NECESSARY AND SET BUFFER ADDRESS   04 04475
                4481 *                                                                04 04476
                4482 * ENTRY: NO SPECIAL CONDITIONS                                   04 04477
                4483 *                                                                04 04478
                4484 * CALLING SEQUENCE: JSR   FMIR,X                                04 04479
                4485 *                   DATA  BUFFER ADDRESS LOCATION                04 04480
                4486 *                   DATA  RECORD COUNT ADDRESS                   04 04481
                4487 *                   DATA  WORDS PER SECTOR ADDRESS               04 04482
                4488 *                   DATA  FCB ADDRESS                            04 04483
                4489 *                   DATA  ADDRESS OF LUN                         04 04484
                4490 *                                                                04 04485
                4491 * EXIT: A=0 IF NO ERRORS                                         04 04486
                4492 *       OBJECT MODULE READ INTO 'FMBF' BUFFER.                   04 04487
                4493 *       BUFFER ADDRESS SET.                                      04 04488
                4494 *       A=-1 IF END OF FILE                                      04 04489
                4495 *                                                                04 04490
                4496 * ERRORS: A=5 IF I/O ERROR                                       04 04491
                4497 *                                                                04 04492
                4498 ********************************************************************** 04 04493
        007303 R 4499 FMIR00  EQU     *                                              04 04494
007303 034073 A 4500          LDX     FMIRRC          GET RECORD COUNT ADDRESS       04 04495
007304 045000 A 4501          INR     0,X             INCREMENT RECORD COUNT         04 04496
007305 015000 A 4502          LDA     0,X             GET RECORD COUNT               04 04497
007306 005002 A 4503          TZB                                                    04 04498
007307 004541 A 4504          LLSR    1               IS RECORD COUNT EVEN - 0,2,4,6,... 04 04499
007310 034065 A 4505          LDX     FMIRBA          GET BUFFER ADDRESS LOCATION    04 04500
007311 006010 A 4506          LDAI    FMBF            GET BUFFER ADDRESS             04 04501
007312 005667 R
007313 001020 A 4507          JBZ     FMIR10          JUMP IF RECORD COUNT EVEN      04 04502
007314 007316 R
007315 124065 A 4508          ADD     FMIRRS          ADD RECORD SIZE                04 04503
        007316 R 4509 FMIR10  EQU     *                                              04 04504
007316 055000 A 4510          STA     0,X             SET BUFFER ADDRESS FOR PROCESSING 04 04505
007317 024060 A 4511          LDB     FMIRWS          GET WORDS PER SECTOR ADDRESS   04 04506
007320 016000 A 4512          LDA     0,B             GET WORDS PER SECTOR           04 04507
007321 144062 A 4513          SUB     FMIRRS          SUBTRACT RECORD SIZE           04 04508
007322 056000 A 4514          STA     0,B             SET WORDS PER SECTOR LEFT      04 04509
007323 001016 A 4515          JANZ    FMIRNE          JUMP IF WORDS STILL IN SECTOR  04 04510
007324 007360 R
007325 015000 A 4516          LDA     0,X             GET BUFFER ADDRESS             04 04511
007326 024052 A 4517          LDB     FMIRFC          GET FCB ADDRESS                04 04512
007327 064012 A 4518          STB     FMIRIR+4        SET FCB ADDRESS                04 04513
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007330 056001 A 4519          STA     1,B             SET BUFFER ADDRESS IN FCB                    04 04514
007331 034050 A 4520          LDX     FMIRLU          GET ADDRESS OF LUN                           04 04515
007332 014006 A 4521          LDA     FMIRIR+3        GET WORD WITH LUN                            04 04516
007333 150462 A 4522          ANA     LHW             CLEAR OUT LUN FIELD                          04 04517
007334 115000 A 4523          ORA     0,X             OR IN LUN                                    04 04518
007335 054003 A 4524          STA     FMIRIR+3        SET IN I/O REQUEST                           04 04519
                4525 **************                                                                 04 04520
                4526 * READ A RECORD *                                                             04 04521
                4527 **************                                                                 04 04522
                4528 FMIRIR READ    0,0,0,0         READ SYSTEM BINARY & SUSPEND UNTIL I/O DON   04 04523
007336 006505 A
007337 000404 A
007340 100000 A
007341 000000 A
007342 000000 A
007343 000000 A
007344 000000 A
007345 006017 A 4529          LDAE    FMIRIR+5        GET NUMBER OR WORDS READ                     04 04524
007346 007343 R
007347 034030 A 4530          LDX     FMIRWS          GET WORDS PER SECTOR ADDRESS                 04 04525
007350 055000 A 4531          STA     0,X             SET WORDS PER SECTOR                         04 04526
                4532          STAT    FMIRIR,FMIRER,FMIREF,FMIRER,FMIRER                           04 04527
007351 006505 A
007352 000373 A
007353 007336 R
007354 007366 R
007355 007363 R
007356 007366 R
007357 007366 R
        007360 R 4533 FMIRNE EQU      *                                                            04 04528
007360 005001 A 4534          TZA                     A=0 NO ERRORS                                04 04529
007361 001000 A 4535          JMP*    FMIRXX                                                       04 04530
007362 107374 R
        007363 R 4536 FMIREF EQU      *                                                            04 04531
007363 005301 A 4537          DECR    01              A=-1 EOF DETECTED                            04 04532
007364 001000 A 4538          JMP*    FMIRXX                                                       04 04533
007365 107374 R
        007366 R 4539 FMIRER EQU      *                                                            04 04534
007366 010465 A 4540          LDA     FIVE            A=5 I/O ERROR                                04 04535
007367 001000 A 4541          JMP*    FMIRXX                                                       04 04536
007370 107374 R
                4542 *********                                                                     04 04537
                4543 * ENTRY *                                                                     04 04538
                4544 *********                                                                     04 04539
007371 074002 A 4545 FMIR     STX     FMIRXX          SAVE EXIT                                    04 04540
007372 006505 A 4546          JSR     FMPT,X          XFER PARAMETERS                              04 04541
007373 004457 R
007374          4547 FMIRXX   BSS     1               RETURN ADDRESS                               04 04542
007375 000005 A 4548          DATA    5               5 PARAMETERS                                 04 04543
007376          4549 FMIRBA   BSS     1               BUFFER ADDRESS LOCATION                      04 04544
007377          4550 FMIRRC   BSS     1               RECORD COUNT ADDRESS                         04 04545
007400          4551 FMIRWS   BSS     1               WORDS PER SECTOR ADDRESS                     04 04546
007401          4552 FMIRFC   BSS     1               FCB ADDRESS                                  04 04547
007402          4553 FMIRLU   BSS     1               ADDRESS OF LUN                               04 04548
007403 007303 R 4554          DATA    FMIR00          FMIR START ADDRESS                           04 04549
007404 000074 A 4555 FMIRRS   DATA    60              RECORD SIZE                                  04 04550
                4556          EJEC                                                                 04 04551
                4557 ********************************************************************************04 04552
                4558 *                                                                             04 04553
                4559 *                    LIST OBJECT MODULE (FMLT)                               04 04554
                4560 *                                                                             04 04555
                4561 * FUNCTION: TO LIST ENTRY AND EXTERNAL NAMES OF AN OBJECT MODULE ONTO        04 04556
                4562 *           THE LO DEVICE AND ENTER THE ENTRY NAMES IN THE DIRECTORY          04 04557
                4563 *                                                                             04 04558
                4564 * ENTRY: NO SPECIAL CONDITIONS                                               04 04559
                4565 *                                                                             04 04560
                4566 * CALLING SEQUENCE: JSR   FMLT,X                                            04 04561
                4567 *                   DATA  ADDRESS OF COMMAND BLOCK                           04 04562
                4568 *                   DATA  FCB ADDRESS                                        04 04563
                4569 *                   DATA  ADDRESS OF LINE COUNTER                            04 04564
                4570 *                   DATA  ADDRESS OF ID INFORMATION                          04 04565
                4571 *                                                                             04 04566
                4572 * COMMAND BLOCK: WORD 0: LOGICAL UNIT NUMBER                                 04 04567
                4573 *                WORD 1: KEY                                                  04 04568
                4574 *                WORDS 2-4: BLANK AREA                                        04 04569
                4575 *                WORD 5: SECTOR COUNT                                         04 04570
                4576 *                WORDS 6-7: BLANK AREA                                        04 04571
                4577 *                                                                             04 04572
                4578 * EXIT: A=0 IF NO ERRORS                                                     04 04573
                4579 *                                                                             04 04574
                4580 * ERRORS: A=1 IF LUN OR KEY ERROR                                           04 04575
                4581 *         A=2 IF NAME ALREADY IN DIRECTORY                                   04 04576
                4582 *         A=3 IF OLD NAME NOT IN DIRECTORY                                   04 04577
                4583 *         A=4 IF INSUFFICIENT SPACE FOR ENTRY                                04 04578
                4584 *         A=5 IF I/O ERROR                                                   04 04579
                4585 *         A=6 IF DIRECTORY STRUCTOR ERROR                                    04 04580
                4586 *         A=8 IF NO ENTRY NAME                                               04 04581
                4587 *                                                                             04 04582
                4588 ********************************************************************************04 04583
                4589 **************                                                                 04 04584
                4590 * CLEAR BUFFER *                                                             04 04585
                4591 **************                                                                 04 04586
007405 R        4592 FMLT00 EQU     *                                                            04 04587
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007405 014230 A 4593          LDA     FMLTBK    (A) = .  .                          04 04588
007406 006505 A 4594          JSR     FMSA,X    CLEAR LIST BUFFER TO BLANK          04 04589
007407 010130 R
007410 000044 A 4595          DATA    36        COUNT                               04 04590
007411 007637 R 4596          DATA    FMMLTB    ADDRESS                             04 04591
                4597 ******************                                            04 04592
                4598 * SET ADDRESSES *                                            04 04593
                4599 ******************                                            04 04594
007412 014221 A 4600          LDA     FMLTID    GET BASE ADDRESS OF ID INFORMATION  04 04595
007413 054021 A 4601          STA     FMLT06    SET SIZE ADDRESS                    04 04596
007414 120421 A 4602          ADD     ONE                                           04 04597
007415 054005 A 4603          STA     FMLT02    SET NAME ADDRESS                    04 04598
007416 120423 A 4604          ADD     FOUR                                          04 04599
007417 054010 A 4605          STA     FMLT04    SET DATE ADDRESS                    04 04600
                4606 ******************                                            04 04601
                4607 * MOVE ID NAME *                                             04 04602
                4608 ******************                                            04 04603
007420 010423 A 4609          LDA     FOUR      COUNT                               04 04604
007421 006505 A 4610          JSR     FMMV,X    MOVE NAME TO LIST BUFFER            04 04605
007422 003735 R
007423 000000 A 4611 FMLT02   DATA    0         FROM ADDRESS                        04 04606
007424 007640 R 4612          DATA    FMLTNM    TO ADDRESS                          04 04607
                4613 ******************                                            04 04608
                4614 * MOVE DATE *                                               04 04609
                4615 ******************                                            04 04610
007425 010423 A 4616          LDA     FOUR      COUNT                               04 04611
007426 006505 A 4617          JSR     FMMV,X    MOVE DATE TO LIST BUFFER            04 04612
007427 003735 R
007430 000000 A 4618 FMLT04   DATA    0         FROM ADDRESS                        04 04613
007431 007645 R 4619          DATA    FMLTDT    TO ADDRESS                          04 04614
                4620 ******************                                            04 04615
                4621 * MOVE SIZE *                                               04 04616
                4622 ******************                                            04 04617
007432 005101 A 4623          INCR    A         A.NE.0                              04 04618
007433 006505 A 4624          JSR     FMBA,X    FIRST MUST CONVERT TO ASCII         04 04619
007434 001061 R
007435 000000 A 4625 FMLT06   DATA    0         ADDRESS OF BINARY NUMBER            04 04620
007436 074003 A 4626          STX     FMLT08    SET ADDRESS OF PACKED STRING        04 04621
007437 010464 A 4627          LDA     THREE     COUNT                               04 04622
007440 006505 A 4628          JSR     FMMV,X    MOVE SIZE TO LIST BUFFER            04 04623
007441 003735 R
007442 000000 A 4629 FMLT08   DATA    0         FROM ADDRESS                        04 04624
007443 007652 R 4630          DATA    FMLTSZ    TO ADDRESS                          04 04625
                4631 ******************                                            04 04626
                4632 * GET ENTRY *                                               04 04627
                4633 ******************                                            04 04628
007444 014164 A 4634          LDA     FMLTCB    GET COMMAND BLOCK ADDRESS           04 04629
007445 120422 A 4635          ADD     TWO       COMPUTE FILE-NAME ADDRESS           04 04630
007446 054011 A 4636          STA     FMLT10                                        04 04631
007447 054030 A 4637          STA     FMLT14                                        04 04632
007450 120464 A 4638          ADD     THREE     COMPUTE NEW FILE-NAME ADDRESS       04 04633
007451 054037 A 4639          STA     FMLT18                                        04 04634
007452 054053 A 4640          STA     FMLT20                                        04 04635
007453 054060 A 4641          STA     FMLT24                                        04 04636
007454 054074 A 4642          STA     FMLT26                                        04 04637
007455 006505 A 4643          JSR     FMGT,X    GET AN ENTRY NAME                   04 04638
007456 007125 R
007457 006701 R 4644          DATA    FMMENT    ADDRESS OF STACK CONTROL BLOCK      04 04639
007460 000000 A 4645 FMLT10   DATA    0         ADDRESS OF WHERE TO PUT ITEM        04 04640
007461 001002 A 4646          JAP     FMLT12    JUMP IF ITEM TAKEN FROM STACK       04 04641
007462 007466 R
007463 010424 A 4647          LDA     EIGHT     NO ENTRY NAME                       04 04642
007464 001000 A 4648          JMP*    FMLTXX    EXIT WITH ERROR                     04 04643
007465 107627 R
        007466 R 4649 FMLT12  EQU     *                                             04 04644
                4650 ******************                                            04 04645
                4651 * CREATE FILE *                                              04 04646
                4652 ******************                                            04 04647
007466 006505 A 4653          JSR     FMCR,X                                        04 04648
007467 001451 R
007470 107631 R 4654          MZE     FMLTCB    ADDRESS OF COMMAND BLOCK            04 04649
007471 107632 R 4655          MZE     FMLTFC    FCB ADDRESS                         04 04650
007472 000000 A 4656          DATA    0                                             04 04651
007473 001016 A 4657          JANZ*   FMLTXX    EXIT IF ERROR                       04 04652
007474 107627 R
                4658 ******************                                            04 04653
                4659 * MOVE ENTRY *                                              04 04654
                4660 ******************                                            04 04655
007475 010464 A 4661          LDA     THREE     COUNT                               04 04656
007476 006505 A 4662          JSR     FMMV,X    MOVE IT                             04 04657
007477 003735 R
007500 000000 A 4663 FMLT14   DATA    0         FROM ADDRESS                        04 04658
007501 007657 R 4664          DATA    FMLTN1    TO ADDRESS                          04 04659
007502 001000 A 4665          JMP     FMLT22    PROCESS NEXT ENTRY                  04 04660
007503 007530 R
        007504 R 4666 FMLT16  EQU     *                                             04 04661
007504 005001 A 4667          TZA                                                   04 04662
007505 054241 A 4668          STA     FMLTII    RESET ITEM INDICATOR                04 04663
                4669 ******************                                            04 04664
                4670 * GET ENTRY 1 *                                             04 04665
                4671 ******************                                            04 04666
007506 006505 A 4672          JSR     FMGT,X    GET ITEM                            04 04667
007507 007125 R
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007510 006701 R 4673          DATA    FMMENT      ADDRESS OF STACK CONTROL BLOCK                    04 04668
007511 000000 A 4674 FMLT18   DATA    0           ADDRESS OF WHERE TO PUT ITEM                      04 04669
007512 001004 A 4675          JAN     FMLT28      JUMP IF NO ITEM TAKEN FROM STACK                  04 04670
007513 007553 R
                4676 **********************                                                        04 04671
                4677 * ENTER ENTRY NAME *                                                         04 04672
                4678 **********************                                                        04 04673
007514 006505 A 4679          JSR     FMEN,X      ATTACH ENTRY NAME TO EXISTING FILE-NAME           04 04674
007515 002330 R
007516 107631 R 4680          MZE     FMLTCB      ADDRESS OF COMMAND BLOCK                          04 04675
007517 107632 R 4681          MZE     FMLTFC      FCB ADDRESS                                       04 04676
007520 000000 A 4682          DATA    0                                                             04 04677
007521 001016 A 4683          JANZ*   FMLTXX      EXIT IF ERROR                                     04 04678
007522 107627 R
                4684 ******************                                                            04 04679
                4685 * MOVE ENTRY 1 *                                                             04 04680
                4686 ******************                                                            04 04681
007523 010464 A 4687          LDA     THREE       COUNT                                             04 04682
007524 006505 A 4688          JSR     FMMV,X      MOVE IT                                           04 04683
007525 003735 R
007526 000000 A 4689 FMLT20   DATA    0           FROM ADDRESS                                      04 04684
007527 007657 R 4690          DATA    FMLTN1      TO ADDRESS                                        04 04685
       007530 R 4691 FMLT22   EQU     *                                                             04 04686
007530 044216 A 4692          INR     FMLTII      INCREMENT ITEM INDICATOR                          04 04687
                4693 ******************                                                            04 04688
                4694 * GET ENTRY 2 *                                                              04 04689
                4695 ******************                                                            04 04690
007531 006505 A 4696          JSR     FMGT,X      GET ITEM                                          04 04691
007532 007125 R
007533 006701 R 4697          DATA    FMMENT      ADDRESS OF STACK CONTROL BLOCK                    04 04692
007534 000000 A 4698 FMLT24   DATA    0           ADDRESS OF WHERE TO PUT ITEM                      04 04693
007535 001004 A 4699          JAN     FMLT28      JUMP IF NO ITEM TAKEN FROM STACK                  04 04694
007536 007553 R
                4700 **********************                                                        04 04695
                4701 * ENTER ENTRY NAME *                                                         04 04696
                4702 **********************                                                        04 04697
007537 006505 A 4703          JSR     FMEN,X      ATTACH ENTRY NAME TO EXISTING FILE-NAME           04 04698
007540 002330 R
007541 107631 R 4704          MZE     FMLTCB      ADDRESS OF COMMAND BLOCK                          04 04699
007542 107632 R 4705          MZE     FMLTFC      FCB ADDRESS                                       04 04700
007543 000000 A 4706          DATA    0                                                             04 04701
007544 001016 A 4707          JANZ*   FMLTXX      EXIT IF ERROR                                     04 04702
007545 107627 R
                4708 ******************                                                            04 04703
                4709 * MOVE ENTRY 2 *                                                             04 04704
                4710 ******************                                                            04 04705
007546 010464 A 4711          LDA     THREE       COUNT                                             04 04706
007547 006505 A 4712          JSR     FMMV,X      MOVE IT                                           04 04707
007550 003735 R
007551 000000 A 4713 FMLT26   DATA    0           FROM ADDRESS                                      04 04708
007552 007663 R 4714          DATA    FMLTN2      TO ADDRESS                                        04 04709
       007553 R 4715 FMLT28   EQU     *                                                             04 04710
                4716 **********************                                                        04 04711
                4717 * GET EXTERNAL 1 *                                                           04 04712
                4718 **********************                                                        04 04713
007553 006505 A 4719          JSR     FMGT,X      GET ITEM                                          04 04714
007554 007125 R
007555 006704 R 4720          DATA    FMMEXT      ADDRESS OF STACK CONTROL BLOCK                    04 04715
007556 007670 R 4721          DATA    FMLTX1      ADDRESS OF WHERE TO PUT ITEM                      04 04716
007557 001004 A 4722          JAN     FMLT30      JUMP IF NO ITEM TAKEN FROM STACK                  04 04717
007560 007566 R
007561 044165 A 4723          INR     FMLTII      INCREMENT ITEM INDICATOR                          04 04718
                4724 **********************                                                        04 04719
                4725 * GET EXTERNAL 2 *                                                           04 04720
                4726 **********************                                                        04 04721
007562 006505 A 4727          JSR     FMGT,X      GET ITEM                                          04 04722
007563 007125 R
007564 006704 R 4728          DATA    FMMEXT      ADDRESS OF STACK CONTROL BLOCK                    04 04723
007565 007674 R 4729          DATA    FMLTX2      ADDRESS OF WHERE TO PUT ITEM                      04 04724
       007566 R 4730 FMLT30   EQU     *                                                             04 04725
007566 014160 A 4731          LDA     FMLTII      GET ITEM INDICATOR                                04 04726
007567 001010 A 4732          JAZ*    FMLTXX      EXIT IF NO MORE ITEMS                             04 04727
007570 107627 R
007571 034041 A 4733          LDX     FMLTLC      GET LINE COUNTER ADDRESS                          04 04728
007572 015000 A 4734          LDA     0,X         GET LINE COUNTER                                  04 04729
007573 001016 A 4735          JANZ    FMLT34      JUMP IF NOT AT END OF PAGE                        04 04730
007574 007611 R
                4736 **************************                                                    04 04731
                4737 * WRITE STANDARD HEADER *                                                     04 04732
                4738 **************************                                                    04 04733
007575 006505 A 4739          JSR     FMVH,X      OUTPUT STANDARD HEADER                            04 04734
007576 005113 R
007577 107633 R 4740          MZE     FMLTLC      ADDRESS OF LINE COUNTER                           04 04735
007600 001016 A 4741          JANZ*   FMLTXX      EXIT IF ERROR                                     04 04736
007601 107627 R
                4742 **********************                                                        04 04737
                4743 * WRITE LIST HEADER *                                                         04 04738
                4744 **********************                                                        04 04739
007602 006505 A 4745          JSR     FMWL,X      WRITE LIST HEADER                                 04 04740
007603 005346 R
007604 007750 R 4746          DATA    FMLTLH      DCB ADDRESS                                       04 04741
007605 107633 R 4747          MZE     FMLTLC      ADDRESS OF LINE COUNTER                           04 04742
                4748 **********                                                                    04 04743
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007405 014230 A 4593          LDA     FMLTBK    (A) = ' '                                  04 04583
007406 006505 A 4594          JSR     FMSA,X    CLEAR LIST BUFFER TO BLANK                 04 04589
007407 010130 R
007410 000044 A 4595          DATA    36        COUNT                                      04 04590
007411 007637 R 4596          DATA    FMMLTB    ADDRESS                                    04 04591
                4597 ******************                                                   04 04592
                4598 * SET ADDRESSES *                                                   04 04593
                4599 ******************                                                   04 04594
007412 014221 A 4600          LDA     FMLTID    GET BASE ADDRESS OF ID INFORMATION         04 04595
007413 054021 A 4601          STA     FMLT06    SET SIZE ADDRESS                           04 04596
007414 120421 A 4602          ADD     ONE                                                  04 04597
007415 054005 A 4603          STA     FMLT02    SET NAME ADDRESS                           04 04598
007416 120423 A 4604          ADD     FOUR                                                 04 04599
007417 054010 A 4605          STA     FMLT04    SET DATE ADDRESS                           04 04600
                4606 ******************                                                   04 04601
                4607 * MOVE ID NAME *                                                    04 04602
                4608 ******************                                                   04 04603
007420 010423 A 4609          LDA     FOUR      COUNT                                      04 04604
007421 006505 A 4610          JSR     FMMV,X    MOVE NAME TO LIST BUFFER                   04 04605
007422 003735 R
007423 000000 A 4611 FMLT02   DATA    0         FROM ADDRESS                               04 04606
007424 007640 R 4612          DATA    FMLTNM    TO ADDRESS                                 04 04607
                4613 ******************                                                   04 04608
                4614 * MOVE DATE *                                                      04 04609
                4615 ******************                                                   04 04610
007425 010423 A 4616          LDA     FOUR      COUNT                                      04 04611
007426 006505 A 4617          JSR     FMMV,X    MOVE DATE TO LIST BUFFER                   04 04612
007427 003735 R
007430 000000 A 4618 FMLT04   DATA    0         FROM ADDRESS                               04 04613
007431 007645 R 4619          DATA    FMLTDT    TO ADDRESS                                 04 04614
                4620 ******************                                                   04 04615
                4621 * MOVE SIZE *                                                      04 04616
                4622 ******************                                                   04 04617
007432 005101 A 4623          INCR    A         A.NE.0                                     04 04618
007433 006505 A 4624          JSR     FMBA,X    FIRST MUST CONVERT TO ASCII                04 04619
007434 001061 R
007435 000000 A 4625 FMLT06   DATA    0         ADDRESS OF BINARY NUMBER                   04 04620
007436 074003 A 4626          STX     FMLT08    SET ADDRESS OF PACKED STRING               04 04621
007437 010464 A 4627          LDA     THREE     COUNT                                      04 04622
007440 006505 A 4628          JSR     FMMV,X    MOVE SIZE TO LIST BUFFER                   04 04623
007441 003735 R
007442 000000 A 4629 FMLT08   DATA    0         FROM ADDRESS                               04 04624
007443 007652 R 4630          DATA    FMLTSZ    TO ADDRESS                                 04 04625
                4631 ******************                                                   04 04626
                4632 * GET ENTRY *                                                      04 04627
                4633 ******************                                                   04 04628
007444 014164 A 4634          LDA     FMLTCB    GET COMMAND BLOCK ADDRESS                  04 04629
007445 120422 A 4635          ADD     TWO       COMPUTE FILE-NAME ADDRESS                  04 04630
007446 054011 A 4636          STA     FMLT10                                               04 04631
007447 054030 A 4637          STA     FMLT14                                               04 04632
007450 120464 A 4638          ADD     THREE     COMPUTE NEW FILE-NAME ADDRESS              04 04633
007451 054037 A 4639          STA     FMLT18                                               04 04634
007452 054053 A 4640          STA     FMLT20                                               04 04635
007453 054060 A 4641          STA     FMLT24                                               04 04636
007454 054074 A 4642          STA     FMLT26                                               04 04637
007455 006505 A 4643          JSR     FMGT,X    GET AN ENTRY NAME                          04 04638
007456 007125 R
007457 006701 R 4644          DATA    FMMENT    ADDRESS OF STACK CONTROL BLOCK             04 04639
007460 000000 A 4645 FMLT10   DATA    0         ADDRESS OF WHERE TO PUT ITEM               04 04640
007461 001002 A 4646          JAP     FMLT12    JUMP IF ITEM TAKEN FROM STACK              04 04641
007462 007466 R
007463 010424 A 4647          LDA     EIGHT     NO ENTRY NAME                              04 04642
007464 001000 A 4648          JMP*    FMLTXX    EXIT WITH ERROR                            04 04643
007465 107627 R
       007466 R 4649 FMLT12   EQU     *                                                    04 04644
                4650 ******************                                                   04 04645
                4651 * CREATE FILE *                                                     04 04646
                4652 ******************                                                   04 04647
007466 006505 A 4653          JSR     FMCR,X                                             04 04648
007467 001451 R
007470 107631 R 4654          MZE     FMLTCB    ADDRESS OF COMMAND BLOCK                   04 04649
007471 107632 R 4655          MZE     FMLTFC    FCB ADDRESS                                04 04650
007472 000000 A 4656          DATA    0                                                    04 04651
007473 001016 A 4657          JANZ*   FMLTXX    EXIT IF ERROR                              04 04652
007474 107627 R
                4658 ******************                                                   04 04653
                4659 * MOVE ENTRY *                                                     04 04654
                4660 ******************                                                   04 04655
007475 010464 A 4661          LDA     THREE     COUNT                                      04 04656
007476 006505 A 4662          JSR     FMMV,X    MOVE IT                                    04 04657
007477 003735 R
007500 000000 A 4663 FMLT14   DATA    0         FROM ADDRESS                               04 04658
007501 007657 R 4664          DATA    FMLTN1    TO ADDRESS                                 04 04659
007502 001000 A 4665          JMP     FMLT22    PROCESS NEXT ENTRY                         04 04660
007503 007530 R
       007504 R 4666 FMLT16   EQU     *                                                    04 04661
007504 005001 A 4667          TZA               RESET ITEM INDICATOR                       04 04662
007505 054241 A 4668          STA     FMLTII                                               04 04663
                4669 ******************                                                   04 04664
                4670 * GET ENTRY 1 *                                                     04 04665
                4671 ******************                                                   04 04666
007506 006505 A 4672          JSR     FMGT,X    GET ITEM                                   04 04667
007507 007125 R
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007510 006701 R 4673          DATA    FMMENT    ADDRESS OF STACK CONTROL BLOCK                    04 04668
007511 000000 A 4674 FMLT18   DATA    0         ADDRESS OF WHERE TO PUT ITEM                      04 04669
007512 001004 A 4675          JAN     FMLT28    JUMP IF NO ITEM TAKEN FROM STACK                  04 04670
007513 007553 R
                    4676 **********************                                                  04 04671
                    4677 * ENTER ENTRY NAME *                                                   04 04672
                    4678 **********************                                                  04 04673
007514 006505 A 4679          JSR     FMEN,X    ATTACH ENTRY NAME TO EXISTING FILE-NAME           04 04674
007515 002330 R
007516 107631 R 4680          MZE     FMLTCB    ADDRESS OF COMMAND BLOCK                          04 04675
007517 107632 R 4681          MZE     FMLTFC    FCB ADDRESS                                       04 04676
007520 000000 A 4682          DATA    0                                                           04 04677
007521 001016 A 4683          JANZ*   FMLTXX    EXIT IF ERROR                                     04 04678
007522 107627 R
                    4684 ******************                                                      04 04679
                    4685 * MOVE ENTRY 1 *                                                       04 04680
                    4686 ******************                                                      04 04681
007523 010464 A 4687          LDA     THREE     COUNT                                             04 04682
007524 006505 A 4688          JSR     FMMV,X    MOVE IT                                           04 04683
007525 003735 R
007526 000000 A 4689 FMLT20   DATA    0         FROM ADDRESS                                      04 04684
007527 007657 R 4690          DATA    FMLTN1    TO ADDRESS                                        04 04685
       007530 R 4691 FMLT22   EQU     *                                                           04 04686
007530 044216 A 4692          INR     FMLTII    INCREMENT ITEM INDICATOR                          04 04687
                    4693 ******************                                                      04 04688
                    4694 * GET ENTRY 2 *                                                       04 04689
                    4695 ******************                                                      04 04690
007531 006505 A 4696          JSR     FMGT,X    GET ITEM                                          04 04691
007532 007125 R
007533 006701 R 4697          DATA    FMMENT    ADDRESS OF STACK CONTROL BLOCK                    04 04692
007534 000000 A 4698 FMLT24   DATA    0         ADDRESS OF WHERE TO PUT ITEM                      04 04693
007535 001004 A 4699          JAN     FMLT28    JUMP IF NO ITEM TAKEN FROM STACK                  04 04694
007536 007553 R
                    4700 **********************                                                  04 04695
                    4701 * ENTER ENTRY NAME *                                                   04 04696
                    4702 **********************                                                  04 04697
007537 006505 A 4703          JSR     FMEN,X    ATTACH ENTRY NAME TO EXISTING FILE-NAME           04 04698
007540 002330 R
007541 107631 R 4704          MZE     FMLTCB    ADDRESS OF COMMAND BLOCK                          04 04699
007542 107632 R 4705          MZE     FMLTFC    FCB ADDRESS                                       04 04700
007543 000000 A 4706          DATA    0                                                           04 04701
007544 001016 A 4707          JANZ*   FMLTXX    EXIT IF ERROR                                     04 04702
007545 107627 R
                    4708 ******************                                                      04 04703
                    4709 * MOVE ENTRY 2 *                                                       04 04704
                    4710 ******************                                                      04 04705
007546 010464 A 4711          LDA     THREE     COUNT                                             04 04706
007547 006505 A 4712          JSR     FMMV,X    MOVE IT                                           04 04707
007550 003735 R
007551 000000 A 4713 FMLT26   DATA    0         FROM ADDRESS                                      04 04708
007552 007663 R 4714          DATA    FMLTN2    TO ADDRESS                                        04 04709
       007553 R 4715 FMLT28   EQU     *                                                           04 04710
                    4716 **********************                                                  04 04711
                    4717 * GET EXTERNAL 1 *                                                     04 04712
                    4718 **********************                                                  04 04713
007553 006505 A 4719          JSR     FMGT,X    GET ITEM                                          04 04714
007554 007125 R
007555 006704 R 4720          DATA    FMMEXT    ADDRESS OF STACK CONTROL BLOCK                    04 04715
007556 007670 R 4721          DATA    FMLTX1    ADDRESS OF WHERE TO PUT ITEM                      04 04716
007557 001004 A 4722          JAN     FMLT30    JUMP IF NO ITEM TAKEN FROM STACK                  04 04717
007560 007566 R
007561 044165 A 4723          INR     FMLTII    INCREMENT ITEM INDICATOR                          04 04718
                    4724 **********************                                                  04 04719
                    4725 * GET EXTERNAL 2 *                                                     04 04720
                    4726 **********************                                                  04 04721
007562 006505 A 4727          JSR     FMGT,X    GET ITEM                                          04 04722
007563 007125 R
007564 006704 R 4728          DATA    FMMEXT    ADDRESS OF STACK CONTROL BLOCK                    04 04723
007565 007674 R 4729          DATA    FMLTX2    ADDRESS OF WHERE TO PUT ITEM                      04 04724
       007566 R 4730 FMLT30   EQU     *                                                           04 04725
007566 014160 A 4731          LDA     FMLTII    GET ITEM INDICATOR                                04 04726
007567 001010 A 4732          JAZ*    FMLTXX    EXIT IF NO MORE ITEMS                             04 04727
007570 107627 R
007571 034041 A 4733          LDX     FMLTLC    GET LINE COUNTER ADDRESS                          04 04728
007572 015000 A 4734          LDA     0,X       GET LINE COUNTER                                  04 04729
007573 001016 A 4735          JANZ    FMLT34    JUMP IF NOT AT END OF PAGE                        04 04730
007574 007611 R
                    4736 **************************                                             04 04731
                    4737 * WRITE STANDARD HEADER *                                              04 04732
                    4738 **************************                                             04 04733
007575 006505 A 4739          JSR     FMVH,X    OUTPUT STANDARD HEADER                            04 04734
007576 003113 R
007577 107633 R 4740          MZE     FMLTLC    ADDRESS OF LINE COUNTER                           04 04735
007600 001016 A 4741          JANZ*   FMLTXX    EXIT IF ERROR                                     04 04736
007601 107627 R
                    4742 **************************                                             04 04737
                    4743 * WRITE LIST HEADER *                                                  04 04738
                    4744 **************************                                             04 04739
007602 006505 A 4745          JSR     FMWL,X    WRITE LIST HEADER                                 04 04740
007603 005342 R
007604 007750 R 4746          DATA    FMLTLH    DCB ADDRESS                                       04 04741
007605 107633 R 4747          MZE     FMLTLC    ADDRESS OF LINE COUNTER                           04 04742
                    4748 ***************                                                        04 04743
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                    4749 * FEED LINE *                                                                  04 04744
                    4750 ***************                                                                04 04745
007606 006505 A     4751          JSR     FMLF,X      LINE FEED                                         04 04746
007607 003320 R
007610 107633 R     4752          MZE     FMLTLC      ADDRESS OF LINE COUNTER                           04 04747
       007611 R     4753 FMLT34   EQU     *                                                             04 04748
                    4754 ***************                                                                04 04749
                    4755 * LIST DATA *                                                                  04 04750
                    4756 ***************                                                                04 04751
007611 006505 A     4757          JSR     FMWL,X      LIST DM DATA                                      04 04752
007612 005342 R
007613 007753 R     4758          DATA    FMLTLB      DCB ADDRESS                                       04 04753
007614 107633 R     4759          MZE     FMLTLC      ADDRESS OF LINE COUNTER                           04 04754
                    4760 ******************                                                             04 04755
                    4761 * CLEAR BUFFER *                                                               04 04756
                    4762 ******************                                                             04 04757
007615 014020 A     4763          LDA     FMLTBK      (A) = '  '                                        04 04758
007616 006505 A     4764          JSR     FMSA,X      CLEAR LIST BUFFER TO BLANK                        04 04759
007617 010130 R
007620 000044 A     4765          DATA    36          COUNT                                             04 04760
007621 007637 R     4766          DATA    FMMLTB      ADDRESS                                           04 04761
007622 001000 A     4767          JMP     FMLT16      GET NEXT NAMES                                    04 04762
007623 007504 R
                    4768 *********                                                                     04 04763
                    4769 * ENTRY *                                                                     04 04764
                    4770 *********                                                                     04 04765
007624 074002 A     4771 FMLT     STX     FMLTXX      SAVE EXIT                                         04 04766
007625 006505 A     4772          JSR     FMPT,X      XFER PARAMETERS                                   04 04767
007626 004457 R
007627              4773 FMLTXX   BSS     1           RETURN ADDRESS                                    04 04768
007630 000004 A     4774          DATA    4           4 PARAMETERS                                      04 04769
007631              4775 FMLTCB   BSS     1           ADDRESS OF COMMAND BLOCK                          04 04770
007632              4776 FMLTFC   BSS     1           FCB ADDRESS                                       04 04771
007633              4777 FMLTLC   BSS     1           ADDRESS OF LINE COUNTER                           04 04772
007634              4778 FMLTID   BSS     1           ADDRESS OF ID INFORMATION                         04 04773
007635 007405 R     4779          DATA    FMLT00      FMLT START ADDRESS                                04 04774
007636 120240 A     4780 FMLTBK   DATA    '  '        TWO ASCII BLANKS                                  04 04775
       007637 R     4781 FMMLTB   EQU     *           LIST BUFFER                                       04 04776
007637              4782          BSS     1                                                             04 04777
007640              4783 FMLTNM   BSS     4           DM NAME                                           04 04778
007644              4784          BSS     1                                                             04 04779
007645              4785 FMLTDT   BSS     4           DM DATE                                           04 04780
007651              4786          BSS     1                                                             04 04781
007652              4787 FMLTSZ   BSS     3           DM SIZE                                           04 04782
007655              4788          BSS     2                                                             04 04783
007657              4789 FMLTN1   BSS     3           ENTRY NAME-POSITION 1                             04 04784
007662              4790          BSS     1                                                             04 04785
007663              4791 FMLTN2   BSS     3           ENTRY NAME-POSITION 2                             04 04786
007666              4792          BSS     2                                                             04 04787
007670              4793 FMLTX1   BSS     3           EXTERNAL NAME-POSITION 1                          04 04788
007673              4794          BSS     1                                                             04 04789
007674              4795 FMLTX2   BSS     3           EXTERNAL NAME-POSITION 2                          04 04790
007677              4796          BSS     4                                                             04 04791
007703 120240 A     4797 FMLTHD   DATA    '   ID NAME     DATE     SIZE     '                           04 04792
007704 144704 A
007705 120316 A
007706 140715 A
007707 142640 A
007710 120240 A
007711 120240 A
007712 142301 A
007713 152305 A
007714 120240 A
007715 120240 A
007716 120323 A
007717 144732 A
007720 142640 A
007721 120240 A
007722 120240 A
007723 120305 A     4798          DATA    ' ENTRY NAMES      EXTERNAL NAMES      '                      04 04793
007724 147324 A
007725 151331 A
007726 120316 A
007727 140715 A
007730 142723 A
007731 120240 A
007732 120240 A
007733 120240 A
007734 142730 A
007735 152305 A
007736 151316 A
007737 140714 A
007740 120316 A
007741 140715 A
007742 142723 A
007743 120240 A
007744 120240 A
007745 120240 A
007746 120240 A
007747 000000 A     4799 FMLTII   DATA    0           ITEM INDICATOR                                    04 04794
                    4800 FMLTLH   DCB     36,FMLTHD,1                                                   04 04795
007750 000044 A
007751 007703 R
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007752 000001 A
                4801 FMLTLB DCB     36,FMMLTB,1                                                  04 04796
007753 000044 A
007754 007637 R
007755 000001 A
                4802         EJEC                                                                04 04797
                4803 ********************************************************************************* 04 04798
                4804 *                                                                           04 04799
                4805 *                              OUTPUT RECORD (FMOR)                         04 04800
                4806 *                                                                           04 04801
                4807 * FUNCTION: OUTPUT A RECORD AND INCREMENT RECORD NUMBER IF NECESSARY        04 04802
                4808 *                                                                           04 04803
                4809 * ENTRY: NO SPECIAL CONDITIONS                                             04 04804
                4810 *                                                                           04 04805
                4811 * CALLING SEQUENCE: JSR   FMOR,X                                           04 04806
                4812 *                    DATA  BUFFER ADDRESS LOCATION                         04 04807
                4813 *                    DATA  RECORD COUNT ADDRESS                            04 04808
                4814 *                    DATA  ADDRESS OF WORDS PER SECTOR                     04 04809
                4815 *                    DATA  FCB ADDRESS                                     04 04810
                4816 *                    DATA  ADDRESS OF LOGICAL UNIT NUMBER                  04 04811
                4817 *                                                                           04 04812
                4818 * EXIT: A=0 IF NO ERRORS                                                   04 04813
                4819 *                                                                           04 04814
                4820 * ERRORS: A=5 IF I/O ERROR                                                 04 04815
                4821 *                                                                           04 04816
                4822 ********************************************************************************* 04 04817
        007756  R 4823 FMOR00  EQU     *                                                       04 04818
007756  006010  A 4824         LDAI    FMBF            GET BUFFER ADDRESS                      04 04819
007757  005667  R
007760  024033  A 4825         LDB     FMORFC          GET FCB ADDRESS                         04 04820
007761  056001  A 4826         STA     1,B             SET BUFFER ADDRESS IN FCB               04 04821
007762  064003  A 4827         STB     FMOR10          SET FCB ADDRESS IN WRITE CALL           04 04822
007763  006505  A 4828         JSR     FMWR,X          WRITE THE RECORD                        04 04823
007764  005611  R
007765  110015  R 4829         MZE     FMORLU          ADDRESS OF LUN                          04 04824
007766            4830 FMOR10   BSS     1               FCB ADDRESS                             04 04825
007767  001016  A 4831         JANZ*   FMORXX          EXIT IF I/O ERROR                       04 04826
007770  110007  R
007771  034020  A 4832         LDX     FMORRC          GET ADDRESS OF RECORD COUNT             04 04827
007772  015000  A 4833         LDA     0,X             GET RECORD COUNT                        04 04828
007773  005002  A 4834         TZB                                                             04 04829
007774  004541  A 4835         LLSR    1               IS RECORD COUNT EVEN? - 0,2,4,6,...     04 04830
007775  001020  A 4836         JBZ     FMOR20          JUMP IF RECORD COUNT EVEN               04 04831
007776  010001  R
007777  034014  A 4837         LDX     FMORFC          GET FCB ADDRESS                         04 04832
010000  045003  A 4838         INR     3,X             INCREMENT RELATIVE SECTOR NUMBER        04 04833
        010001  R 4839 FMOR20  EQU     *                                                       04 04834
010001  005001  A 4840         TZA                     A=0 NO ERRORS                           04 04835
010002  001000  A 4841         JMP*    FMORXX          EXIT                                    04 04836
010003  110007  R
                4842 *********                                                                  04 04837
                4843 * ENTRY *                                                                  04 04838
                4844 *********                                                                  04 04839
010004  074002  A 4845 FMOR    STX     FMORXX          SAVE EXIT                               04 04840
010005  006505  A 4846         JSR     FMPT,X          XFER PARAMETERS                         04 04841
010006  004457  R
010007            4847 FMORXX   BSS     1               RETURN ADDRESS                          04 04842
010010  000005  A 4848         DATA    5               5 PARAMETERS                            04 04843
010011            4849 FMORBA   BSS     1               BUFFER ADDRESS LOCATION                 04 04844
010012            4850 FMORRC   BSS     1               RECORD COUNT ADDRESS                    04 04845
010013            4851 FMORWS   BSS     1               ADDRESS OF WORDS PER SECTOR             04 04846
010014            4852 FMORFC   BSS     1               FCB ADDRESS                             04 04847
010015            4853 FMORLU   BSS     1               ADDRESS OF LUN                          04 04848
010016  007756  R 4854         DATA    FMOR00          FMOR START ADDRESS                      04 04849
                4855         EJEC                                                                04 04850
                4856 ********************************************************************************* 04 04851
                4857 *                                                                           04 04852
                4858 *                          PUT ITEM IN STACK (FMPU)                         04 04853
                4859 *                                                                           04 04854
                4860 * FUNCTION: PUT ITEM INTO TOP OF STACK                                     04 04855
                4861 *                                                                           04 04856
                4862 * ENTRY: NO SPECIAL CONDITIONS                                             04 04857
                4863 *                                                                           04 04858
                4864 * CALLING SEQUENCE: JSR   FMPU,X                                          04 04859
                4865 *                    DATA ADDRESS OF STACK CONTROL BLOCK                   04 04860
                4866 *                    DATA ADDRESS OF WHERE ITEM IS                         04 04861
                4867 *                                                                           04 04862
                4868 * EXIT:  A-REG. = +1 IF ITEM PUT INTO STACK                                04 04863
                4869 *        A-REG. = -1 IF NO ROOM IN MEMORY TO PUT ITEM IN STACK             04 04864
                4870 *                                                                           04 04865
                4871 ********************************************************************************* 04 04866
        010017  R 4872 FMPU00  EQU     *                                                       04 04867
010017  034073  A 4873         LDX     FMPUSA          GET ADDRESS OF STACK CONTROL BLOCK      04 04868
010020  006017  A 4874         LDAE    FMESTK          GET END OF STACK ADDRESS                04 04869
010021  006705  R
010022  125002  A 4875         ADD     2,X             + ENTRY LENGTH                          04 04870
010023  140317  A 4876         SUB     V$LLUP          - TOP OF BACKGROUND                     04 04871
010024  001004  A 4877         JAN     FMPU01          JUMP IF THERE IS ROOM                   04 04872
010025  010031  R
010026  005301  A 4878         DECR    A               NO MEMORY LEFT                          04 04873
010027  001000  A 4879         JMP*    FMPUXX          RETURN ERROR                            04 04874
010030  110111  R
        010031  R 4880 FMPU01  EQU     *                                                       04 04875
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010031 024062 A 4881          LDB     FMPUAI      GET ADDRESS OF ITEM                    04 04876
010032 064027 A 4882          STB     FMPU08      FROM ADDRESS                           04 04877
010033 015002 A 4883          LDA     2,X         GET ENTRY LENGTH                       04 04878
010034 054022 A 4884          STA     FMPU06      SAVE FOR COUNT                         04 04879
010035 015001 A 4885          LDA     1,X         GET TOP ADDRESS                        04 04880
010036 054024 A 4886          STA     FMPU08+1    TO ADDRESS                             04 04881
010037 015003 A 4887          LDA     3,X         GET NEXT BASE POINTER                  04 04882
010040 001004 A 4888          JAN     FMPU04      JUMP IF NO NEXT STACK                  04 04883
010041 010056 R
010042 054011 A 4889          STA     FMPU02      FROM ADDRESS                           04 04884
010043 125002 A 4890          ADD     2,X         + ENTRY LENGTH                         04 04885
010044 054010 A 4891          STA     FMPU02+1    TO ADDRESS                             04 04886
010045 006017 A 4892          LDAE    FMESTK      GET END OF STACK ADDRESS               04 04887
010046 006705 R
010047 145003 A 4893          SUB     3,X         - NEXT BASE                            04 04888
010050 001010 A 4894          JAZ     FMPU04      JUMP IF COUNT ZERO                     04 04889
010051 010056 R
010052 006505 A 4895          JSR     FMMV,X      MOVE EVERYBODY DOWN                    04 04890
010053 003735 R
010054 000000 A 4896 FMPU02   DATA    0           FROM ADDRESS                           04 04891
010055 000000 A 4897          DATA    0           TO ADDRESS                             04 04892
       010056 R 4898 FMPU04   EQU     *                                                  04 04893
010056 006010 A 4899          LDAI    0           PICK-UP COUNT                          04 04894
010057 000000 A
       010057 R 4900 FMPU06   EQU     *-1         COUNT                                  04 04895
010060 006505 A 4901          JSR     FMMV,X      PUT ITEM INTO STACK                    04 04896
010061 003735 R
010062 000000 A 4902 FMPU08   DATA    0           FROM ADDRESS                           04 04897
010063 000000 A 4903          DATA    0           TO ADDRESS                             04 04898
                4904 **********************************                                 04 04899
                4905 * UPDATE TOP & BASE POINTERS *                                      04 04900
                4906 **********************************                                 04 04901
010064 034026 A 4907          LDX     FMPUSA      RESTORE E-REG.                         04 04902
       010064 R 4908 FMPU10   EQU     *-1                                                04 04903
010065 005042 A 4909          TXB                                                        04 04904
       010066 R 4910 FMPU12   EQU     *                                                  04 04905
010066 016001 A 4911          LDA     1,B         GET TOP ADDRESS                        04 04906
010067 125002 A 4912          ADD     2,X         PLUS ENTRY LENGTH                      04 04907
010070 056001 A 4913          STA     1,B         PUT IT BACK                            04 04908
010071 005122 A 4914          IBR                                                        04 04909
010072 005122 A 4915          IBR                                                        04 04910
010073 005122 A 4916          IBR                                                        04 04911
010074 016000 A 4917          LDA     0,B         GET BASE                               04 04912
010075 001004 A 4918          JAN     FMPU14      JUMP IF END OF STACK CONTROL BLOCK     04 04913
010076 010103 R
010077 125002 A 4919          ADD     2,X         PLUS ENTRY LENGTH                      04 04914
010100 056000 A 4920          STA     0,B         PUT IT BACK                            04 04915
010101 001000 A 4921          JMP     FMPU12                                             04 04916
010102 010066 R
010103 005101 A 4922 FMPU14   INCR    1           A=+1                                   04 04917
010104 001000 A 4923          JMP*    FMPUXX      RETURN                                 04 04918
010105 110111 R
                4924 *********                                                          04 04919
                4925 * ENTRY *                                                          04 04920
                4926 *********                                                          04 04921
010106 074002 A 4927 FMPU     STX     FMPUXX      SAVE EXIT                              04 04922
010107 006505 A 4928          JSR     FMPT,X      XFER PARAMETERS                        04 04923
010110 004457 R
010111          4929 FMPUXX   BSS     1           RETURN ADDRESS                         04 04924
010112 000002 A 4930          DATA    2           2 PARAMETERS                           04 04925
010113          4931 FMPUSA   BSS     1           ADDRESS OF STACK CONTROL BLOCK         04 04926
010114          4932 FMPUAI   BSS     1           ADDRESS OF ITEM                        04 04927
010115 010017 R 4933          DATA    FMPU00      FMPU START ADDRESS                     04 04928
                4934          EJEC                                                       04 04929
                4935 ***************************************************************** 04 04930
                4936 *                                                                 04 04931
                4937 *                        STORE A-REG (FMSA)                       04 04932
                4938 *                                                                 04 04933
                4939 * FUNCTION: TO STORE THE A-REGISTER REPEATEDLY                     04 04934
                4940 *                                                                 04 04935
                4941 * ENTRY: (A) = WORD TO BE STORED                                  04 04936
                4942 *                                                                 04 04937
                4943 * CALLING SEQUENCE: JSR   FMSA,X                                 04 04938
                4944 *                   DATA  COUNT                                  04 04939
                4945 *                   DATA  ADDRESS                                04 04940
                4946 *                                                                 04 04941
                4947 * EXIT: NO SPECIAL CONDITIONS                                     04 04942
                4948 *                                                                 04 04943
                4949 ***************************************************************** 04 04944
       010116 R 4950 FMSA00   EQU     *                                                  04 04945
010116 024017 A 4951          LDB     FMSAAD      GET ADDRESS                            04 04946
010117 064003 A 4952          STB     FMSA10      SET ADDRESS IN LOOP                    04 04947
010120 034014 A 4953          LDX     FMSACT      GET COUNT                              04 04948
       010121 R 4954 FMSA05   EQU     *                                                  04 04949
010121 005344 A 4955          DXR                 DECREMENT COUNT                        04 04950
010122 006055 A 4956          STAE    0,X         STORE 'A-REG'                          04 04951
010123 000000 A
       010123 R 4957 FMSA10   EQU     *-1                                                04 04952
010124 001046 A 4958          JXNZ    FMSA05      JUMP IF NOT DONE                       04 04953
010125 010121 R
010126 001000 A 4959          JMP*    FMSAXX      RETURN IF DONE                         04 04954
010127 110133 R
                4960 *********                                                          04 04955
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                    4961 * ENTRY *                                                                          04 04956
                    4962 *********                                                                          04 04957
010130 074002 A     4963 FMSA    STX     FMSAXX          SAVE EXIT                                          04 04958
010131 006505 A     4964         JSR     FMPT,X          XFER PARAMETERS                                    04 04959
010132 004457 R
010133              4965 FMSAXX  BSS     1               RETURN ADDRESS                                     04 04960
010134 000002 A     4966         DATA    2               2 PARAMETERS                                       04 04961
010135              4967 FMSACT  BSS     1               COUNT                                              04 04962
010136              4968 FMSAAD  BSS     1               ADDRESS                                            04 04963
010137 010116 R     4969         DATA    FMSA00          FMSA START ADDRESS                                 04 04964
                    4970         EJEC                                                                       04 04965
       000001 A     4971 A       EQU     1                                                                  04 04966
       000146 A     4972 SW      EQU     102                                                                04 04967
                    4973         EJEC                                                                       04 04968
                    4974 *                                                                                  04 04969
                    4975 *          SUBROUTINE TO DETERMINE IF CALLER'S LOGICAL                             04 04970
                    4976 *          UNIT IS SAME AS THE 'SI' DEVICE AND ALSO                                04 04971
                    4977 *          A ROTATING MEMORY DEVICE. CALLING SEQUENCE IS:                          04 04972
                    4978 *                                                                                  04 04973
                    4979 *                          JSR     V$CKSI,X                                        04 04974
                    4980 *                                                                                  04 04975
                    4981 *          ENTRANCE PARAMETER: A REGISTER CONTAINS LOG. UNIT NO.                   04 04976
                    4982 *          RETURN PARAMETER:  A REGISTER = 0- LUN ='SI' AND RMD.                   04 04977
                    4983 *                             A REG. NOT 0- LUN NOT = 'SI' AND RMD.                04 04978
                    4984 *                B REGISTER IS SAVED AND RESTORED.                                 04 04979
                    4985 *                                                                                  04 04980
010140 074127 A     4986 V$CKSI  STX     CKSIX           SAVE X REGISTER                                    04 04981
010141 064127 A     4987         STB     CKSIB           SAVE B REGISTER                                    04 04982
010142 120400 A     4988         ADD     V$LUT1          ADD BASE OF LUN TABLE                              04 04983
010143 005014 A     4989         TAX                                                                        04 04984
010144 015000 A     4990         LDA     0,X             GET LUN ENTRY NUMBER                               04 04985
010145 150463 A     4991         ANA     BM377                                                              04 04986
010146 054123 A     4992         STA     CKSIT           SAVE LUN POINTER                                   04 04987
010147 010422 A     4993         LDA     TWO                                                                04 04988
010150 120400 A     4994         ADD     V$LUT1                                                             04 04989
010151 005014 A     4995         TAX                                                                        04 04990
010152 015000 A     4996         LDA     0,X             GET 'SI' LUN ENTRY                                 04 04991
010153 150463 A     4997         ANA     BM377                                                              04 04992
010154 144115 A     4998         SUB     CKSIT                                                              04 04993
010155 001010 A     4999         JAZ     CKSI2           JUMP IF CALLER'S LUN EQUALS TO 'SI' LUN            04 04994
010156 010163 R
010157 024111 A     5000 CKSI1   LDB     CKSIB                                                              04 04995
010160 034107 A     5001         LDX     CKSIX                                                              04 04996
010161 006705 A     5002         IJMP    0,X             EXIT                                               04 04997
010162 000000 A
010163 124106 A     5003 CKSI2   ADD     CKSIT                                                              04 04998
010164 005311 A     5004         DAR                                                                        04 04999
010165 054106 A     5005         STA     CKSIT                                                              04 05000
010166 004201 A     5006         ASLA    1                                                                  04 05001
010167 124102 A     5007         ADD     CKSIT                                                              04 05002
010170 120355 A     5008         ADD     V$DSTB                                                             04 05003
010171 005012 A     5009         TAB                                                                        04 05004
010172 016001 A     5010         LDA     1,B                                                                04 05005
010173 004350 A     5011         LSRA    8               IS DEVICE A RMD ?                                  04 05006
010174 006617 A     5012         SRE     N304,7,010                                                         04 05007
010175 010267 R
010176 005101 A     5013         INCR    1               NO,RETURN NON ZERO                                 04 05008
010177 001006 A     5014         DATA    01006           SKIP ONE WORD                                      04 05009
010200 005001 A     5015         TZA                                                                        04 05010
010201 001000 A     5016         JMP     CKSI1           YES RETURN 0                                       04 05011
010202 010157 R
                    5017 *                                                                                  04 05012
                    5018 *          THIS ROUTINE DETERMINES IF THE LOGICAL UNIT IS ON A RMD                 04 05013
                    5019 *                                                                                  04 05014
                    5020 *          CALLING SEQUENCE                                                        04 05015
                    5021 *          CALL    RMD,X           X=LUN                                           04 05016
                    5022 *          RETURN  A REG=0 IF ON RMD                                               04 05017
                    5023 *                                                                                  04 05018
010203 034046 A     5025 RMD1    LDX     RMD                                                        D.104 04 05020
010204 044045 A     5026         INR     RMD             BUMP EXIT                                  D.104 04 05021
010205 015000 A     5027         LDA     0,X             LUN                                        D.104 04 05022
010206 005012 A     5028         TAB                                                                D.104 04 05023
010207 034053 A     5029         LDX     RMDLUT          LUN BLOCK TABLE                            D.104 04 05024
010210 005322 A     5030         DBR                     LUT BLOCK 1 IS BASE 1                      D.104 04 05025
010211 006140 A     5031         SUBI    101                                                        D.104 04 05026
010212 000145 A
010213 001004 A     5032         JAN     RMD5            IF LUN IN LUT 1                            D.104 04 05027
010214 010225 R
010215 005012 A     5033         TAB                                                                D.104 04 05028
010216 005144 A     5034         IXR             NEXT LUT ADDR                                      D.104 04 05029
010217 006140 A     5035         SUBI    79                                                         D.104 04 05030
010220 000117 A
010221 001004 A     5036         JAN     RMD5            IF LUN IN LUT 2                            D.104 04 05031
010222 010225 R
010223 005012 A     5037         TAB                     LUN IS IN LUT 3                            D.104 04 05032
010224 005144 A     5038         IXR                                                                D.104 04 05033
010225 035000 A     5039 RMD5    LDX     0,X             LUT LOW CORE POINTER                       D.104 04 05034
010226 005021 A     5040         TBA                     LUN                                        D.104 04 05035
010227 125000 A     5041         ADD     0,X             LUT BASE                                   D.104 04 05036
010230 005114 A     5042         INCR    014             LUT ENTRY                                  D.104 04 05037
010231 015000 A     5043         LDA     0,X                                                        D.104 04 05038
010232 150463 A     5044         ANA     RMW             CURRENT LUN ASSIGNMENT                     D.104 04 05039
010233 005311 A     5045         LAR                     BIAS ZERO                                  D.104 04 05040
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010234 054024 A 5046          STA     RMDT                                                    D.104 05041
010235 004241 A 5047          LRLA    1           *2                                          D.104 05042
010236 124022 A 5048          ADD     RMDT        *3                                          D.104 05043
010237 120355 A 5049          ADD     V$DSTB      DST BASE ADDR                               D.104 05044
010240 005014 A 5050          TAX                                                             D.104 05045
010241 015002 A 5051          LDA     2,X                                                     D.104 05046
010242 004346 A 5052          LSRA    6                                                       D.104 05047
010243 150473 A 5053          ANA     BM37        GET PST INCREMENT (NON ZERO IF RMD)         D.104 05048
010244 003016 A 5054          XANZ    RMDSET      A = -1 IF NOT RMD                           D.104 05049
010245 010262 R
010246 005211 A 5055          CPA                 A = 0 IF RMD                                D.104 05050
010247 024007 A 5056          LDB     RMDB                                                    D.104 05051
010250 034007 A 5057          LDX     RMDX                                                    D.104 05052
010251 001000 A 5058          JMP     *-*         RETURN                                      D.104 05053
010252 000000 A
010252                5059 RMD    BES     0                                                   D.104 05054
010253 064003 A 5060          STB     RMDB                                                    D.104 05055
010254 074003 A 5061          STX     RMDX                                                    D.104 05056
010255 001000 A 5062          JMP     RMD1                                                    D.104 05057
010256 010203 R
                      5063 *                                                                  D.104 05058
010257 000000 A 5064 RMDB     DATA    0                                                       D.104 05059
010260 000000 A 5065 RMDX     DATA    0                                                       D.104 05060
010261 000000 A 5066 RMDT     DATA    0           TEMP STORAGE                                D.104 05061
010262 005301 A 5067 RMDSET   DECR    1           SET A = -1                                  D.104 05062
010263 010264 R 5068 RMDLUT   PZE     *+1         LUN BLOCK POINTER                           D.104 05063
010264 000400 A 5069          PZE     V$LUT1      LUN 1-100                                   D.104 05064
010265 000401 A 5070          PZE     V$LUT2      LUN 101-179                                 D.104 05065
010266 000402 A 5071          PZE     V$LUT3      LUN 180-255                                 D.104 05066
       000355 A 5072 V$DSTB   EQU     0355                                                      04 05067
       000400 A 5073 V$LUT1   EQU     0400                                                      04 05068
010267 000304 A 5074 N304     DATA    0304                                                      04 05069
010270 000000 A 5075 CKSIX    DATA    0                                                         04 05070
010271 000000 A 5076 CKSIB    DATA    0                                                         04 05071
010272 000000 A 5077 CKSIT    DATA    0                                                         04 05072
                      5078            EJEC                                                    04 05073
                      5079 **********                                                         04 05074
                      5080 * STACKS *                                                         04 05075
                      5081 **********                                                         04 05076
       010273 R 5082 FMBENT   EQU     *           BASE OF ENTRY NAME STACK                    04 05077
       010273 R 5083 FMTENT   EQU     *           TOP OF ENTRY NAME STACK                     04 05078
       010273 R 5084 FMBEXT   EQU     *           BASE OF EXTERNAL NAME STACK                 04 05079
       010273 R 5085 FMTEXT   EQU     *           TOP OF EXTERNAL NAME STACK                  04 05080
010273                5086            BSS     05700                                           04 05081
016173                5087            BSS     0                                               04 05082
       000000 R 5088            END     FMAIN                                                 04 05083
ENTRY NAMES
000000 R FMAIN   001061 R FMBA   005667 R FMBF   001451 R FMCR
002330 R FMEN    003320 R FMLF   003735 R FMMV   004457 R FMPT
004722 R FMRR    005115 R FMVH   005342 R FMWL   005166 R FMWLI
005611 R FMWR
EXTERNAL NAMES
007276 E BIFCB   007277 E BOFCB   007301 E GOFCB   007275 E LOFCB
007274 E PIFCB   007302 E POFCB   007167 E SIFCB   007300 E SSFCB
000000 E V$EXEC  000000 E V$IOC   000000 E V$IOST
SYMBOLS
000001 A A       000044 A APIM    000002 A B       000000 A B0
000001 A B1      000012 A B10     000013 A B11     000014 A B12
000015 A B13     000016 A B14     000017 A B15     000002 A B2
000003 A B3      000004 A B4      000005 A B5      000006 A B6
000007 A B7      000010 A B8      000011 A B9      007276 E BIFCB
000421 A BM1     000472 A BM17    000475 A BM177   000477 A BM1777
000464 A BM3     000473 A BM37    000463 A BM377   000467 A BM7
000474 A BM77    000476 A BM777   007277 E BOFCB   000441 A BR0
000442 A BR1     000453 A BR10    000454 A BR11    000455 A BR12
000456 A BR13    000457 A BR14    000460 A BR15    000443 A BR2
000444 A BR3     000445 A BR4     000446 A BR5     000447 A BR6
000450 A BR7     000451 A BR8     000452 A BR9     000421 A BS0
000422 A BS1     000433 A BS10    000434 A BS11    000435 A BS12
000436 A BS13    000437 A BS14    000440 A BS15    000423 A BS2
000424 A BS3     000425 A BS4     000426 A BS5     000427 A BS6
000430 A BS7     000431 A BS8     000432 A BS9     010157 R CKSI1
010163 R CKSI2   010271 R CKSIB   010272 R CKSIT   010270 R CKSIX
000047 A CLOCK   000747 A DISCLK  000745 A DISMP   000444 A DISPIM
005642 R DVTP1   005645 R DVTPA   005646 R DVTPB   005650 R DVTPCT
005647 R DVTPTY  000424 A EIGHT   000147 R ENACLK  000645 A ENAMP
000244 A ENAPIM  000465 A FIVE    000037 R FM0     000053 R FM1
000221 R FM2     000264 R FM3     000300 R FM4     000317 R FM6
000340 R FM7     000343 R FM8     000016 R FMA     006611 R FMAD
006057 R FMAD01  006062 R FMAD02  006127 R FMAD05  006131 R FMAD10
006137 R FMAD11  006143 R FMAD12  006153 R FMAD14  006162 R FMAD16
006166 R FMAD17  006167 R FMAD18  006177 R FMAD20  006211 R FMAD22
006311 R FMAD23  006340 R FMAD24  006365 R FMAD26  006370 R FMAD28
006220 R FMAD2A  006225 R FMAD2B  006417 R FMAD30  006423 R FMAD31
006427 R FMAD32  006437 R FMAD34  006440 R FMAD36  006441 R FMAD38
006442 R FMAD40  006445 R FMAD42  006551 R FMAD43  006602 R FMAD44
006500 R FMAD46  006503 R FMAD4B  006516 R FMAD4C  006577 R FMAD50
006600 R FMAD52  006601 R FMAD54  006616 R FMADCB  006647 R FMADCT
006617 R FMADFC  006576 R FMADIA  006630 R FMADID  006620 R FMADLC
006650 R FMADNB  006646 R FMADSC  006654 R FMADSW  006614 R FMADXX
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001066 R FMBAPP  001076 R FMBPS   001071 R FMBAT   001064 R FMBAXX
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006710 R FMCC00 006724 R FMCC01 006732 R FMCC02 006730 R FMCC10
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001142 R FMCNC  001137 R FMCNF1 001140 R FMCNF2 001112 R FMCNL
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006755 R FMCP00 006773 R FMCP30 007037 R FMCPDC 007031 R FMCPIF
007030 R FMCPIL 007033 R FMCPOF 007032 R FMCPOL 007036 R FMCPSA
007034 R FMCPSC 007026 R FMCPXX 001451 R FMCR   001143 R FMCR1
001212 R FMCR2  001462 R FMCRAA 001464 R FMCRAS 001467 R FMCRBP
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001470 R FMCREF 001471 R FMCRFB 001457 R FMCRFC 001244 R FMCRL1
001473 R FMCRNA 001350 R FMCRNB 001474 R FMCRPB 001475 R FMCRRC
001477 R FMCRT  001424 R FMCRW  001432 R FMCRX  001437 R FMCRX2
001454 R FMCRXX 005145 R FMDA   002052 R FMDE   001500 R FMDE1
002063 R FMDEAA 002070 R FMDEAS 002064 R FMDEBP 002030 R FMDEC2
002057 R FMDECB 002014 R FMDECH 001777 R FMDECI 002023 R FMDECJ
001774 R FMDEE  001773 R FMDEE3 002075 R FMDEEA 002065 R FMDEEF
002060 R FMDEFC 002076 R FMDEH1 002116 R FMDEH2 001570 R FMDEL1
001651 R FMDEL2 002061 R FMDELC 002066 R FMDENA 001627 R FMDENL
002067 R FMDEPB 001675 R FMDER  002074 R FMDESA 001715 R FMDEWB
001752 R FMDEWR 001703 R FMDEWZ 001760 R FMDEX  001642 R FMDEX1
001765 R FMDEX2 001734 R FMDEX4 002055 R FMDEXX 002152 R FMDS
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002162 R FMDST  002155 R FMDSXX 000102 R FME    000436 R FME1
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002342 R FMENBP 002335 R FMENCB 002317 R FMENE  002313 R FMENE2
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002346 R FMENPB 002347 R FMENT  002320 R FMENX  002325 R FMENX2
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002615 R FMFFAA 002614 R FMFFBP 002570 R FMFFE6 002612 R FMFFFC
002611 R FMFFLU 002613 R FMFFPB 002617 R FMFFT  002573 R FMFFTS
002544 R FMFFX  002607 R FMFFXX 002736 R FMGD   002621 R FMGD1
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007104 R FMGT06 007105 R FMGT08 007110 R FMGT10 007113 R FMGT12
007120 R FMGT14 007122 R FMGT16 007133 R FMGTIA 007132 R FMGTSA
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005137 R FMHDS  000120 R FMI    003222 R FMIC   003127 R FMIC1
003216 R FMIC5  007273 R FMICBA 003213 R FMICE1 003227 R FMICP
003225 R FMICXX 000555 R FMIDE  000525 R FMIDT  000151 R FMII2
000362 R FMIIC  000457 R FMIIJ  000137 R FMIIL1 003276 R FMIN
003231 R FMIN1  003303 R FMINCB 003265 R FMINE  003307 R FMINEF
003304 R FMINFC 003310 R FMINPB 003311 R FMINT  003301 R FMINXX
007247 R FMIP   007135 R FMIP00 007163 R FMIP05 007235 R FMIP10
007172 R FMIP20 007207 R FMIP25 007226 R FMIP30 007254 R FMIPCB
007255 R FMIPFC 007270 R FMIPUB 007252 R FMIPXX 007371 R FMIR
007303 R FMIR00 007316 R FMIR10 007376 R FMIRBA 007363 R FMIRBF
007366 R FMIRER 007401 R FMIRFC 007336 R FMIRIR 007402 R FMIRLU
007360 R FMIRNE 007377 R FMIRRC 007404 R FMIRRS 007400 R FMIRWS
007374 R FMIRXX 005152 R FMJN   000227 R FMK    000476 R FMK120
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003320 R FMLF   003312 R FMLF1  003327 R FMLFDC 003315 R FMLFP
003323 R FMLFXX 003620 R FMLI   003332 R FMLI1  003442 R FMLI3
003451 R FMLI4  003464 R FMLI5  003643 R FMLI99 003631 R FMLIBP
003625 R FMLICB 003546 R FMLIE  003545 R FMLIE6 003632 R FMLIEB
003633 R FMLIEF 003626 R FMLIFC 003645 R FMLIH1 003576 R FMLIHC
003564 R FMLIHC 003511 R FMLIHH 003501 R FMLIHI 003375 R FMLIL1
003406 R FMLIL2 003327 R FMLILC 003634 R FMLIPB 003635 R FMLIS0
003636 R FMLIT  003605 R FMLIU  003637 R FMLIUN 003502 R FMLIX
003501 R FMLIX1 003532 R FMLIX2 003623 R FMLIXX 000516 R FMLP5
007524 R FMLT   007405 R FMLT00 007420 R FMLT02 007430 R FMLT04
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007500 R FMLT14 007504 R FMLT16 007511 R FMLT18 007526 R FMLT20
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007566 R FMLT30 007611 R FMLT34 007636 R FMLT3K 007631 R FMLT3R
007645 R FMLTDT 007632 R FMLTFC 007703 R FMLTHB 007634 R FMLTID
007747 R FMLTII 007753 R FMLTLB 007633 R FMLTLC 007750 R FMLTLH
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006704 R FMMEXT 006655 R FMMFCB 006602 R FMMFPU 006643 R FMMITM
007637 R FMMLTB 006641 R FMMLTP 006635 R FMMOMD 006631 R FMMONN
006630 R FMMOMS 006626 R FMMRCT 006623 R FMMRLT 003733 R FMMV
003667 R FMMV1  003746 R FMMVC  003740 R FMMVFP 003704 R FMMVL
003724 R FMMVLK 003715 R FMMVRE 003745 R FMMVT  003741 R FMMVTP
003740 R FMMVXX 006627 R FMMVPS 004202 R FMN1   004076 R FMNA
003747 R FMNA1  003774 R FMNA2  004106 R FMNA21 004060 R FMNA4
004107 R FMNABL 004116 R FMNAC  004111 R FMNACM 004073 R FMNAE1
004114 R FMNAEF 004112 R FMNAH  003761 R FMNAL  003775 R FMNAL1
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004263 R FMNUEF  004170 R FMNUL1  004264 R FMNUM   004261 R FMNUN
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004256 R FMNUXX  004241 R FMNUY   004302 R FMOC    004267 R FMOC1
004307 R FMOCLC  004305 R FMOCXX  004422 R FMOF    004335 R FMOF1
004456 R FMOFBE  004435 R FMOFBF  004427 R FMOFBP  004432 R FMOFDC
004340 R FMOFL   004430 R FMOFLC  004456 R FMOFT   004425 R FMOFXX
007261 R FMOMFC  007260 R FMOMLU  010004 R FMOR    007756 R FMOR00
007766 R FMOR10  010001 R FMOR20  010017 R FMORBA  010014 R FMORFC
010015 R FMORLU  010012 R FMORRC  010013 R FMORWS  010007 R FMORXX
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010106 R FMPU    010017 R FMPU00  010031 R FMPU01  010054 R FMPU02
010056 R FMPU04  010057 R FMPU06  010062 R FMPU08  010064 R FMPU10
010066 R FMPU12  010103 R FMPU14  010114 R FMPUAI  010113 R FMPUSA
010111 R FMPUXX  004645 R FMRE    004522 R FMRE1   004650 R FMREAA
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004730 R FMRRFC  004727 R FMRRLU  004671 R FMRRR   004725 R FMRRXX
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005352 R FMWLFC  005364 R FMWLFL  005156 R FMWLI   005214 R FMWLI1
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000045 A MP      000045 A MPMR0   000145 A MPMR1   000245 A MPMR2
000345 A MPMR3   000420 A MT      010267 R N304    000461 A NEG
000470 A NINE    000421 A ONE     007274 E PIFCB   000040 A PIM1
000041 A PIM2    000042 A PIM3    000043 A PIM4    000040 A PIM5
000040 A PIM6    000040 A PIM7    000040 A PIM8    007302 E POFCB
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010257 R RMDB    010263 R RMDLUT  010252 R RMDSET  010261 R RMDT
010260 R RMDX    000467 A SEVEN   007167 E SIFCB   000466 A SIX
005664 R SOLO1   005665 R SOLO2   007300 E SSFCB   000140 A SW
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000024 A TBKN3   000002 A TBPL    000004 A TBRSA   000005 A TBRSB
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000014 A TBS12   000015 A TBS13   000016 A TBS14   000017 A TBS15
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000001 A TBST    000025 A TBTLC   000013 A TBTMIN  000012 A TBTMS
000000 A TBTRB   000471 A TEN     000456 A THREE   000402 A TWO
000403 A V$1MIN  000415 A V$BFC   000025 A V$BGLB  000056 A V$BIC1
000315 A V$BTB   000414 A V$BVN   000334 A V$COM   000353 A V$CKB
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000360 A V$CTAD  000310 A V$CTL   000301 A V$CTMS  000070 A V$DATE
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000055 A V$JCFG  000077 A V$JCTM  000050 A V$JNAM  000377 A V$JOP
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000307 A V$LRSK  000312 A V$LSAL  000315 A V$LUNT  000316 A V$LUP
000400 A V$LUT1  000401 A V$LUT2  000402 A V$LUT3  000353 A V$MFM
000362 A V$NCTR  000413 A V$OCB   000346 A V$OPCF  000311 A V$OPCL
000063 A V$PIMN  000074 A V$PLCT  000305 A V$PTVB  000061 A V$SCTL
000352 A V$SCV   000375 A V$SLFG  005671 R V$SOLO  000300 A V$TB
000342 A V$TBGT  000410 A V$TFC   000314 A V$TJCP  000344 A V$TMN
000343 A V$TMS   000304 A V$UTB   000001 A VORTEX  000001 A X
000420 A ZERO
   0 ERRORS ASSEMBLY COMPLETE

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   88   B         652    960   1029   1031   1042   1098   1103   1104   1148
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                 1732   1735   1741   1742   1746   1745   1746   1749   1754
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                 1972
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  293   BS12      1755
  295   BS4        875    896
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539   FM2       521
570   FM3       555   557   564
581   FM4       553   562
594   FM6       574
605   FM7       597
611   FM8       599
437   FMA       427
  0   FMAD      686
425   FMAIN      64
924   FMBA       65
857   FMBA1     929
930   FMBABL    865   879   899
871   FMBAL1    884
894   FMBAL2    907
889   FMBAD     861
911   FMBAP     885   904
928   FMBAPP    857
936   FMBAS     866   889   903
931   FMBAT     867   883
926   FMBAXX    923   924
937   FMBAZ     860   876   880   897   900
  0   FMBF       66   458   483   699   717   723   730   796   804
                818   821
731   FMBP      470   510   512   540
729   FMBSZ     466
748   FMCB      655
689   FMCI      493   494   575   581   594   649
971   FMCN      500
955   FMCN1     977
978   FMCNC     958   965
975   FMCNF1    955
976   FMCNF2    956
959   FMCNL     966
969   FMCNX     961
973   FMCNXX    968   970   971
690   FMCOM     554   563
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1210  FMCRAS   1074  1133
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1206  FMCRCB   1019  1025  1028  1039  1052  1058  1069  1075  1112
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1197  FMCRE    1055  1063  1072  1080  1114  1124  1145  1180  1195
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1196  FMCRE4   1160
1212  FMCREF   1012  1023  1189  1197
1213  FMCRFB   1032  1036  1047  1092  1161
1207  FMCRFC   1020  1053  1059  1070  1076  1113  1120  1141  1179
1073  FMCRL1   1088
1214  FMCRNA   1027  1046  1057  1107  1175
1139  FMCRNB   1081
1215  FMCRPB   1021  1060  1077  1121  1142  1146  1184
1216  FMCRRC   1030  1087  1093  1099  1109  1129  1159  1167
1217  FMCRT    1151  1156
1177  FMCRW    1110  1135
1184  FMCRX    1198
1189  FMCRX2   1024
1204  FMCRXX   1190  1202
1467  FMDE      681
1248  FMDE1    1474
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1480  FMDEAS   1354  1409
1476  FMDEBP   1277  1284  1302  1308  1328  1334  1348  1358  1406
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1453  FMDEC2   1444
1471  FMDECB   1256  1262  1271  1275  1281  1300  1305  1338  1346
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1445  FMDECH   1298  1326  1438  1440  1447  1449  1463
1436  FMDECI   1267  1437
1450  FMDECJ   1443
1431  FMDEE    1278  1286  1303  1310  1330  1340  1349  1360  1384
               1405  1414  1452  1456  1459  1462
1430  FMDEE3   1287
1483  FMDEEA   1294  1374  1378  1389
1477  FMDEEF   1249  1260  1425  1431
1472  FMDEFC   1257  1276  1282  1301  1306  1339  1347  1356  1383
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1484  FMDEH1   1454
1488  FMDEH2   1264  1266
1304  FMDEL1   1313  1314  1317  1341
1353  FMDEL2   1376  1385
1473  FMDELC   1321  1329  1424  1439  1446  1451  1455  1458  1461
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1479  FMDEPB   1258  1283  1307  1357  1403  1418
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1379   FMDEWZ   1370
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1345   FMDEX1   1311
1423   FMDEX2   1261  1432
1400   FMDEX4   1391
1469   FMDEXX   1426  1467
1505   FMDS1    1536
1538   FMDSO    1521  1526
1535   FMDSP    1505
1520   FMDSS    1509  1511  1513  1527
1539   FMDST    1524
1533   FMDSXX   1516  1531
 466   FME       827
 663   FME1      486   499   527   551   566   573   577   590   600
                 602   604   606   614   615   617   625   626   630
                 631   645
 665   FME5      452   452   452   452   454   454   454   454
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1569   FMEN1    1681
1682   FMENAA   1572  1602  1619  1644
1683   FMENBP   1589  1601  1611  1618  1622  1628  1646  1650
1679   FMENCB   1577  1587  1591  1598  1609  1615  1641  1652
1661   FMENE    1590  1603  1612  1620  1645  1659
1658   FMENE2   1604
1660   FMENE3   1621
1684   FMENEF   1570  1581  1661  1670
1680   FMENFC   1578  1588  1599  1610  1616  1642  1653
1685   FMENNA   1593  1595  1597  1614  1635
1686   FMENPB   1579  1600  1617  1643  1665
1687   FMENT    1629  1636  1649
1665   FMENX    1654
1670   FMENX2   1582
1677   FMENXX   1671  1675
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 771   FMER      479   659   664   666   675
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 835   FMERB     777   782
 794   FMERR     795   800   826
 792   FMERR2    785   793
 830   FMERT     801   806   810
 782   FMERW     778   781   783   786   788   791
 828   FMERX     783   783   783   783   793   793   793   793   795
                 795   795   795   813
 801   FMEXIT    462
 813   FMEXLP    817
1762   FMFA     1018  1255  1576
1713   FMFA1    1768
1766   FMFACB   1714  1721
1724   FMFAE1   1715
1767   FMFAFC   1740
1770   FMFAK    1719  1748
1769   FMFAT    1733  1738
1729   FMFAX    1720  1723
1764   FMFAXX   1725  1758  1762
 698   FMFCB     656   705
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1820   FMFF2    1809
1907   FMFF20   1821
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1903   FMFFBP   1804  1875
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1900   FMFFLU   1873
1906   FMFFT    1807  1839  1843  1853  1856
1886   FMFFTS   1855  1871  1889  1892
1863   FMFFX    1845
1898   FMFFXX   1816  1833  1836  1859  1876  1882  1896
2011   FMGD     1118  1139  1400  1640
1938   FMGD1    2019
2018   FMGDAA   1951  1980  1991
2020   FMGDBP   1941  1950  1959  2001  2003
2025   FMGDER   1982
2016   FMGDFC   1940  1948  1958  1984  1989  1994
1946   FMGDL    1954
2015   FMGDLU   1939  1947  1988
2017   FMGDPB   1949  1968
2027   FMGDT    1973  1978
2002   FMGDX    1964
2013   FMGDXX   1942  1952  1953  1990  2007  2011  2026
   0   FMGP     1713
2075   FMGP5    2068  2072
   0   FMGPE1   2056  2057  2059  2082
   0   FMGPP    2051
   0   FMGPT    2077  2079  2081
 670   FMHC      448   672   676   825
 483   FMI       475
 744   FMIDE     498
 736   FMIDT     490
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501   FMII2     491   495   497
622   FMIIC     595
680   FMIIJ     650
494   FMIIL1    503
  0   FMIN      685  1395
  0   FMIP      687
547   FMK       532
705   FMK120    638
750   FMKEY     548   558
448   FML1      658   824
526   FML3      535
692   FMLC      438   478   657   671   674
  0   FMLF       69  1423  1457
  0   FMLI      684
722   FMLOE     468   477
749   FMLUN     531   543
  0   FMLUT   2064
  0   FMMV       70   803  1045  1106  1132  1174  1408  1627  1634
             1648
  0   FMNA      487   514   570   611
  0   FMNB      507   549   559
  0   FMNU      541   622   627
  0   FMOC     1460
  0   FMOF     1327
751   FMP1      489   502   572
753   FMP2      613
754   FMP3      516   528
  0   FMPT       71   925   972  1203  1468  1532  1676  1763  1897
             2012
  0   FMRE      682
  0   FMRR       72  1872
  0   FMRW     1051  1068  1274  1299  1345  1586  1608  1938
728   FMSCB     488   508   515   542   550   560   571   612   623
             628
752   FMSCN     629   636   642   643
  0   FMSD     1056  1073  1279  1353  1596  1613
716   FMSII     429   431   453   794
831   FMSLSW    441   474   784
693   FMT       509   513   517   539   624   637
732   FMTC      644
709   FMTDCB    451   792
694   FMTFL     444   449
  0   FMVH       73   673  1450
  0   FMVHI     437
  0   FMWL       74   476  1453
  0   FMWLI      75   439
  0   FMWLT     828
  0   FMWR       76  1111  1177  1337  1381  1411  1651  1987
649   FMZ       583   585   587   589   607   618
319   FOUR      582  1196  1442  1838  2025
204   LC        205   206   207   208   209   210   211   212   213
                214   215   216   217   218   219   220   221   222
                223   225   226   227   228   229   230   231   232
                233   234   235   236   237   238   240   241   242
                243   247   248   249   250   251   252   253   258
                259   260   263   268   269   270
179   LCJP      180   181   182   189   190   191   192   193   196
314   LHW       779  1041  1747
399   MP        400   401   402   403   404   405
279   MT        280   281   282   283   284   285   286   287   288
                289   290   291   292   293   294   295   296   297
                298   299   300   301   302   303   304   305   306
                307   308   309   310   311   312   313   314   315
                316   317   318   319   320   321   322   323   324
                325   326   327   328   329   330   331   332   333
                334   335
315   RHW       434  1154  1718  1736  1976
322   SEVEN     576   790  1035
  0   SIFCB     425
321   SIX      1407  1626  1647  1824  1841  1881  1962
325   TEN       520   773
318   THREE     496   598   780  1044  1105  1131  1173  1430  1594
             1633  1660
317   TWO       442   787  1013  1026  1194  1250  1272  1393  1571
             1592  1658
  0   V$DVTP    443
  0   V$EXEC     81
  0   V$FMAI     11
  0   V$IOC      82
  0   V$IOST     83
260   V$JCB     805   807
229   V$LUNT    522
  0   V$SOLD    440
 89   X         426   430   432   433   436   437   439   440   443
                476   487   500   507   514   526   530   541   549
                559   570   611   622   627   654   673   803   814
                828   858   872   873   878   881   895   898   901
                911   913   914   915   917   918   919   921   922
                925   959   972  1018  1038  1040  1043  1045  1051
               1056  1068  1073  1085  1086  1094  1096  1100  1101
               1106  1111  1118  1126  1128  1130  1132  1139  1147
               1152  1153  1164  1168  1169  1174  1177  1185  1186
               1188  1203  1255  1263  1265  1274  1279  1291  1293
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1239 1304 1315 1327 1336 1337 1345 1353 1365
1368 1375 1377 1380 1381 1395 1400 1408 1411
1419 1420 1422 1423 1441 1448 1450 1453 1457
1460 1468 1506 1507 1514 1515 1532 1576 1586
1596 1608 1613 1627 1634 1640 1648 1651 1666
1667 1669 1676 1713 1716 1729 1734 1753 1763
1812 1823 1825 1830 1846 1854 1863 1866 1869
1872 1897 1938 1946 1960 1963 1969 1974 1975
1981 1983 1985 1986 1987 1992 1993 1995 1996
1998 2002 2005 2012 2052 2075 2076 2078

```
000001 A     1 VORTEX SET     1                PUT LAST FOR VORTEX                                V2  03 00001
             2 * THIS IS A COPYRIGHTED PROGRAM.COPYRIGHT 1972 BY VARIAN DATA MACHINV2                  03 00002
             3 *                                                                                      03 00003
             4 *     V.D.M.   PART  NO.       92L0205-006D                                            03 00004
             5 *                                                                                      03 00005
             6 *                                                RELEASED    03/01/74                  03 00006
             7 *                                                                                      03 00007
             8 *               V$IOUTIL                                                               03 00008
             9 *                                                                                      03 00009
            10 *                                                                                      03 00010
            11         TITLE   V$IOUTIL                                                              03 00011
            12 ************************************************************************************** 03 00012
            13 ****     TIDB SETUP                                                              ***   03 00013
            14 *                                                                                      03 00014
            15 ************************************************************************************** 03 00015
000000 A    17 TBTRD   EQU     0              TASK THREAD                                             03 00017
000001 A    18 TBST    EQU     1              TASK STATUS                                             03 00018
000002 A    19 TBPL    EQU     2              STATUS CONT. (BITS15-6),PRIORITY LEVEL(5-0               03 00019
000003 A    20 TBEVNT  EQU     3              INTERRUPT EVENT                                         03 00020
000004 A    21 TBRSA   EQU     4              A          REENTRANT AND SUSPEND STACK                  03 00021
000005 A    22 TBRSB   EQU     5              B          REENTRANT AND SUSPEND STACK                  03 00022
000006 A    23 TBRSX   EQU     6              X          REENTRANT AND SUSPEND STACK                  03 00023
000007 A    24 TBRSP   EQU     7              OF/P       REENTRANT AND SUSPEND STACK                  03 00024
000010 A    25 TBRSTS  EQU     8              TEMP. STG. REENTRANT AND SUSPEND STACK                  03 00025
000011 A    26 TBENTY  EQU     9              TASK ENTRY LOCATION                                     03 00026
000012 A    27 TBTMS   EQU     10             TIME COUNTER - CLOCK RESOLUTION IN 5MS INC              03 00027
000013 A    28 TBTMIN  EQU     11             TIME COUNTER - CLOCK MINUTE INCREMENTS                  03 00028
000014 A    29 TBISA   EQU     12             A            INTERRUPT STACK                            03 00029
000015 A    30 TBISB   EQU     13             B            INTERRUPT STACK                            03 00030
000016 A    31 TBISX   EQU     14             X            INTERRUPT STACK                            03 00031
000017 A    32 TBISP   EQU     15             OF/P         INTERRUPT STACK                            03 00032
000020 A    33 TBISRS  EQU     16             REENT. STACK INTERRUPT STACK                            03 00033
000021 A    34 TBIO    EQU     17             BLK ALLOC(15-10),I/O THR(9-5),I/O ACT(4-0)              03 00034
000022 A    35 TBKN1   EQU     18             TASK NAME                                               03 00035
000023 A    36 TBKN2   EQU     19             TASK NAME                                               03 00036
000024 A    37 TBKN3   EQU     20             TASK NAME                                               03 00037
000025 A    38 TBTLC   EQU     21             1ST LOC. OF TASK ALLOCATABLE                            03 00038
000026 A    39 TBCPTH  EQU     22             BACKGROUND TASK QUEUE                                   03 00039
000027 A    40 TBATSK  EQU     23             TIDB LOC. OF ACTIVATING TASK                            03 00040
000030 A    41 TBRSE   EQU     24             TASK ERROR CODE                                         03 00041
            42         EJEC                                                                         03 00042
            43 ************************************************************************************** 03 00043
            44 *                                                                                      03 00044
            45 ****     TASK STATUS DESCRIPTION  (BIT SET WORD 1)                              ***   03 00045
            46 *                                                                                      03 00046
            47 ************************************************************************************** 03 00047
000017 A    49 TBS15   EQU     15             INTERRUPT SUSPEND                                       03 00049
000016 A    51 TBS14   EQU     14             TASK SUSPEND                                            03 00051
000015 A    52 TBS13   EQU     13             TASK ABORT                                              03 00052
000014 A    53 TBS12   EQU     12             TASK EXIT                                               03 00053
000013 A    55 TBS11   EQU     11             TIDB CORE RESIDENT                                      03 00055
000012 A    56 TBS10   EQU     10             CORE RESIDENT TASK                                      03 00056
000011 A    57 TBS9    EQU     9              FOREGROUND TASK                                         03 00057
000010 A    59 TBS8    EQU     8              TASK PROTECTED                                          03 00059
000007 A    60 TBS7    EQU     7              TASK SCHEDULED BY TIME DELAY                            03 00060
000006 A    61 TBS6    EQU     6              TIME DELAY ACTIVE                                       03 00061
000005 A    63 TBS5    EQU     5              TASK WAITING TO BE LOADED                               03 00063
000004 A    64 TBS4    EQU     4              TASK ERROR                                              03 00064
000003 A    65 TBS3    EQU     3              TASK INTERRUPT EXPECTED                                 03 00065
000002 A    67 TBS2    EQU     2              OVERLAY TASK                                            03 00067
000001 A    68 TBS1    EQU     1              UPON TERMINATION ACTIVATE TASK SCHED TASK               03 00068
000000 A    69 TBS0    EQU     0              TASK SEARCH-ALLOCATED-LOADED                            03 00069
            70         EJEC                                                                         03 00070
            71 ************************************************************************************** 03 00071
            72 *                                                                                      03 00072
            73 ***      TASK STATUS DESCRIPTION  (BIT SET WORD 2)                             ***   03 00073
            74 *                                                                                      03 00074
            75 ************************************************************************************** 03 00075
            77 *         BIT 15   -   TASK OPENED                                                     03 00077
            79 *         BIT 14   -   UNUSED                                                          03 00079
            80 *         BIT 13   -   OVERLAY LOAD                                                    03 00080
            81 *         BIT 12   -   TASK WAITING FOR BACKGROUND TASK I/O TO COMPLETE                03 00081
            82 *                      TASK LOCKED-OUT UNTIL BG I/O COMPLETE OR BIT 11                 03 00082
            83 *                      IS SET  (ALLOCATABLE SPACE AVAILABLE)                           03 00083
            85 *         BIT 11   -   DEFINES THAT ALLOCATABLE SPACE IS AVAILABLE, TRY                03 00085
            86 *                      ALLOCATING TASK AGAIN.  OVERRIDES BIT 12 SET OR                 03 00086
            87 *                      BIT 5 IN STATUS WORD.                                           03 00087
            88 *         BIT 10   -   BACKGROUND TASK BEING WRITTEN ON CHELKPOINT FILE.               03 00088
            89 *         BIT  9   -   TASK WAITING FOR A TIDB TO COME AVAILABLE FOR                   03 00089
            90 *                      SCHEDULING.                                                     03 00090
            92 *         BIT  8 TO 6  - UNUSED                                                        03 00092
            93         EJEC                                                                         03 00093
            94 ************************************************************************************** 03 00094
            95 *                                                                                      03 00095
            96 ***      JOB PROCESSOR LOW CORE EQUATES                                        **    03 00096
            97 *                                                                                      03 00097
            98 ************************************************************************************** 03 00098
000050 A   100 LCJP    EQU     050                                                                   03 00100
000050 A   101 V$JNAM  EQU     LCJP           JCP NAME                                               03 00101
000054 A   102 V$LCNT  EQU     LCJP+4         LINE COUNT                                             03 00102
000055 A   103 V$JCFG  EQU     LCJP+5         JCP FLAGS                                              03 00103
           104 *                             BIT 2-0    = LOAD AND GO FLAGS                         03 00104
           105 *                             BIT  3     = DUMP FLAG  1=DUMP, 0=NO DUMP              03 00105
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                    106 *                                BIT  4    = DUMP FLAG IF LOAD AND GO          03 00106
                    107 *                                BIT 9-5   = UNUSED                            03 00107
                    108 *                                BIT 15-10 = BG EXTRA CORE BLOCKS TO ALLOC     03 00108
000056 A            110 V$BIC1  EQU     LCJP+6           BIC INTERRUPT ADDRESS TABLE  (10 WORDS)       03 00110
000070 A            111 V$DATE  EQU     LCJP+16          JCP DATE RECORD                               03 00111
000074 A            112 V$PLCT  EQU     LCJP+20          PERMINATE LINE COUNT                          03 00112
000075 A            113 V$BGLB  EQU     LCJP+21          JCP LIB KEY AND LU NO. (BACKGROUND LIB)       03 00113
000076 A            114 V$CRDM  EQU     LCJP+22          CARD KEYPUNCH TYPE, 0=026, 1=029              03 00114
                    115 *                                BIT 0 = SYSTEM NOMINAL KEYPUNCH MODE.         03 00115
                    116 *                                BIT 9 = CURRENT JOB KEYPUNCH MODE.            03 00116
000077 A            117 V$JCTM  EQU     LCJP+23          TEMP. STORAGE FOR /MEM BLOCK                  03 00117
                    118         EJEC                                                                   03 00118
                    119 ***************************************************************************** 03 00119
                    120 *                                                                              03 00120
                    121 ****     LOW CORE DESCRIPTION                                          ***     03 00121
                    122 *                                                                              03 00122
                    123 ***************************************************************************** 03 00123
000300 A            125 LC      EQU     0300                                                           03 00125
000300 A            126 V$CTL   EQU     LC               CURRENT TASK TIDB LOCATION                    03 00126
000301 A            127 V$CPL   EQU     LC+1             CURRENT PRIORITY LEVEL                        03 00127
000302 A            128 V$CRS   EQU     LC+2             CURRENT REENTRANT STACK POINTER               03 00128
000303 A            129 V$TB    EQU     LC+3             POINTER TO HIGHEST PRIORITY TIDB              03 00129
000304 A            130 V$UTB   EQU     LC+4             POINTER TO UNUSED TASK TIDB                   03 00130
000305 A            131 V$PTVB  EQU     LC+5             POINTER TO NEXT ENTRY IN REENTRANT STACK      03 00131
000306 A            132 V$FLRS  EQU     LC+6             FIRST LOC. OF REENTRANT STACK                 03 00132
000307 A            133 V$LRSK  EQU     LC+7             LAST LOC. OF REENTRANT STACK+1                03 00133
000310 A            134 V$CKPT  EQU     LC+8             CHECKPOINT FLAG 1=ON, 0=OFF                   03 00134
000311 A            135 V$OPCL  EQU     LC+9             LOC. OF TIDB FOR OPCOM TASK                   03 00135
000312 A            136 V$LSAL  EQU     LC+10            LOC. OF TIDB FOR SYSTEM SAL TASK              03 00136
000313 A            137 V$LER   EQU     LC+11            LOC. OF TIDB FOR SYSTEM ERROR TASK            03 00137
000314 A            138 V$TJCP  EQU     LC+12            LOC. OF TIDB FOR JOB CONTROL PROCESSOR TAS    03 00138
000315 A            139 V$BTB   EQU     LC+13            LOC. OF CURRENT ACTIVE BACKGROUND TSK TIDB    03 00139
000316 A            140 V$LUP   EQU     LC+14            LOC. OF 1ST UNPROTECTED WORD                  03 00140
000317 A            141 V$LLUP  EQU     LC+15            LOC. OF LAST UNPROTECTED WORD                 03 00141
000320 A            142 V$IM    EQU     LC+16            INTERRUPT MASK  (8 WORDS)                     03 00142
000330 A            143 V$MPM   EQU     LC+24            MEMORY PROTECT MASK  (4 WORDS)                03 00143
000334 A            144 V$CAM   EQU     LC+28            CORE ALLOCATION MASK  (4 WORDS)               03 00144
                    145 *       EQU     LC+32            UNUSED                                        03 00145
000341 A            146 V$CRDR  EQU     LC+33            CORE RESIDENT DIRECTORY LOCATION              03 00146
000342 A            147 V$TBGT  EQU     LC+34            TOP OF THREAD OF BG TSK WAITING TO BE ALLO    03 00147
000343 A            148 V$TMS   EQU     LC+35            TIME OF DAY IN 5 MILLISECOND INCREMENTS       03 00148
000344 A            149 V$TMN   EQU     LC+36            TIME OF DAY IN MINUTE INCREMENTS              03 00149
000345 A            150 V$LUNT  EQU     LC+37            ADDR. OF LOGICAL UNIT NAME TABLE              03 00150
000346 A            151 V$OPCF  EQU     LC+38            OPCOM LOCKOUT FLAG                            03 00151
000347 A            152 V$FGLB  EQU     LC+39            KEY AND LU NO. FOR FOREGROUND LIB             03 00152
000350 A            153 V$FREE  EQU     LC+40            FREE RUNNING COUNTER INCR. IN MICROSECONDS    03 00153
000351 A            154 V$CTMS  EQU     LC+41            CLOCK RESOLUTION IN 5 MILLISECOND INCR.       03 00154
000352 A            155 V$SCV   EQU     LC+42            CLOCK SELECTED COUNT VALUE (1 TO 4095)        03 00155
000353 A            156 V$CKB   EQU     LC+43            BASIC CLOCK INTERRUPT RATE IN MICROSECONDS    03 00156
000354 A            157 V$CRM   EQU     LC+44            CLOCK RESOLUTION INCR. FOR 1 MINUTE.          03 00157
000355 A            158 V$DSTB  EQU     LC+45            BASE ADDR. FOR DST BLOCK                      03 00158
000356 A            159 V$LIT   EQU     LC+46            LAST LOCATION OF BACKGROUND LITERAL TABLE     03 00159
                    160 *       EQU     LC+47            UNUSED                                        03 00160
000360 A            161 V$CTAD  EQU     LC+48            BASE ADDR. FOR CONTROLLER ADDR. TABLE         03 00161
000361 A            162 V$SCTL  EQU     LC+49            CURRENT CONTROLLER IN SCAN                    03 00162
000362 A            163 V$NCTR  EQU     LC+50            NO. OF CONTROLLERS                            03 00163
000363 A            164 V$PIMN  EQU     LC+51            EXTERNAL DEVICE ADDRESS TABLE FOR PIMS        03 00164
                    165 *                                  (8 WORDS DEFINED IN PIM NO ORDER)           03 00165
                    166 *       EQU     LC+59            UNUSED                                        03 00166
                    167 *       EQU     LC+60            UNUSED                                        03 00167
000375 A            168 V$SLFG  EQU     LC+61            SAL TASK BUSY FLAG     1=BUSY, 0=NOT BUSY     03 00168
000376 A            169 V$ERFG  EQU     LC+62            ERROR TASK BUSY FLAG   1=BUSY, 0=NOT BUSY     03 00169
000377 A            170 V$JOP   EQU     LC+63            JCP OPERATING FLAG                            03 00170
000400 A            171 V$LUT1  EQU     LC+64            START LUN ADDR FOR JCP/OPCOM ASSIGNABLE       03 00171
000401 A            172 V$LUT2  EQU     LC+65            START LUN ADDR FOR UNASSIGNABLE               03 00172
000402 A            173 V$LUT3  EQU     LC+66            START LUN ADDR FOR OPCOM ASSIGNABLE           03 00173
000403 A            174 V$1MIN  EQU     LC+67            32767 - (60000/(5*V$CTMS)) + 1                03 00174
                    175 *       EQU     LC+68            UNUSED                                        03 00175
                    176 *       EQU     LC+69            UNUSED                                        03 00176
                    177 *       EQU     LC+70            UNUSED                                        03 00177
                    178 *       EQU     LC+71            UNUSED                                        03 00178
000410 A            179 V$IOA   EQU     LC+72            I/O ALGORITHM                                 03 00179
000411 A            180 V$CKIT  EQU     LC+73            CLOCK INT. IN PIM BEFORE LOCKOUT FLAG.        03 00180
000412 A            181 V$JCB   EQU     LC+74            ALL SYSTEM BACKGROUND PROGRAMS AND JCP USE    03 00181
                    182 *                                THIS SYSTEM BUFFER TO READ DIRECTIVES AND     03 00182
                    183 *                                SOURCE RECORDS IN.                            03 00183
000413 A            184 V$OCB   EQU     LC+75            OPCOM WILL READ OPERATOR KEY-IN REQUESTS      03 00184
                    185 *                                IN THIS BUFFER.  IF JCP IS SET NOT ACTIVE     03 00185
                    186 *                                AND A 1 DIRECTIVE IS INPUTED, OPCOM           03 00186
                    187 *                                WILL MOVE THE DIRECTIVE TO V$JCB BEFORE       03 00187
                    188 *                                SCHEDULING JCP.                               03 00188
000414 A            189 V$BVN   EQU     LC+76            BOTTOM OF VORTEX NUCLEUS                      03 00189
000415 A            190 V$BFC   EQU     LC+77            TOP OF FG RES. AREA/BOTTOM OF FG BLK COMM.    03 00190
000416 A            191 V$TFC   EQU     LC+78            TOP OF FG BLK COMMON/TOP OF VORTEX CORE.      03 00191
                    192 *       EQU     LC+79            UNUSED                                        03 00192
                    193         EJEC                                                                   03 00193
                    194 ***************************************************************************** 03 00194
                    195 *                                                                              03 00195
                    196 ****     MASK TABLE DESCRIPTION                                        ***     03 00196
                    197 *                                                                              03 00197
                    198 ***************************************************************************** 03 00198
000420 A            200 MT      SET     0420                                                           03 00200
000420 A            201 ZERO    EQU     MT               ZERO WORD                                     03 00201
```

```
000421 A  202 BS0     EQU     MT+1
000422 A  203 BS1     EQU     MT+2
000423 A  204 BS2     EQU     MT+3
000424 A  205 BS3     EQU     MT+4
000425 A  206 BS4     EQU     MT+5
000426 A  207 BS5     EQU     MT+6
000427 A  208 BS6     EQU     MT+7
000430 A  209 BS7     EQU     MT+8
000431 A  210 BS8     EQU     MT+9
000432 A  211 BS9     EQU     MT+10
000433 A  212 BS10    EQU     MT+11
000434 A  213 BS11    EQU     MT+12
000435 A  214 BS12    EQU     MT+13
000436 A  215 BS13    EQU     MT+14
000437 A  216 BS14    EQU     MT+15
000440 A  217 BS15    EQU     MT+16
000441 A  218 BR0     EQU     MT+17
000442 A  219 BR1     EQU     MT+18
000443 A  220 BR2     EQU     MT+19
000444 A  221 BR3     EQU     MT+20
000445 A  222 BR4     EQU     MT+21
000446 A  223 BR5     EQU     MT+22
000447 A  224 BR6     EQU     MT+23
000450 A  225 BR7     EQU     MT+24
000451 A  226 BR8     EQU     MT+25
000452 A  227 BR9     EQU     MT+26
000453 A  228 BR10    EQU     MT+27
000454 A  229 BR11    EQU     MT+28
000455 A  230 BR12    EQU     MT+29
000456 A  231 BR13    EQU     MT+30
000457 A  232 BR14    EQU     MT+31
000460 A  233 BR15    EQU     MT+32
000461 A  234 NEG     EQU     MT+33
000462 A  235 LHW     EQU     MT+34
000463 A  236 RHW     EQU     MT+35
000421 A  237 ONE     EQU     MT+1
000422 A  238 TWO     EQU     MT+2
000464 A  239 THREE   EQU     MT+36
000423 A  240 FOUR    EQU     MT+3
000465 A  241 FIVE    EQU     MT+37
000466 A  242 SIX     EQU     MT+38
000467 A  243 SEVEN   EQU     MT+39
000424 A  244 EIGHT   EQU     MT+4
000470 A  245 NINE    EQU     MT+40
000471 A  246 TEN     EQU     MT+41
000421 A  247 BM1     EQU     MT+1
000464 A  248 BM3     EQU     MT+36
000467 A  249 BM7     EQU     MT+39
000472 A  250 BM17    EQU     MT+42
000473 A  251 BM37    EQU     MT+43
000474 A  252 BM77    EQU     MT+44
000475 A  253 BM177   EQU     MT+45
000463 A  254 BM377   EQU     MT+35
000476 A  255 BM777   EQU     MT+46
000477 A  256 BM1777  EQU     MT+47
          257         EJEC
          258 ********************************************************************
          259 *
          260 ****     BIT TEST BIT DESIGNATION                              ***
          261 *
          262 ********************************************************************
000040 A  264 RA0     EQU     040
000000 A  265 RA1     EQU     000
000060 A  266 RB0     EQU     060
000020 A  267 RB1     EQU     020
          269 ********************************************************************
          270 *
          271 **       THE BIT CHECKED
          272 *
          273 ********************************************************************
000000 A  275 B0      EQU     0
000001 A  276 B1      EQU     1
000002 A  277 B2      EQU     2
000003 A  278 B3      EQU     3
000004 A  279 B4      EQU     4
000005 A  280 B5      EQU     5
000006 A  281 B6      EQU     6
000007 A  282 B7      EQU     7
000010 A  283 B8      EQU     8
000011 A  284 B9      EQU     9
000012 A  285 B10     EQU     10
000013 A  286 B11     EQU     11
000014 A  287 B12     EQU     12
000015 A  288 B13     EQU     13
000016 A  289 B14     EQU     14
000017 A  290 B15     EQU     15
          291         EJEC
          292 ********************************************************************
          293 *
          294 ****     DEVICE AND FUNCTION CODES                             ***
          295 *
          296 ********************************************************************
          298 ****     REAL TIME CLOCK                                       ***
```

```
BIT MASK CONTENTS 000001                    03 00202
                  000002                    03 00203
                  000004                    03 00204
                  000010                    03 00205
                  000020                    03 00206
                  000040                    03 00207
                  000100                    03 00208
                  000200                    03 00209
                  000400                    03 00210
                  001000                    03 00211
                  002000                    03 00212
                  004000                    03 00213
                  010000                    03 00214
                  020000                    03 00215
                  040000                    03 00216
                 0100000                    03 00217
BIT MASK CONTENTS  0177776                  03 00218
                   0177775                  03 00219
                   0177773                  03 00220
                   0177767                  03 00221
                   0177757                  03 00222
                   0177737                  03 00223
                   0177677                  03 00224
                   0177577                  03 00225
                   0177377                  03 00226
                   0176777                  03 00227
                   0175777                  03 00228
                   0173777                  03 00229
                   0167777                  03 00230
                   0157777                  03 00231
                   0137777                  03 00232
                   0077777                  03 00233
SET ALL BITS                                03 00234
LEFT HALF WORD MASK 0177400                 03 00235
RIGHT HALF WORD MASK   0377                  03 00236
CONTAINS NUMBER  1                          03 00237
CONTAINS NUMBER  2                          03 00238
CONTAINS NUMBER  3                          03 00239
CONTAINS NUMBER  4                          03 00240
CONTAINS NUMBER  5                          03 00241
CONTAINS NUMBER  6                          03 00242
CONTAINS NUMBER  7                          03 00243
CONTAINS NUMBER  8                          03 00244
CONTAINS NUMBER  9                          03 00245
CONTAINS NUMBER 10                          03 00246
BIT MASK WORD 00001                         03 00247
BIT MASK WORD  00003                        03 00248
BIT MASK WORD  00007                        03 00249
BIT MASK WORD  00017                        03 00250
BIT MASK WORD  00037                        03 00251
BIT MASK WORD  00077                        03 00252
BIT MASK WORD  00177                        03 00253
BIT MASK WORD  00377                        03 00254
BIT MASK WORD  00777                        03 00255
BIT MASK WORD  01777                        03 00256
                                            03 00257
                                            03 00258
                                            03 00259
                                            03 00260
                                            03 00261
                                            03 00262
BT JUMPS WHEN A REGISTER IS 0               03 00264
BT JUMPS WHEN A REGISTER IS 1               03 00265
BT JUMPS WHEN B REGISTER IS 0               03 00266
BT JUMPS WHEN B REGISTER IS 1               03 00267
                                            03 00269
                                            03 00270
                                            03 00271
                                            03 00272
                                            03 00273
                                            03 00275
                                            03 00276
                                            03 00277
                                            03 00278
                                            03 00279
                                            03 00280
                                            03 00281
                                            03 00282
                                            03 00283
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                                            03 00296
                                            03 00298
```

```
000047 A  299 CLOCK  EQU    047          DEVICE NUMBER 047                          03 00299
          300 *                                                                    03 00300
000747 A  301 DISCLK EQU    0700+CLOCK   DISABLE CLOCK                             03 00301
000147 A  302 ENACLK EQU    0100+CLOCK   ENABLE CLOCK                              03 00302
          304 *                                                                    03 00304
          305 ****     PIM                                                   ***  03 00305
000044 A  306 APIM   EQU    044          ALL PIMS DEVICE NUMBER                     03 00306
000040 A  307 PIM1   EQU    040                                                     03 00307
000041 A  308 PIM2   EQU    041                                                     03 00308
000042 A  309 PIM3   EQU    042                                                     03 00309
000043 A  310 PIM4   EQU    043                                                     03 00310
000040 A  311 PIM5   EQU    040                                                     03 00311
000040 A  312 PIM6   EQU    040                                                     03 00312
000040 A  313 PIM7   EQU    040                                                     03 00313
000040 A  314 PIM8   EQU    040                                                     03 00314
          315 *                                                                    03 00315
000444 A  316 DISPIM EQU    0400+APIM                                               03 00316
000244 A  317 ENAPIM EQU    0200+APIM                                               03 00317
          319 ****     MEMORY PROTECT                                        ***  03 00319
000045 A  320 MP     EQU    045          DEVICE ADDRESS 045                         03 00320
000745 A  321 DISMP  EQU    0700+MP      DISABLE MEMORY PROTECT                     03 00321
000645 A  322 ENAMP  EQU    0600+MP      ENABLE MEMORY PROTECT                      03 00322
000045 A  323 MPMR0  EQU    0000+MP      SELECT MASK REGISTER 0                     03 00323
000145 A  324 MPMR1  EQU    0100+MP      SELECT MASK REGISTER 1                     03 00324
000245 A  325 MPMR2  EQU    0200+MP      SELECT MASK REGISTER 2                     03 00325
000345 A  326 MPMR3  EQU    0300+MP      SELECT MASK REGISTER 3                     03 00326
          327        EJEC                                                        03 00327
          328        EXT    SIFCB,PIFCB,LOFCB,BIFCB                              03 00328
          329        EXT    BOFCB,SSFCB,GOFCB,POFCB                              03 00329
000001 A  330 X      EQU    1                                                    03 00330
000002 A  331 B      EQU    2                                                    03 00331
000002 A  332 SI     EQU    2                                                    03 00332
000003 A  333 SO     EQU    3                                                    03 00333
000005 A  334 LO     EQU    5                                                    03 00334
          335 *                       ENTRY POINT FOR                          03 00335
          336 *                       I/O UTILITY PROGRAM                      03 00336
          337 *                                                                03 00337
          338 *                                                                03 00338
          339 *                                                                03 00339
          340        NAME   V$IUTL                                             03 00340
000000 006030 A  341 V$IUTL LDXI   100          CLEAR                          03 00341
000001 000144 A
000002 005001 A  342        TZA                STORAGE                        03 00342
000003 006055 A  343 IUTLA  STAE   LUNLST,X     AREAS                          03 00343
000004 005004 R
000005 005344 A  344        DXR                                               03 00344
000006 001046 A  345        JXNZ   IUTLA                                      03 00345
000007 000003 R
000010 006027 A  346        LDBE   SIFADD                                     03 00346
000011 004653 R
000012 016006 A  347        LDA    6,B          IS SIFCB OPEN ?               03 00347
000013 001010 A  348        JAZ    IUTLAD       NO                            03 00348
000014 000017 R
000015 010422 A  349        LDA    TWO          SET ENTRY IN FCBLUN TABLE     03 00349
000016 057000 I  350        STA    FCBLUN+12                                  03 00350
000017 030400 A  351 IUTLAD LDX    V$LUT1       GET CUR ASSIGNMENT            03 00351
000020 015003 A  352        LDA    SO,X         FOR SO                        03 00352
000021 150463 A  353        ANA    RHW          LOG. UNIT                     03 00353
000022 054450 A  354        STA    IUTA                                       03 00354
000023 015005 A  355        LDA    LO,X         GET CUR ASSIGNMENT            03 00355
000024 150463 A  356        ANA    RHW          FOR LO,                       03 00356
000025 144445 A  357        SUB    IUTA         LO, SO, SAME LUN ?            03 00357
000026 001010 A  358        JAZ    IUTLB        YES                           03 00358
000027 000073 R
000030 010421 A  359        LDA    ONE          NO - INITIALIZE               03 00359
000031 054617 A  360        STA    LNCNT        LINE COUNT AND                03 00360
000032 006057 A  361        STAE   PAGNO                                      03 00361
000033 004640 R
000034 057000 I  362        STA    PRTFLG       SET PRINT FLAG                03 00362
000035 010070 A  363        LDA    V$DATE       SET UP PRINT LINE -           03 00363
000036 057000 I  364        STA    HEAD+6       MOVE                          03 00364
000037 010071 A  365        LDA    V$DATE+1     DATE                          03 00365
000040 057000 I  366        STA    HEAD+7       TO                            03 00366
000041 010072 A  367        LDA    V$DATE+2     HEADING                       03 00367
000042 057000 I  368        STA    HEAD+8                                     03 00368
000043 010073 A  369        LDA    V$DATE+3                                   03 00369
000044 057000 I  370        STA    HEAD+9                                     03 00370
000045 010050 A  371        LDA    V$JNAM       MOVE                          03 00371
000046 057000 I  372        STA    HEAD+11      JOB                           03 00372
000047 010051 A  373        LDA    V$JNAM+1     NAME                          03 00373
000050 057000 I  374        STA    HEAD+12      TO                            03 00374
000051 010052 A  375        LDA    V$JNAM+2     HEADING                       03 00375
000052 057000 I  376        STA    HEAD+13                                    03 00376
000053 010053 A  377        LDA    V$JNAM+3                                   03 00377
000054 057000 I  378        STA    HEAD+14                                    03 00378
          379        IOLINK LO,HEAD,30                                        03 00379
000055 006505 A
000056 000406 A
000057 001405 A
000060 004437 R
000061 000036 A
          380        WRITE  LOFCB,LO,0,1 WRITE HEADING                        03 00380
000062 006505 A
```

```
000063 000404 A
000064 100000 A
000065 010405 A
000066 000000 E
000067 000000 A
000070 000000 A
000071 006505 A  381          JSR     IOCHK,X       CHECK I/O STATUS                    03 00381
000072 004227 R
000073 037000 I  382 IUTLB    LDX     D40                                               03 00382
000074 020412 A  383          LDB     V$JCB                                             03 00383
000075 006017 A  384          LDAE    DBLK          CLEAR                               03 00384
000076 004513 R
000077 056000 A  385 IUTLC    STA     0,B           JC                                  03 00385
000100 005122 A  386          IBR                   BUFFER                              03 00386
000101 005344 A  387          DXR                                                       03 00387
000102 001046 A  388          JXNZ    IUTLC                                             03 00388
000103 000077 R
000104 076000 A  389          STX     0,B                                               03 00389
000105 010412 A  390          LDA     V$JCB         GET BUFFER ADRS                     03 00390
000106 006057 A  391          STAE    INDCB+1       SET IN INPUT DCB                    03 00391
000107 004503 R
000110 010422 A  392          LDA     TWO                                               03 00392
000111 006505 A  393          JSR     V$DVTP,X      SI A TTY OR CRT ?                   03 00393
000112 004303 R
000113 001016 A  394          JANZ    IUTLCH        NO                                  03 00394
000114 000124 R
                 395          WRITE   REQDCB,SI,0,1 YES - WRITE 'IU**'                  03 00395
000115 006505 A
000116 000404 A
000117 100000 A
000120 010402 A
000121 000474 R
000122 000000 A
000123 000000 A
000124 010412 A  396 IUTLCH   LDA     V$JCB                                             03 00396
000125 054003 A  397          STA     IUTLCK+3                                          03 00397
                 398 IUTLCK   IOLINK  SI,0,40                                           03 00398
000126 006505 A
000127 000406 A
000130 001402 A
000131 000000 A
000132 000050 A
                 399          READ    SIFCB,SI,0,1  READ DIRECTIVE                      03 00399
000133 006505 A
000134 000404 A
000135 100000 A
000136 010002 A
000137 000000 E
000140 000000 A
000141 000000 A
000142 006505 A  400          JSR     IOCHK,X       CHECK I/O STATUS                    03 00400
000143 004227 R
000144 005001 A  401 IUTLD    TZA                                                       03 00401
000145 057000 I  402          STA     IGBLK                                             03 00402
000146 010412 A  403          LDA     V$JCB         SET CHAR POINTER                    03 00403
000147 004241 A  404          LRLA    1             TO BEGIN OF                         03 00404
000150 057000 I  405          STA     IUPTR         JC BUFFER                           03 00405
000151 006505 A  406          JSR     IUSCAN,X      GET 1ST CHAR                        03 00406
000152 003670 R
000153 004250 A  407          LRLA    8                                                 03 00407
000154 147000 I  408          SUB     N12740        IS IT A SLASH ?                     03 00408
000155 001016 A  409          JANZ    IUTLF         NO                                  03 00409
000156 000162 R
                 410          EXIT                  YES - EXIT, DONE                    03 00410
000157 006505 A
000160 000406 A
000161 000200 A
000162 006127 A  411 IUTLF    ANDE    N12740                                            03 00411
000163 004512 R
000164 054305 A  412          STA     IUTLZ         SAVE CHARACTER                      03 00412
000165 017000 I  413          LDA     PRTFLG        PRINT FLAG SET ?                    03 00413
000166 001010 A  414          JAZ     IUTLH         NO                                  03 00414
000167 000245 R
000170 014460 A  415          LDA     LNCNT         YES -                               03 00415
000171 005111 A  416          IAR                   INCREMENT                           03 00416
000172 054456 A  417          STA     LNCNT         LINE COUNT                          03 00417
000173 140054 A  418          SUB     V$LCNT        END OF PAGE ?                       03 00418
000174 001004 A  419          JAN     IUTLG         NO                                  03 00419
000175 000224 R
000176 010421 A  420          LDA     ONE           YES -                               03 00420
000177 054451 A  421          STA     LNCNT         RESET LINE COUNT                    03 00421
000200 017000 I  422          LDA     PAGNO         INCREASE                            03 00422
000201 005111 A  423          IAR                   PAGE NUMBER                         03 00423
000202 057000 I  424          STA     PAGNO                                             03 00424
000203 027000 I  425          LDX     PGAD                                              03 00425
000204 006505 A  426          JSR     BINASC,X      SET PAGE NO IN HEADING              03 00426
000205 003635 R
                 427 IUTLFH   IOLINK  LO,HEAD,30                                        03 00427
000206 006505 A
000207 000406 A
000210 001405 A
000211 004437 R
000212 000036 A
```

```
                        428          WRITE   LOFCB,LO,0,1  WRITE  HEADING                          03 00428
000213 006505 A
000214 000404 A
000215 100000 A
000216 010405 A
000217 000066 E
000220 000000 A
000221 000000 A
000222 006505 A  429          JSR     IOCHK,X       CHECK I/O STATUS                          03 00429
000223 004227 R
000224 010412 A  430 IUTLG    LDA     V$JCB                                                   03 00430
000225 005311 A  431          DAR                                                             03 00431
000226 054003 A  432          STA     IUTLGD+3                                                03 00432
                 433 IUTLGD   IOLINK  LO,0,40                                                 03 00433
000227 006505 A
000230 000406 A
000231 000405 A
000232 000000 A
000233 000050 A
                        434          WRITE   LOFCB,LO,0,1  WRITE DIRECTIVE                   03 00434
000234 006505 A
000235 000404 A
000236 100000 A
000237 010405 A
000240 000217 E
000241 000000 A
000242 000000 A
000243 006505 A  435          JSR     IOCHK,X       CHECK I/O STATUS                          03 00435
000244 004227 R
000245 006505 A  436 IUTLH    JSR     IUSCAN,X      GET NEXT CHARACTER                        03 00436
000246 003670 R
000247 114222 A  437          ORA     IUTLZ         PACK WITH 1ST                             03 00437
000250 057000 I  438          STA     IUTBUF                                                  03 00438
000251 006505 A  439          JSR     IUSCAN,X      GET 3RD CHAR                              03 00439
000252 003670 R
000253 004250 A  440          LRLA    8                                                       03 00440
000254 054215 A  441          STA     IUTLZ                                                   03 00441
000255 006505 A  442          JSR     IUSCAN,X      GET 4TH CHAR                              03 00442
000256 003670 R
000257 147000 I  443          SUB     N240          BLANK ?                                   03 00443
000260 001010 A  444          JAZ     IUTLK         YES                                       03 00444
000261 000332 R
000262 147000 I  445          SUB     N14           NO - COMMA ?                              03 00445
000263 001010 A  446          JAZ     IUTLKC        YES                                       03 00446
000264 000333 R
000265 147000 I  447          SUB     N21           NO - EQUALS SIGN ?                        03 00447
000266 001010 A  448          JAZ     IUTLKC        YES                                       03 00448
000267 000333 R
000270 127000 I  449          ADD     N275          NO -                                      03 00449
000271 114200 A  450          ORA     IUTLZ         PACK WITH 3RD CHAR                        03 00450
000272 057000 I  451          STA     IUTBUF+1                                                03 00451
000273 006505 A  452          JSR     IUSCAN,X      GET 5TH CHAR                              03 00452
000274 003670 R
000275 147000 I  453          SUB     N240          BLANK ?                                   03 00453
000276 001010 A  454          JAZ     IUTLM         YES                                       03 00454
000277 000342 R
000300 147000 I  455          SUB     N14           NO - COMMA ?                              03 00455
000301 001010 A  456          JAZ     IUTLMC        YES                                       03 00456
000302 000343 R
000303 147000 I  457          SUB     N21           NO - EQUALS SIGN ?                        03 00457
000304 001010 A  458          JAZ     IUTLMC        YES                                       03 00458
000305 000343 R
000306 127000 I  459          ADD     N275          NO -                                      03 00459
000307 004250 A  460          LRLA    8             SAVE CHAR                                 03 00460
000310 054161 A  461          STA     IUTLZ                                                   03 00461
000311 006505 A  462          JSR     IUSCAN,X      GET 6TH CHAR                              03 00462
000312 003670 R
000313 147000 I  463          SUB     N240          BLANK ?                                   03 00463
000314 001010 A  464          JAZ     IUTLN         YES                                       03 00464
000315 000347 R
000316 147000 I  465          SUB     N14           NO - COMMA ?                              03 00465
000317 001010 A  466          JAZ     IUTLNC        YES                                       03 00466
000320 000350 R
000321 147000 I  467          SUB     N21           NO - EQUALS SIGN ?                        03 00467
000322 001010 A  468          JAZ     IUTLNC        YES                                       03 00468
000323 000350 R
000324 127000 I  469          ADD     N275          NO -                                      03 00469
000325 114143 A  470          ORA     IUTLZ         PACK WITH 6TH CHAR                        03 00470
000326 057000 I  471          STA     IUTBUF+2                                                03 00471
000327 047000 I  472          INR     IGBLK         SET SCAN SWITCH                           03 00472
000330 001000 A  473          JMP     IUTLP                                                   03 00473
000331 000350 R
000332 047000 I  474 IUTLK    INR     IGBLK         SET SCAN SWITCH                           03 00474
000333 014136 A  475 IUTLKC   LDA     IUTLZ                                                   03 00475
000334 117000 I  476          ORA     N240          FILL OUT                                  03 00476
000335 057000 I  477          STA     IUTBUF+1      DIRECTIVE                                 03 00477
000336 017000 I  478          LDA     BBLK          NAME WITH                                 03 00478
000337 057000 I  479          STA     IUTBUF+2      BLANKS                                    03 00479
000340 001000 A  480          JMP     IUTLP                                                   03 00480
000341 000353 R
000342 047000 I  481 IUTLM    INR     IGBLK         SET SCAN SWITCH                           03 00481
000343 017000 I  482 IUTLMC   LDA     BBLK          FILL OUT DIRECTIVE                        03 00482
000344 057000 I  483          STA     IUTBUF+2      NAME WITH BLANKS                          03 00483
```

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000345 001000 A   484          JMP     IUTLP                                                    03 00484
000346 000353 R
000347 047000 I   485 IUTLN    INR     IGBLK       SET SCAN SWITCH                              03 00485
000350 014121 A   486 IUTLNC   LDA     IUTLZ       FILL OUT DIR                                 03 00486
000351 117000 I   487          ORA     N240        NAME                                         03 00487
000352 057000 I   488          STA     IUTBUF+2                                                 03 00488
000353 017000 I   489 IUTLP    LDA     IGBLK       SCAN SWITCH SET                              03 00489
000354 001010 A   490          JAZ     IUTLQ       NO                                           03 00490
000355 000362 R
000356 006505 A   491          JSR     IUSCAN,X    YES - SCAN TO DELIMITER                      03 00491
000357 003670 R
000360 006505 A   492          JSR     DLMCHK,X    SET ERROR CODE                               03 00492
000361 004260 R
000362 005004 A   493 IUTLQ    TZX                 FIND DIRECTIVE NAME IN TABLE                 03 00493
000363 006015 A   494 IUTLQB   LDAE    IUTAB,X     END OF TABLE ?                               03 00494
000364 000415 R
000365 001010 A   495          JAZ     IUERR1      YES - ERROR                                  03 00495
000366 000502 R
000367 147000 I   496          SUB     IUTBUF      MATCH ON 1ST 2 CHAR ?                        03 00496
000370 001016 A   497          JANZ    IUTLQF      NO                                           03 00497
000371 000404 R
000372 006015 A   498          LDAE    IUTAB+1,X   YES -                                        03 00498
000373 000416 R
000374 147000 I   499          SUB     IUTBUF+1    MATCH ON 2ND 2 CHAR ?                        03 00499
000375 001010 A   500          JANZ    IUTLQF      NO                                           03 00500
000376 000404 R
000377 006015 A   501          LDAE    IUTAB+2,X   YES -                                        03 00501
000400 000417 R
000401 147000 I   502          SUB     IUTBUF+2    MATCH ON 3RD 2 CHAR ?                        03 00502
000402 001010 A   503          JAZ     IUTLQH      YES                                          03 00503
000403 000411 R
000404 005041 A   504 IUTLQF   TXA                 NO MATCH,                                    03 00504
000405 120423 A   505          ADD     FOUR        INCREMENT                                    03 00505
000406 005014 A   506          TAX                 INDEX                                        03 00506
000407 001000 A   507          JMP     IUTLQB      GO BACK FOR NEXT ENTRY                       03 00507
000410 000363 R
000411 006025 A   508 IUTLQH   LDBE    IUTAB+3,X   DO INDEXED                                   03 00508
000412 000420 R
000413 006706 A   509          IJMP    0,B         JUMP TO SUBCOMPONENT                         03 00509
000414 000000 A
                  510 *                                                                        03 00510
                  511 *       TABLE TO JUMP TO PROPER SUBCOMPONENT.                            03 00511
                  512 *       FIRST 3 WORDS EQUALS DIRECTIVE NAME,                             03 00512
                  513 *       RIGHT JUSTIFIED, BLANK FILLED. 4TH WORD                          03 00513
                  514 *       IS ADDRESS OF SUBCOMPONENT.  TABLE                               03 00514
                  515 *       IS TERMINATED BY ZERO WORD.                                      03 00515
                  516 *                                                                        03 00516
000415 141717 A   517 IUTAB    DATA    'COPYF '    COPYF                                        03 00517
000416 150331 A
000417 143240 A
000420 000652 R   518          DATA    IUCOPY                                                   03 00518
000421 151706 A   519          DATA    'SFILE '    SFILE                                        03 00519
000422 144714 A
000423 142640 A
000424 002121 R   520          DATA    IUSFIL                                                   03 00520
000425 151305 A   521          DATA    'REW   '    REW                                          03 00521
000426 153640 A
000427 120240 A
000430 002172 R   522          DATA    IUREW                                                    03 00522
000431 151722 A   523          DATA    'SREC  '    SREC                                         03 00523
000432 142703 A
000433 120240 A
000434 002231 R   524          DATA    IUSREC                                                   03 00524
000435 153705 A   525          DATA    'WEOF  '    WEOF                                         03 00525
000436 147706 A
000437 120240 A
000440 002326 R   526          DATA    IUWEOF                                                   03 00526
000441 150306 A   527          DATA    'PFILE '    PFILE                                        03 00527
000442 144714 A
000443 142640 A
000444 002361 R   528          DATA    IUPFIL                                                   03 00528
000445 141717 A   529          DATA    'COPYR '    COPYR                                        03 00529
000446 150331 A
000447 151240 A
000450 000652 R   530          DATA    IUCOPY                                                   03 00530
000451 150301 A   531          DATA    'PACKB '    PACKB                                    D.103 00531
000452 141713 A
000453 141240 A
000454 000652 R   532          DATA    IUCOPY                                               D.103 00532
000455 150322 A   533          DATA    'PRNTF '    PRNTF                                    D.103 00533
000456 147324 A
000457 143240 A
000460 001574 R   534          DATA    IUPRNT                                               D.103 00534
000461 142325 A   535          DATA    'DUMP  '    DUMP                                         03 00535
000462 146720 A
000463 120240 A
000464 002607 R   536          DATA    IUDUMP                                                   03 00536
000465 141706 A   537          DATA    'CFILE '    CFILE                                        03 00537
000466 144714 A
000467 142640 A
000470 003354 R   538          DATA    IUCFIL                                                   03 00538
000471 000000 A   539          DATA    0           END OF TABLE                                 03 00539
000472 000000 A   540 IUTLZ    DATA    0                                                        03 00540
```

```
000473 000000 A   541 IUTA    DATA    0                                                    03 00541
                  542 REQDCB  DCB     3,HASTR,0                                            03 00542
000474 000003 A
000475 000477 R
000476 000000 A
000477 120240 A   543 HASTR   DATA    '  IU**'                                             03 00543
000500 144725 A
000501 125252 A
                  544         EJEC                                                         03 00544
                  545 *                                                                    03 00545
                  546 *                        ERROR PROCESSING SUBCOMPONENT               03 00546
                  547 *                                                                    03 00547
000502 014137 A   548 IUERR1  LDA     CODE1    IU01 ERROR                                  03 00548
000503 001000 A   549         JMP     IUERB                                                03 00549
000504 000540 R
000505 014135 A   550 IUERR2  LDA     CODE2    IU02 ERROR                                  03 00550
000506 001000 A   551         JMP     IUERB                                                03 00551
000507 000540 R
000510 014133 A   552 IUERR3  LDA     CODE3    IU03 ERROR                                  03 00552
000511 001000 A   553         JMP     IUERB                                                03 00553
000512 000540 R
000513 014131 A   554 IUERR4  LDA     CODE4    IU04 ERROR                                  03 00554
000514 001000 A   555         JMP     IUERB                                                03 00555
000515 000540 R
000516 027000 I   556 IUERR5  LDB     TCNT     IU05,NN ERROR                               03 00556
000517 005001 A   557         TZA                                                          03 00557
000520 170471 A   558         DIV     TEN      CONVERT                                     03 00558
000521 006127 A   559         ADDE    N260                                                 03 00559
000522 004433 R
000523 004250 A   560         LRLA    8                                                    03 00560
000524 117000 I   561         ORA     N240       AND                                       03 00561
000525 054110 A   562         STA     ERRBUF+4                                             03 00562
000526 005001 A   563         TZA                FORMAT                                    03 00563
000527 170471 A   564         DIV     TEN                                                  03 00564
000530 006127 A   565         ADDE    N260                                                 03 00565
000531 004433 R
000532 114114 A   566         ORA     HOC        RECORD COUNT                              03 00566
000533 054101 A   567         STA     ERRBUF+3                                             03 00567
000534 014111 A   568         LDA     CODE5    SET                                         03 00568
000535 054076 A   569         STA     ERRBUF+2 ERROR CODE                                  03 00569
000536 001000 A   570         JMP     IUERD                                                03 00570
000537 000546 R
000540 054073 A   571 IUERB   STA     ERRBUF+2 SET ERROR CODEP                             03 00571
000541 006017 A   572         LDAE    DBLK                                                 03 00572
000542 004513 R
000543 006057 A   573         STAE    ERRBUF+3                                             03 00573
000544 000635 R
000545 054070 A   574         STA     ERRBUF+4 BLANK OUT EXTRA WORDS OF ERROR MSG          03 00574
000546 006017 A   575 IUERD   LDAE    DBLK                                                 03 00575
000547 004513 R
000550 020412 A   576         LDB     V$JCB    CLEAR OUT                                   03 00576
000551 037000 I   577         LDX     D40                                                  03 00577
000552 056000 A   578 IUERDX  STA     0,B      JC                                          03 00578
000553 005122 A   579         IBR                                                          03 00579
000554 005344 A   580         DXR              BUFFER                                      03 00580
000555 001046 A   581         JXNZ    IUERDX                                               03 00581
000556 000552 R
                  582         WRITE   ERRDCB,SO,0,1 OUTPUT ERROR MESSAGE                   03 00582
000557 006505 A
000560 000404 A
000561 100000 A
000562 010403 A
000563 000637 R
000564 000000 A
000565 000000 A
000566 006505 A   583         JSR     IOCHK,X  CHECK I/O STATUS                            03 00583
000567 004227 R
000570 006505 A   584         JSR     V$SOLO,X LO = SO ?                                   03 00584
000571 004407 R
000572 001010 A   585         JAZ     IUERH    YES                                         03 00585
000573 000612 R   586         IOLINK  LO,ERRBUF,5 NO -                                     03 00586
000574 006505 A
000575 000403 A
000576 001405 A
000577 000632 R
000600 000005 A   587         WRITE   LOFCB,LO,0,1 WRITE ERROR MESSAGE TO LO               03 00587
000601 006505 A
000602 000404 A
000603 100000 A
000604 010405 A
000605 000240 E
000606 000000 A
000607 000000 A
000610 006505 A   588         JSR     IOCHK,X  CHECK I/O STATUS                            03 00588
000611 004227 R   589 IUERH   READ    INDCB,SO,0,1 READ BACK REPLY                         03 00589
000612 006505 A
000613 000404 A
000614 100000 A
000615 010003 A
000616 004502 R
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000617 000000 A
000620 000000 A
000621 006505 A  590          JSR     IOCHK,X      CHECK I/O STATUS                          03 00590
000622 004227 R
000623 020412 A  591          LDB     V$JCB                                                  03 00591
000624 016000 A  592          LDA     0,B                                                    03 00592
000625 140022 A  593          SUB     HCBLK        IS IT A 'C'                               03 00593
000626 001010 A  594          JAZ     IUTLB        YES - CONTINUE READING                    03 00594
000627 000073 R
000630 001000 A  595          JMP     IUTLD        NO - PROCESS DIRECTIVE                    03 00595
000631 000144 R
000632 120240 A  596 ERRBUF   DATA    '   IU   '                                             03 00596
000633 144725 A
000634 120240 A
000635 120240 A
000636 120240 A
                 597 ERRDCB   DCB     5,ERRBUF,0                                             03 00597
000637 000005 A
000640 000632 R
000641 000000 A
000642 130261 A  598 CODE1    DATA    '01'                                                   03 00598
000643 130262 A  599 CODE2    DATA    '02'                                                   03 00599
000644 130263 A  600 CODE3    DATA    '03'                                                   03 00600
000645 130264 A  601 CODE4    DATA    '04'                                                   03 00601
000646 130265 A  602 CODE5    DATA    '05'                                                   03 00602
000647 126000 A  603 HOC      DATA    0126000                                                03 00603
000650 141640 A  604 HCBLK    DATA    'C '                                                   03 00604
000651 000000 A  605 LNCNT    DATA    0                                                      03 00605
       000417 R  606 HFBLK    EQU     IUTAB+2      'F '                              D.1     03 00606
                 607          EJEC                                                           03 00607
                 608 *                                                                       03 00608
                 609 *                        COPYING ROUTINE -                              03 00609
                 610 *                        COPIES EITHER FILES                            03 00610
                 611 *                        OR RECORDS                                     03 00611
                 612 *                                                                       03 00612
000652 006505 A  613 IUCOPY   JSR     IUCNVT,X     GET NO. OF RECORDS OR FILES               03 00613
000653 004123 R
000654 001016 A  614          JANZ    IUC1                                           D.1     03 00614
000655 000665 R
000656 014702 A  615          LDA     IUTBUF+2                                       D.1     03 00615
000657 147000 I  616          SUB     HFBLK        'F '                              D.1     03 00616
000660 001010 A  617          JAZ     IUTLB        COPYF. GET OUT                    D.1     03 00617
000661 000073 R
000662 017000 I  618          LDA     HFBLK        CHANGE COPYR TO                   D.1     03 00618
000663 054675 A  619          STA     IUTBUF+2     COPYF                             D.1     03 00619
000664 010421 A  620          LDA     ONE          ONE FILE                          D.1     03 00620
       000665 R  621 IUC1     EQU     *                                              D.1     03 00621
000665 057000 I  622          STA     TCNT                                                   03 00622
000666 006505 A  623          JSR     IUCKLN,X     GET INPUT LOG. UNIT NO                    03 00623
000667 004034 R
000670 054674 A  624          STA     IUCPZ                                                  03 00624
000671 014331 A  625          LDA     RDMAC+3                                                03 00625
000672 150462 A  626          ANA     LHV          SET INTO                                  03 00626
000673 114671 A  627          ORA     IUCPZ        READ MACRO                                03 00627
000674 054326 A  628          STA     RDMAC+3                                                03 00628
000675 006505 A  629          JSR     IUSCAN,X     GET MODE FOR READ                         03 00629
000676 003670 R
000677 147000 I  630          SUB     N264                                                   03 00630
000700 001002 A  631          JAP     IUERR2       INVALID MODE                              03 00631
000701 000505 R
000702 120423 A  632          ADD     FOUR                                                   03 00632
000703 001004 A  633          JAN     IUERR2       INVALID MODE                              03 00633
000704 000505 R
000705 004254 A  634          LRLA    12                                                     03 00634
000706 054655 A  635          STA     IUCPY        VALID MODE -                              03 00635
000707 014313 A  636          LDA     RDMAC+3                                                03 00636
000710 157000 I  637          ANA     N10777                                                 03 00637
000711 114652 A  638          ORA     IUCPY        SET MODE INTO                             03 00638
000712 054310 A  639          STA     RDMAC+3      READ MACRO                                03 00639
000713 047000 I  640          INR     IGBLK                                                  03 00640
000714 006505 A  641          JSR     IUSCAN,X     ADVANCE SCAN TO DELIMITER                 03 00641
000715 003670 R
000716 006505 A  642          JSR     DLMCHK,X     CHECK IT                                  03 00642
000717 004260 R
000720 006505 A  643          JSR     IUCNVT,X     GET RECORD LENGTH                         03 00643
000721 004123 R
000722 001013 A  644          JANZ    IUCPA        IF RECORD LENGTH GIVEN                D.103 00644
000723 000727 R
000724 010317 A  645          LDA     V$LLUP       END OF BUFFER                     D.1     03 00645
000725 006140 A  646          SUBI    IOBUF        START OF BUFFER                   D.1     03 00646
000726 005023 R
       000727 R  647 IUCPA    EQU     *                                              D.1     03 00647
000727 005012 A  648          TAB                  SAVE RECORD LENGTH                    D.103 00648
000730 006120 A  649          ADDI    IOBUF                                              D.103 00649
000731 005023 R
000732 140317 A  650          SUB     V$LLUP                                             D.103 00650
000733 005311 A  651          DAR                                                        D.103 00651
000734 001002 A  652          JAP     IUERR2       ERROR--RECORD SIZE TOO LARGE          D.103 00652
000735 000505 R
000736 064625 A  653          STB     IUCPY        SAVE RECORD LENGTH                    D.103 00653
000737 014625 A  654          LDA     IUCPZ                                                  03 00654
000740 006505 A  655          JSR     IULNDV,X     DETERMINE DEVICE TYPE                     03 00655
000741 003727 R
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000742 005311 A   656          DAR                                                  03 00656
000743 001004 A   657          JAN     IUCPD        NOT AN RMD                      03 00657
000744 001001 R
000745 006020 A   658          LDBI    14                                           03 00658
000746 000016 A
000747 005004 A   659          TZX                                                  03 00659
000750 006015 A   660 IUCPB    LDAE    FCBLUN,X     SEARCH FCBLUN                   03 00660
000751 004654 R
000752 001010 A   661          JAZ     IUCPBC       TABLE FOR LUN                   03 00661
000753 000757 R
000754 144610 A   662          SUB     IUCPZ                                        03 00662
000755 001010 A   663          JAZ     IUCPC        FOUND IT                        03 00663
000756 000766 R
000757 005144 A   664 IUCPBC   IXR                                                  03 00664
000760 005144 A   665          IXR                                                  03 00665
000761 005322 A   666          DBR                  LAST ENTRY ?                    03 00666
000762 001026 A   667          JBNZ    IUCPB        NO                              03 00667
000763 000750 R
000764 001000 A   668          JMP     IUERR3       YES - ERROR                     03 00668
000765 000510 R
000766 006015 A   669 IUCPC    LDAE    FCBLUN+1,X   GET FCB ADDRESS                 03 00669
000767 004655 R
000770 054233 A   670          STA     RDMAC+4      INTO READ MACRO                 03 00670
000771 054571 A   671          STA     IUCPX        SAVE ADRS                       03 00671
000772 005012 A   672          TAB                                                  03 00672
000773 014570 A   673          LDA     IUCPY        SET RECORD LENGTH               03 00673
000774 056000 A   674          STA     0,B          INTO FCB                        03 00674
000775 017000 I   675          LDA     BUFAD        PUT BUFR ADRS                   03 00675
000776 056001 A   676          STA     1,B          IN FCB                          03 00676
000777 001000 A   677          JMP     IUCPE                                        03 00677
001000 001007 R
001001 014562 A   678 IUCPD    LDA     IUCPY        BUILD DCB - PUT                 03 00678
001002 057000 I   679          STA     FRDCB        RECORD LENGTH IN DCB            03 00679
001003 017000 I   680          LDA     BUFAD        PUT BUFFER ADRS                 03 00680
001004 057000 I   681          STA     FRDCB+1      IN DCB                          03 00681
001005 017000 I   682          LDA     FDCBAD                                       03 00682
001006 054215 A   683          STA     RDMAC+4      PUT DCB ADRS IN READ MACRO      03 00683
001007 006505 A   684 IUCPE    JSR     IUCKLN,X     GET 'TO' LOG. UNIT              03 00684
001010 004034 R
001011 054553 A   685          STA     IUCPZ        SAVE IT                         03 00685
001012 006505 A   686          JSR     IUSCAN,X     GET MODE FOR WRITE              03 00686
001013 003670 R
001014 147000 I   687          SUB     M264                                         03 00687
001015 001002 A   688          JAP     IUERR2       INVALID MODE                    03 00688
001016 000505 R
001017 120423 A   689          ADD     FOUR                                         03 00689
001020 001004 A   690          JAN     IUERR2       INVALID MODE                    03 00690
001021 000505 R
001022 004254 A   691          LRLA    12                                           03 00691
001023 054540 A   692          STA     IUCPY        VALID MODE -                    03 00692
001024 014462 A   693          LDA     WRMAC+3                                      03 00693
001025 157000 I   694          ANA     N10777       SET INTO                        03 00694
001026 114535 A   695          ORA     IUCPY        WRITE MACRO                     03 00695
001027 054457 A   696          STA     WRMAC+3                                      03 00696
001030 047000 I   697          INR     IGBLK                                        03 00697
001031 006505 A   698          JSR     IUSCAN,X     ADVANCE SCAN TO DELIMITER       03 00698
001032 003670 R
001033 006505 A   699          JSR     DLMCHK,X     CHECK IT                        03 00699
001034 004260 R
001035 006505 A   700          JSR     IUCNVT,X     YES, GET RECORD LENGTH          03 00700
001036 004123 R
001037 054526 A   701          STA     IUPFLG       SET PACK FLAG                   D.103 00701
001040 001016 A   702          JANZ    IUCPF        IF RECORD LENGTH GIVEN          D.103 00702
001041 001045 R
001042 010317 A   703          LDA     V$LLUP       END OF BUFFER                   D.103 00703
001043 006140 A   704          SUBI    IOBUF        START OF BUFFER                 D.103 00704
001044 005023 R
       001045 R   705 IUCPF    EQU     *                                            D.103 00705
001045 005012 A   706          TAB                  SAVE RECORD SIZE                D.103 00706
001046 006120 A   707          ADDI    IOBUF                                        D.103 00707
001047 005023 R
001050 140317 A   708          SUB     V$LLUP                                       D.103 00708
001051 005311 A   709          DAR                                                  D.103 00709
001052 001002 A   710          JAP     IUERR2       ERROR--RECORD SIZE TOO LARGE    D.103 00710
001053 000505 R
001054 064507 A   711          STB     IUCPY        SAVE RECORD LENGTH              D.103 00711
001055 005001 A   712          TZA                                                  03 00712
001056 057000 I   713          STA     LCNT         SET LUN COUNT                   03 00713
001057 014505 A   714 IUCPG    LDA     IUCPZ                                        03 00714
001060 006505 A   715          JSR     IULNDV,X     GET DEVICE TYPE                 03 00715
001061 003727 R
001062 005311 A   716          DAR                  IS IT RMD                       03 00716
001063 001004 A   717          JAN     IUCPK        NO                              03 00717
001064 001120 R
001065 006020 A   718          LDBI    14           YES -                           03 00718
001066 000016 A
001067 005004 A   719          TZX                                                  03 00719
001070 006015 A   720 IUCPH    LDAE    FCBLUN,X     SEARCH FCBLUN                   03 00720
001071 004654 R
001072 001010 A   721          JAZ     IUCPHC       TABLE FOR LUN                   03 00721
001073 001077 R
001074 144470 A   722          SUB     IUCPZ                                        03 00722
001075 001010 A   723          JAZ     IUCPJ        FOUND IT                        03 00723
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001076 001106 R
001077 005144 A   724 IUCPHC IXR                    NOT                                  03 00724
001100 005144 A   725        IXR                    FOUND -                              03 00725
001101 005322 A   726        DBR                    LAST ENTRY ?                         03 00726
001102 001026 A   727        JBNZ     IUCPH         NO - TRY NEXT                        03 00727
001103 001070 R
001104 001000 A   728        JMP      IUERR3        YES - ERROR                          03 00728
001105 000510 R
001106 006015 A   729 IUCPJ  LDAE     FCBLUN+1,X    GET FCB ADDRESS                      03 00729
001107 004655 R
001110 054452 A   730        STA      IUCPX         SAVE IT                              03 00730
001111 005012 A   731        TAB                                                         03 00731
001112 014451 A   732        LDA      IUCPY         PUT RECORD LENGTH                    03 00732
001113 056000 A   733        STA      0,B           IN FCB                               03 00733
001114 017000 I   734        LDA      BUFAD         BUFR ADRS                            03 00734
001115 056001 A   735        STA      1,B           IN FCB                               03 00735
001116 001000 A   736        JMP      IUCPL                                              03 00736
001117 001126 R
001120 014443 A   737 IUCPK  LDA      IUCPY         BUILD DCB -                          03 00737
001121 057000 I   738        STA      TODCB         RECORD LENGTH IN DCB                 03 00738
001122 017000 I   739        LDA      BUFAD         PUT BUFFER ADRS                      03 00739
001123 057000 I   740        STA      TODCB+1       IN DCB                               03 00740
001124 017000 I   741        LDA      TDCBAD                                             03 00741
001125 054435 A   742        STA      IUCPX                                              03 00742
001126 014436 A   743 IUCPL  LDA      IUCPZ                                              03 00743
001127 037000 I   744        LDX      LCNT          PUT LUN                              03 00744
001130 006055 A   745        STAE     LUNLST,X      IN LUNLST                            03 00745
001131 005004 R
001132 014430 A   746        LDA      IUCPX         PUT FCB ADRS                         03 00746
001133 006055 A   747        STAE     LUNLST+1,X    IN LUNLST                            03 00747
001134 005005 R
001135 005144 A   748        IXR                                                         03 00748
001136 005144 A   749        IXR                    INCREMENT COUNTER                    03 00749
001137 077000 I   750        STX      LCNT                                               03 00750
001140 047000 I   751        INR      IGBLK                                              03 00751
001141 006505 A   752        JSR      IUSCAN,X      MORE LUNS LEFT ?                     03 00752
001142 003670 R
001143 001010 A   753        JAZ      IUCPN         NO                                   03 00753
001144 001161 R
001145 017000 I   754        LDA      LCNT          YES -                                03 00754
001146 147000 I   755        SUB      N14           CHECK COUNT                          03 00755
001147 001002 A   756        JAP      IUERR1        TOO MANY LUNS -ERROR                 03 00756
001150 000502 R
001151 017000 I   757        LDA      IUPTR         COUNT OK,                            03 00757
001152 005311 A   758        DAR                    BACK UP                              03 00758
001153 057000 I   759        STA      IUPTR         SCAN                                 03 00759
001154 006505 A   760        JSR      IUCKLN,X      GET LOG. UNIT NO.                    03 00760
001155 004034 R
001156 054406 A   761        STA      IUCPZ                                              03 00761
001157 001000 A   762        JMP      IUCPG         GO BACK TO PROCESS LUN               03 00762
001160 001057 R
001161 005001 A   763 IUCPN  TZA                                                         03 00763
001162 054407 A   764        STA      IUCWEF        CLEAR WEOF FLAG                      03 00764
001163 057000 I   765        STA      RCNT          SET READ COUNTER                     03 00765
001164 014377 A   766        LDA      IUCPY                                              03 00766
001165 057000 I   767        STA      WCNT          SET WRITE COUNTER                    03 00767
001166 017000 I   768 IUCPD  LDA      TCNT          LAST READ ?                          03 00768
001167 001016 A   769        JANZ     RDMAC         NO                                   03 00769
001170 001220 R
001171 017000 I   770        LDA      RCNT          YES - PARTIAL RECORD LEFT ?          03 00770
001172 001010 A   771        JAZ      IUTLB         NO, ALL DONE                         03 00771
001173 000073 R
001174 014312 A   772 IUCPDB LDA      WRMAC+3       PARTIAL RECORD TO WRITE              03 00772
001175 154373 A   773        ANA      N70000        SYSTEM BINARY MODE ?                 03 00773
001176 037000 I   774        LDX      RCNT                                               03 00774
001177 005102 A   775        INCR     02            SET FILL OUT FLAG                    D.10 00775
001200 064367 A   776        STB      PBFLG                                              D.10 00776
001201 005002 A   777        TZB                                                         03 00777
001202 001013 A   778        JAZ      IUCPDC        YES - ZERO FILL RECORD               03 00778
001203 001206 R
001204 006027 A   779        LDBE     BBLK          NO - BLANK FILL RECORD               03 00779
001205 004513 R
001206 006065 A   780 IUCPDC STBE     IOBUF,X       FILL OUT                             03 00780
001207 005023 R
001210 005144 A   781        IXR                    BUFFER                               03 00781
001211 005041 A   782        TXA                    WITH                                 03 00782
001212 147000 I   783        SUB      WCNT          BLANKS                               03 00783
001213 001004 A   784        JAN      IUCPDC                                             03 00784
001214 001206 R
001215 077000 I   785        STX      RCNT                                               03 00785
001216 001000 A   786        JMP      IUCPRF                                             03 00786
001217 001416 R
                  787 RDMAC  READ     FRDCB,SI,0,1  READ INPUT RECORD                   03 00787
001220 006505 A
001221 000404 A
001222 100000 A
001223 010002 A
001224 004535 R
001225 000000 A
001226 000000 A
001227 006505 A   788        JSR      IOCHK,X       CHECK I/O STATUS                     03 00788
001230 004227 R
001231 027000 I   789        LDB      RDMAC+4       FCB/DCB ADDR                         D.10 00789
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001232 016001 A  790          LDA     1,B          CURRENT BUFFER ADDR                D.103 00790
001233 054333 A  791          STA     IUBAD                                           D.1 03 00791
001234 014324 A  792          LDA     IUTBUF+2                                           03 00792
001235 147000 I  793          SUB     HRBLK        COPYING RECORDS ?                     03 00793
001236 001010 A  794          JAZ     IUCPQE       YES                                   03 00794
001237 001323 R
001240 006017 A  795          LDAE    RDMAC+2      NO - COPYING FILES                    03 00795
001241 001222 R
001242 157000 I  796          ANA     N340                                               03 00796
001243 147000 I  797          SUB     N300         EOF ?                                 03 00797
001244 001010 A  798          JAZ     IUCPQ        YES                                   03 00798
001245 001253 R
001246 147000 I  799          SUB     N40          NO - EOT ?                            03 00799
001247 001010 A  800          JAZ     IUERR5       YES, ERROR                            03 00800
001250 000516 R
001251 001000 A  801          JMP     IUCPR                                              03 00801
001252 001334 R
001253 017000 I  802 IUCPQ    LDA     TCNT                                               03 00802
001254 005311 A  803          DAR                  DECREMENT                             03 00803
001255 057000 I  804          STA     TCNT         FILE COUNT                            03 00804
001256 017000 I  805          LDA     RCNT         BUFFER EMPTY ?                        03 00805
001257 001010 A  806          JAZ     IUCPQA       YES                                   03 00806
001260 001265 R
001261 005111 A  807          IAR                  NO -                                  03 00807
001262 054307 A  808          STA     IUCWEF       SET WEOF FLAG                         03 00808
001263 001000 A  809          JMP     IUCPRB       WRITE OUT BUFFER                      03 00809
001264 001344 R
001265 037000 1  810 IUCPQA   LDX     LCNT                                               03 00810
001266 077000 I  811          STX     MCNT         LUN COUNT                             03 00811
001267 037000 I  812 IUCPQB   LDX     MCNT                                               03 00812
001270 005344 A  813          DXR                                                        03 00813
001271 005344 A  814          DXR                                                        03 00814
001272 077000 I  815          STX     MCNT                                               03 00815
001273 014014 A  816          LDA     WEFMAC+3     SET LUN                               03 00816
001274 150462 A  817          ANA     =HFFF        INTO WEOF                             03 00817
001275 006115 A  818          LDAE    LUNLST,X     MACRO                                 03 00818
001276 005004 R
001277 054010 A  819          STA     WEFMAC+3                                           03 00819
001300 006015 A  820          LDAE    LUNLST+1,X   SET FCB/DCB ADRS                      03 00820
001301 005005 R
001302 054006 A  821          STA     WEFMAC+4     IN WEOF MACRO                         03 00821
001303 005001 A  822          TZA                                                        03 00822
001304 054265 A  823          STA     IUCWEF       CLEAR WEOF FLAG                       03 00823
               824 WEFMAC     WEOF    0,0,0,0      WRITE END OF FILE                     03 00824
001305 006505 A
001306 000404 A
001307 100000 A
001310 001000 A
001311 000000 A
001312 000000 A
001313 000000 A
001314 006505 A  825          JSR     IOCHK,X      CHECK I/O STATUS                      03 00825
001315 004227 R
001316 017000 I  826          LDA     MCNT         LAST LUN ?                            03 00826
001317 001016 A  827          JANZ    IUCPQB       NO                                    03 00827
001320 001267 R
001321 001000 A  828          JMP     IUCPD        YES                                   03 00828
001322 001166 R
001323 006017 A  829 IUCPQE   LDAE    RDMAC+2      COPYING RECORDS -                     03 00829
001324 001222 R
001325 157000 I  830          ANA     N300                                               03 00830
001326 147000 I  831          SUB     N300         EOF OR EOT ?                          03 00831
001327 001010 A  832          JAZ     IUERR5       YES - ERROR                           03 00832
001330 000516 R
001331 017000 I  833          LDA     TCNT         NO -                                  03 00833
001332 005311 A  834          DAR                  DECREMENT                             03 00834
001333 057000 I  835          STA     TCNT         RECORD COUNT                          03 00835
001334 014231 A  836 IUCPR    LDA     IUPFLG       PACKING FLAG                      D.103 00836
001335 001010 A  837          JAZ     IUCPRF       IF NOT PACKING                    D.103 00837
001336 001416 R
001337 006037 A  838          LDXE    RDMAC+4                                        D.103 00838
001340 001224 R
001341 015000 A  839          LDA     0,X          INCREMENT                             03 00839
001342 127000 I  840          ADD     RCNT         READ COUNT                            03 00840
001343 057000 I  841          STA     RCNT                                               03 00841
               001344 R  842 IUCPRB   EQU     *                                      D.103 00842
001344 014221 A  843          LDA     IUPFLG       PACKING FLAG                      D.103 00843
001345 001010 A  844          JAZ     IUCPRF       IF NOT PACKING                    D.103 00844
001346 001416 R
001347 017000 I  845          LDA     RCNT         WRITE COUNT                       D.103 00845
001350 147000 I  846          SUB     WCNT         LESS THAN READ COUNT ?                03 00846
001351 001002 A  847          JAF     IUCPRF       YES                                   03 00847
001352 001416 R
               001353 R  848 IUCPRD   EQU     *                                      D.103 00848
001353 006037 A  849          LDXE    RDMAC+4                                            03 00849
001354 001224 R
001355 017000 I  850          LDA     BUFAD        RESET INPUT BUFR                      03 00850
001356 127000 I  851          ADD     RCNT         ADRS IN FCB/DCB                       03 00851
001357 055001 A  852          STA     1,X                                                03 00852
001360 014231 A  853          LDA     IUCWEF       WEOF FLAG SET ?                       03 00853
001361 001010 A  854          JAZ     IUCPRC       NO-CHECK IF PACKB                 D.103 00854
001362 001370 R
001363 017000 I  855          LDA     RCNT         YES - BUFFER EMPTY ?                  03 00855
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001364 001010 A  856          JAZ     IUCPQA    YES - WRITE EOF'S                          03 00856
001365 001265 R
001366 001000 A  857          JMP     IUCPOB    NO - WRITE REST OF BUFFER                  03 00857
001367 001174 R
001370 014170 A  858 IUCPRC   LDA     IUTBUF+2                                             D.103 00858
001371 006140 A  859          SUBI    'B '      IF PACKB                                   D.103 00859
001372 141240 A
001373 001016 A  860          JANZ    IUCPO     NO--DO NEXT READ                           D.103 00860
001374 001166 R
001375 024171 A  861          LDB     IUBAD     BUFFER ADDR                                D.103 00861
001376 016000 A  862          LDA     0,B       OBJECT RECORD CONTROL WORD                 D.103 00862
001377 150434 A  863          ANA     BS11      LAST RECORD FLAG                           D.103 00863
001400 001016 A  864          JANZ    IUCPO     IF NOT LAST RECORD--DO NEXT READ           D.103 00864
001401 001166 R
001402 014165 A  865          LDA     PBFLG     PACKB FILL OUT FLAG                        D.103 00865
001403 001010 A  866          JAZ     IUCPRE    IF FILL OUT HAS NOT BEEN DONE YET          D.103 00866
001404 001411 R
001405 005001 A  867          TZA                                                          D.103 00867
001406 054161 A  868          STA     PBFLG     CLEAR FLAG                                 D.103 00868
001407 001000 A  869          JMP     IUCPO     DO NEXT READ                               D.103 00869
001410 001166 R
       001411 R  870 IUCPRE   EQU     *                                                    D.103 00870
001411 017000 I  871          LDA     RCNT                                                 D.103 00871
001412 001010 A  872          JAZ     IUCPO     IF BUFFER FULL--DO NEXT READ               D.103 00872
001413 001166 R
001414 001000 A  873          JMP     IUCPOB    FILL REMAINDER OF BUFFER                   D.103 00873
001415 001174 R
001416 017000 I  874 IUCPRF   LDA     LCNT      SET TEMPORARY                              03 00874
001417 057000 I  875          STA     MCNT      LUN COUNT                                  03 00875
001420 037000 I  876          LDX     MCNT                                                 03 00876
001421 005344 A  877 IUCPRG   DXR               DECREMENT                                  03 00877
001422 005344 A  878          DXR               LUN COUNT                                  03 00878
001423 077000 I  879          STX     MCNT                                                 03 00879
001424 014062 A  880          LDA     WRMAC+3   SET                                        03 00880
001425 150462 A  881          ANA     LHW       LUN                                        03 00881
001426 006115 A  882          ORAE    LUNLST,X  INTO                                       03 00882
001427 005004 R
001430 054056 A  883          STA     WRMAC+3   WRITE MACRO                                03 00883
001431 006015 A  884          LDAE    LUNLST+1,X SET FCB/DCB ADRS                          03 00884
001432 005005 R
001433 054054 A  885          STA     WRMAC+4   INTO WRITE MACRO                           03 00885
001434 005001 A  886          TZA                                                          03 00886
001435 054135 A  887          STA     TODCBF    CLEAR DCB FLAG                             03 00887
001436 014050 A  888          LDA     WRMAC+3                                              E.1********
001437 004244 A  889          LRLA    4                                                    E.1********
001440 150464 A  890          ANA     BM3       ISOLATE MODE                               E.1********
001441 005311 A  891          DAR                                                          E.1********
001442 001016 A  892          JANZ    IUCPS     IF NOT ASCII MODE                          E.1********
001443 001474 R
001444 014120 A  893          LDA     IUCPZ     GET LOGICAL UNIT NUMBER                    03 00893
001445 006505 A  894          JSR     V$DVTP,X  CHECK IF LUN = 'CT' OR 'TY'                03 00894
001446 004303 R
001447 001010 A  895          JAZ     IUCPZZ                                               03 00895
001450 001464 R
001451 006010 A  896          LDAI    'LP'                                                 03 00896
001452 146320 A
001453 057000 I  897          STA     DVTPCT                                               03 00897
001454 014110 A  898          LDA     IUCPZ                                                03 00898
001455 006505 A  899          JSR     V$DVTP,X  CHECK IF LUN = 'LP'                        03 00899
001456 004303 R
001457 006020 A  900          LDBI    'CT'                                                 03 00900
001460 141724 A
001461 067000 I  901          STB     DVTPCT                                               03 00901
001462 001016 A  902          JANZ    IUCPS                                                D.103 00902
001463 001474 R
001464 017000 I  903 IUCPZZ   LDA     TODCB+1                                              03 00903
001465 005311 A  904          DAR                                                          03 00904
001466 057000 I  905          STA     TODCB+1                                              03 00905
001467 017000 I  906          LDA     TODCB                                                03 00906
001470 005111 A  907          IAR                                                          03 00907
001471 057000 I  908          STA     TODCB                                                03 00908
001472 010421 A  909          LDA     ONE                                                  03 00909
001473 054077 A  910          STA     TODCBF    SET DCB FLAG                               03 00910
001474 014071 A  911 IUCPS    LDA     IUPFLG    PACKING FLAG                               D.103 00911
001475 001016 A  912          JANZ    WRMAC     IF PACKING                                 D.103 00912
001476 001504 R
001477 024010 A  913          LDB     WRMAC+4   FCB/DCB ADDR                               D.103 00913
001500 017000 I  914          LDA     PDMAC+5   ACTUAL READ COUNT                          D.103 00914
001501 056000 A  915          STA     9,B       SET IN WRITE FCB/DCB                       D.103 00915
001502 057000 I  916          STA     WCNT      SET WRITE COUNT TO READ COUNT              D.103 00916
001503 057000 I  917          STA     RCNT      SET READ COUNT TO ACTUAL READ COUNT        D.103 00917
               918 WRMAC      WRITE   0,0,0,0   WRITE                                      03 00918
001504 006505 A
001505 000404 A
001506 100000 A
001507 000400 A
001510 000000 A
001511 000000 A
001512 000000 A
001513 006505 A  919          JSR     IOCHK,X   CHECK I/O STATUS                           03 00919
001514 004227 R
001515 017000 I  920          LDA     TODCB+1                                              03 00920
001516 124054 A  921          ADD     TODCBF    RESET BUFFER ADRS                          03 00921
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001517 057000 I  922          STA     TODCB+1                                          03 00917
001520 017000 I  923          LDA     TODCB                                            03 00918
001521 144051 A  924          SUB     TODCBF          RESET WORD COUNT                 03 00919
001522 057000 I  925          STA     TODCB                                            03 00920
001523 006017 A  926          LDAE    WRMAC+2                                          03 00921
001524 001506 R
001525 157000 I  927          ANA     N340            TEST FOR                         03 00922
001526 147000 I  928          SUB     N340            END OF TAPE OR DEVICE            03 00923
001527 001010 A  929          JAZ     IUERR5          YES - ERROR                      03 00924
001530 000516 R
001531 037000 I  930          LDX     MCNT            LAST LUN ?                       03 00925
001532 001046 A  931          JXNZ    IUCPRB          NO - GO BACK                     03 00926
001533 001421 R
001534 017000 I  932          LDA     RCNT            YES -                            03 00927
001535 147000 I  933          SUB     WCNT            RESET                            03 00928
001536 057000 I  934          STA     RCNT            READ COUNT                       03 00929
001537 001010 A  935          JAZ     IUCPRD          BUFFER EMPTY                  D.103 00930
001540 001353 R
001541 027000 I  936          LDB     WCNT                                             03 00931
001542 005004 A  937          TZX                     BUFFER NOT EMPTY -               03 00932
001543 006016 A  938 IUCPRK   LDAE    IOBUF,B         TRANSFER                         03 00933
001544 005023 R
001545 006055 A  939          STAE    IOBUF,X         REMAINING                        03 00934
001546 005023 R
001547 005144 A  940          IXR                     WORDS                            03 00935
001550 005122 A  941          IBR                     TO                               03 00936
001551 005041 A  942          TXA                     BEGIN                            03 00937
001552 147000 I  943          SUB     RCNT            OF                               03 00938
001553 001004 A  944          JAN     IUCPRK          BUFR                             03 00939
001554 001543 R
001555 001000 A  945          JMP     IUCPRB                                           03 00940
001556 001344 R
001557           946 IUTBUF   BSS     4                                                03 00941
001563 000000 A  947 IUCPX    DATA    0                                                03 00942
001564 000000 A  948 IUCPY    DATA    0                                                03 00943
001565 000000 A  949 IUCPZ    DATA    0                                                03 00944
001566 000000 A  950 IUPFLG   DATA    0               PACKING FLAG, 0=NO, >0=YES    D.103 00945
001567 000000 A  951 IUBAD    DATA    0               CURRENT BUFFER ADDR           D.103 00946
001570 000000 A  952 PBFLG    DATA    0               PACKB FILL OUT FLAG           D.103 00947
001571 070000 A  953 N70000   DATA    070000                                           03 00948
001572 000000 A  954 IUCWEF   DATA    0                                                03 00949
001573 000000 A  955 TODCBF   DATA    0                                                03 00950
                 956          EJEC                                                  D.103 00951
                 957 *                                                              D.103 00952
                 958 *           PRINTING ROUTINE -                                D.103 00953
                 959 *           PRINTS FILES CREATED FROM                         D.103 00954
                 960 *           L.P. OUTPUT ROUTED TO OTHER DEVICE                D.103 00955
                 961 *                                                             D.103 00956
001574 006505 A  962 IUPRNT   JSR     IUCNVT,X        GET NO. OF FILES TO PRINT     D.103 00957
001575 004123 R
001576 001010 A  963          JAZ     IUTLB                                         D.103 00958
001577 000073 R
001600 057000 I  964          STA     TCNT                                          D.103 00959
001601 006505 A  965          JSR     IUCKLN,X        GET INPUT LOG. UNIT NO.       D.103 00960
001602 004034 R
001603 054312 A  966          STA     IUPFZ1                                        D.103 00961
001604 014160 A  967          LDA     RDMAC1+3        SET INTO LUN FIELD            D.103 00962
001605 150462 A  968          ANA     LHW             OF READ MACRO                 D.103 00963
001606 114307 A  969          ORA     IUPFZ1                                        D.103 00964
001607 054155 A  970          STA     RDMAC1+3                                      D.103 00965
001610 014305 A  971          LDA     IUPFZ1                                        D.103 00966
001611 006505 A  972          JSR     IULNDV,X        DETERMINE DEVICE TYPE         D.103 00967
001612 003727 R
001613 005311 A  973          DAR                                                   D.103 00968
001614 054277 A  974          STA     IUPFID          SAVE TYPE FLAG                D.103 00969
001615 001004 A  975          JAN     IUPFD1          NOT AN RMD                    D.103 00970
001616 001652 R
001617 006020 A  976          LDBI    14                                            D.103 00971
001620 000016 A
001621 005004 A  977          TZX                                                   D.103 00972
001622 006015 A  978 IUPFA    LDAE    FCBLUN,X        SEARCH FCBLUN TABLE FOR LUN   D.103 00973
001623 004654 R
001624 001010 A  979          JAZ     IUPFB1          NULL ENTRY                    D.103 00974
001625 001631 R
001626 144267 A  980          SUB     IUPFZ1                                        D.103 00975
001627 001010 A  981          JAZ     IUPFC1          FOUND IT                      D.103 00976
001630 001640 R
001631 005144 A  982 IUPFB1   IXR                                                   D.103 00977
001632 005144 A  983          IXR                                                   D.103 00978
001633 005322 A  984          DBR             LAST ENTRY?                           D.103 00979
001634 001026 A  985          JBNZ    IUPFA   NO, CHECK NEXT.                       D.103 00980
001635 001622 R
001636 001000 A  986          JMP     IUERR3  YES - ERROR                           D.103 00981
001637 000510 R
001640 006015 A  987 IUPFC1   LDAE    FCBLUN+1,X      MOVE FCB ADDRESS              D.103 00982
001641 004655 R
001642 054123 A  988          STA     RDMAC1+4        INTO READ MACRO               D.103 00983
001643 005012 A  989          TAB                                                   D.103 00984
001644 014252 A  990          LDA     IUPFIZ          SET RECORD SIZE               D.103 00985
001645 056000 A  991          STA     0,B             INTO FCB                      D.103 00986
001646 017000 I  992          LDA     BUFAD           PUT INPUT BUFF ADDR           D.103 00987
001647 056001 A  993          STA     1,B             INTO FCB                      D.103 00988
001650 001000 A  994          JMP     IUPFE                                         D.103 00989
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001651 001662 R
001652 014245 A   995 IUPFD1 LDA     IUPFDZ      BUILD DCB                          D.103 00990
001653 057000 I   996        STA     FRDCB       MOVE OUTPUT BUFFER SIZE            D.103 00991
001654 017000 I   997        LDA     BUFAD       AND BUFFER ADDR                    D.103 00992
001655 057000 I   998        STA     FRDCB+1     INTO DCB                           D.103 00993
001656 017000 I   999        LDA     FDCBAD                                         D.103 00994
001657 054106 A  1000        STA     RDMAC1+4    PUT DCB ADDR IN READ MACRO         D.103 00995
001660 005001 A  1001        TZA                                                    D.103 00996
001661 057000 I  1002        STA     LCNT                                           D.103 00997
001662 006505 A  1003 IUPFE  JSR     IUCKLN,X    GET LINE PRINTER LUN               D.103 00998
001663 004034 R
001664 054231 A  1004        STA     IUPFZ1      SAVE IT                            D.103 00999
001665 014232 A  1005        LDA     IUPFDZ      BUILD DCB                          D.103 01000
001666 057000 I  1006        STA     TDDCB       BUFFER SIZE                        D.103 01001
001667 017000 I  1007        LDA     BUFAD       AND ADDR                           D.103 01002
001670 057000 I  1008        STA     TDDCB+1     INTO DCB                           D.103 01003
001671 005001 A  1009        TZA                                                    D.103 01004
001672 057000 I  1010        STA     TDDCB+2                                        D.103 01005
001673 017000 I  1011        LDA     TDCBAD                                         D.103 01006
001674 054220 A  1012        STA     IUPFX1                                         D.103 01007
001675 014220 A  1013        LDA     IUPFZ1                                         D.103 01008
001676 037000 I  1014        LDX     LCNT        PUT LUN                            D.103 01009
001677 006055 A  1015        STAE    LUNLST,X    IN LUNLST                          D.103 01010
001700 005004 R
001701 014213 A  1016        LDA     IUPFX1      ALSO DCB ADDR                      D.103 01011
001702 006055 A  1017        STAE    LUNLST+1,X                                     D.103 01012
001703 005005 R
001704 005144 A  1018        IXR                                                    D.103 01013
001705 005144 A  1019        IXR     INCREMENT COUNTER                              D.103 01014
001706 077000 I  1020        STX     LCNT                                           D.103 01015
001707 047000 I  1021        INR     IGBLK                                          D.103 01016
001710 006505 A  1022        JSR     IUSCAN,X    MORE LUNS LEFT?                    D.103 01017
001711 003670 R
001712 001010 A  1023        JAZ     IUPFE0      NO                                 D.103 01018
001713 001725 R
001714 017000 I  1024        LDA     LCNT        YES                                D.103 01019
001715 147000 I  1025        SUB     N14         CHECK COUNT                        D.103 01020
001716 001002 A  1026        JAP     IUERR1      TOO MANY LUNS - ERROR              D.103 01021
001717 000502 R
001720 017000 I  1027        LDA     IUPTR       BACK UP POINTER                    D.103 01022
001721 005311 A  1028        DAR                 FOR SCAN                           D.103 01023
001722 057000 I  1029        STA     IUPTR                                          D.103 01024
001723 001000 A  1030        JMP     IUPFE       GO BACK TO PROCESS NEXT LUN        D.103 01025
001724 001662 R
001725 037000 I  1031 IUPFE0 LDX     LCNT        LUN COUNT                          D.103 01026
001726 005344 A  1032 IUPFE1 DXR                 DECREMENT                          D.103 01027
001727 005344 A  1033        DXR                  LUN COUNT                         D.103 01028
001730 077000 I  1034        STX     MCNT        SAVE IT                            D.103 01029
001731 014012 A  1035        LDA     TOFFUN+3    SET LUN INTO                       D.103 01030
001732 150462 A  1036        ANA     LHW         WRITE MACRO                        D.103 01031
001733 006115 A  1037        ORAE    LUNLST,X                                       D.103 01032
001734 005004 R
001735 054006 A  1038        STA     TOFFUN+3                                       D.103 01033
001736 006015 A  1039        LDAE    LUNLST+1,X  SET FCB/DCB ADDRESS                D.103 01034
001737 005005 R
001740 054004 A  1040        STA     TOFFUN+4     INTO FUNC MACRO                   D.103 01035
               1041 TOFFUN FUNC    0,0,0,0     TOP-OF-FORM FUNC                   D.103 01036
001741 006505 A
001742 000404 A
001743 100000 A
001744 002400 A
001745 000000 A
001746 000000 A
001747 000000 A
001750 006505 A  1042        JSR     IOCHK,X     CHECK I/O STATUS                   D.103 01037
001751 004227 R
001752 037000 I  1043        LDX     MCNT        LAST LUN                           D.103 01038
001753 001046 A  1044        JXNZ    IUPFE1      NO, DO NEXT LUN                    D.103 01039
001754 001726 R
               001755 R  1045 IUPFN  EQU     *           MAIN PRINT LOOP            D.103 01040
001755 017000 I  1046        LDA     TCNT        CHECK FILE COUNT                   D.103 01041
001756 001016 A  1047        JANZ    IUPFD       NOT DONE, PRINT NEXT FILE          D.103 01042
001757 001762 R
001760 001000 A  1048        JMP     IUTLB       ALL DONE, NO MORE FILES.           D.103 01043
001761 000073 R
               001762 R  1049 IUPFD  EQU     *                                      D.103 01044
               1050 RDMAC1 READ    FRDCB,SI,0,1 READ INPUT RECORD, MODE ASCII(1)  D.103 01045
001762 006505 A
001763 000404 A
001764 100000 A
001765 010002 A
001766 004535 R
001767 000000 A
001770 000000 A
001771 006505 A  1051        JSR     IOCHK,X     CHECK I/O STATUS                   D.103 01046
001772 004227 R
001773 006017 A  1052        LDAE    RDMAC1+2    PICK UP STATUS                     D.103 01047
001774 001764 R
001775 157000 I  1053        ANA     N340                                           D.103 01048
001776 147000 I  1054        SUB     N300        EOF?                               D.103 01049
001777 001010 A  1055        JAZ     IUPFQ       YES                                D.103 01050
002000 002014 R
002001 147000 I  1056        SUB     N40         NO - EOD?                          D.103 01051
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002002 001010 A 1057          JAZ     IUERR5      YES, ERROR                                  D.103 01052
002003 000516 R
002004 014107 A 1058          LDA     IUPFID      RMD?                                        D.103 01053
002005 001002 A 1059          JAP     IUPFRA      YES, USE MAX REC LENGTH TO PRINT RECORD     D.103 01054
002006 002054 R
002007 006017 A 1060          LDAE    RDMAC1+5    NO, USE NO OF WDS INPUT                     D.103 01055
002010 001767 R
002011 057000 I 1061          STA     TODCB       MOVE WORD COUNT INTO OUTPUT DCB             D.103 01056
002012 001000 A 1062          JMP     IUPFRA      PRINT RECORD                                D.103 01057
002013 002054 R
002014 017000 I 1063 IUPFQ    LDA     TCNT        WE GO HERE ON EOF ON INPUT FILE             D.103 01058
002015 005311 A 1064          DAR                 DECREMENT                                   D.103 01059
002016 057000 I 1065          STA     TCNT        FILE COUNT                                  D.103 01060
002017 037000 I 1066          LDX     LCNT        LUN COUNT                                   D.103 01061
002020 005344 A 1067 IUPFQA   DXR                                                             D.103 01062
002021 005344 A 1068          DXR                                                             D.103 01063
002022 077000 I 1069          STX     MCNT                                                    D.103 01064
002023 014012 A 1070          LDA     FUNMAC+3    SET LUN                                     D.103 01065
002024 150462 A 1071          ANA     LHW         INTO FUNC                                   D.103 01066
002025 006115 A 1072          ORAE    LUNLST,X    MACRO                                       D.103 01067
002026 005004 R
002027 054006 A 1073          STA     FUNMAC+3                                                D.103 01068
002030 006015 A 1074          LDAE    LUNLST+1,X  SET FCB/DCB ADDR                            D.103 01069
002031 005005 R
002032 054004 A 1075          STA     FUNMAC+4    IN FUNC MACRO                               D.103 01070
               1076 FUNMAC    FUNC    0,0,0,0     FUNC(CODE=0)- TOP OF FORMS                  D.103 01071
002033 006505 A
002034 000404 A
002035 100000 A
002036 002400 A
002037 000000 A
002040 000000 A
002041 000000 A
002042 006505 A 1077          JSR     IOCHK,X     CHECK I/O STATUS                            D.103 01072
002043 004227 R
002044 037000 I 1078          LDX     MCNT        LAST LUN                                    D.103 01073
002045 001046 A 1079          JXNZ    IUPFQA      NO                                          D.103 01074
002046 002020 R
002047 014044 A 1080          LDA     IUPFID      YES, CHECK IF RMD OR NOT                    D.103 01075
002050 001002 A 1081          JAP     IUTLB       RMD, ALL DONE                               D.103 01076
002051 000073 R
002052 001000 A 1082          JMP     IUPFN       NOT RMD, PRINT NEXT FILE                    D.103 01077
002053 001755 R
002054 017000 I 1083 IUPFRA   LDA     LCNT        SET TEMPORARY                               D.103 01078
002055 005014 A 1084          TAX                                                             D.103 01079
002056 005344 A 1085 IUPFRB   DXR                 DECREMENT                                   D.103 01080
002057 005344 A 1086          DXR                 LUN COUNT                                   D.103 01081
002060 077000 I 1087          STX     MCNT        SAVE IT                                     D.103 01082
002061 014012 A 1088          LDA     WRMAC1+3    SET LUN INTO                                D.103 01083
002062 150462 A 1089          ANA     LHW         WRITE MACRO                                 D.103 01084
002063 006115 A 1090          ORAE    LUNLST,X                                                D.103 01085
002064 005004 R
002065 054006 A 1091          STA     WRMAC1+3                                                D.103 01086
002066 006015 A 1092          LDAE    LUNLST+1,X  SET FCB/DCB ADDR                            D.103 01087
002067 005005 R
002070 054004 A 1093          STA     WRMAC1+4    INTO WRITE MACRO                            D.103 01088
               1094 WRMAC1    WRITE   0,0,0,1     WRITE MACRO, ASCII MODE(1)                  D.103 01089
002071 006505 A
002072 000404 A
002073 100000 A
002074 010400 A
002075 000000 A
002076 000000 A
002077 000000 A
002100 006505 A 1095          JSR     IOCHK,X     CHECK I/O STATUS                            D.103 01090
002101 004227 R
002102 006017 A 1096          LDAE    WRMAC1+2    GET COMPLETION CODE                         D.103 01091
002103 002073 R
002104 157000 I 1097          ANA     M340        ISOLATE IT                                  D.103 01092
002105 001016 A 1098          JANZ    IUERR5      NOT NORMAL I/O COMPLETE- ERROR              D.103 01093
002106 000516 R
002107 037000 I 1099          LDX     MCNT        NORMAL I/O COMPLETE, LAST LUN?              D.103 01094
002110 001046 A 1100          JXNZ    IUPFRB      NO, GO BACK                                 D.103 01095
002111 002056 R
002112 001000 A 1101          JMP     IUPFQ       DO NEXT READ.                               D.103 01096
002113 001762 R
               1102 *                                                                        D.103 01097
002114 000000 A 1103 IUPFID   DATA    0                                                       D.103 01098
002115 000000 A 1104 IUPFX1   DATA    0                                                       D.103 01099
002116 000000 A 1105 IUPFZ1   DATA    0                                                       D.103 01100
002117 000170 A 1106 IUPF1Z   DATA    120         120 WD/SECTOR FOR RMD READ                  D.103 01101
002120 000102 A 1107 IUPF0Z   DATA    66          MAX RECORD LENGTH(132 COL. PRINTER)         D.103 01102
               1108           EJEC                                                           03 01103
               1109 *                                                                        03 01104
               1110 *                            SKIP FILES SUBCOMPONENT                     03 01105
               1111 *                                                                        03 01106
002121 006505 A 1112 IUSFIL   JSR     IUCKLN,X    GET LOG. UNIT NO.                           03 01107
002122 004034 R
002123 057000 I 1113          STA     IUSFZ                                                   03 01108
002124 006505 A 1114          JSR     IULNDV,X    GET DEVICE TYPE                             03 01109
002125 003727 R
002126 001010 A 1115          JANZ    IUERR2      DEVICE NOT MAG TAPE - ERROR                 03 01110
002127 000505 R
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002130 006505 A 1116          JSR     IUCNVT,X    GET NO. OF FILES TO SKIP                    03 01111
002131 004123 R
002132 001010 A 1117          JAZ     IUTLB       ZERO - DONE                                 03 01112
002133 000073 R
002134 057000 I 1118          STA     TCNT                                                    03 01113
002135 014006 A 1119          LDA     SRMAC+3     SET LOG.                                    03 01114
002136 150462 A 1120          ANA     LHW         UNIT NO.                                    03 01115
002137 117000 I 1121          ORA     IUSFZ       INTO                                        03 01116
002140 054003 A 1122          STA     SRMAC+3     SREC MACRO                                  03 01117
               1123 SRMAC     SREC    0,0,0,0     SKIP ONE RECORD                             03 01118
002141 006505 A
002142 000404 A
002143 100000 A
002144 002000 A
002145 000000 A
002146 000000 A
002147 000000 A
002150 006505 A 1124          JSR     IOCHK,X     CHECK I/O STATUS                            03 01119
002151 004227 R
002152 006017 A 1125          LDAE    SRMAC+2                                                 03 01120
002153 002143 R
002154 157000 I 1126          ANA     N340        TEST STATUS                                 03 01121
002155 147000 I 1127          SUB     N340        EOT ?                                       03 01122
002156 001010 A 1128          JAZ     IUERR5      YES - ERROR                                 03 01123
002157 000516 R
002160 127000 I 1129          ADD     N40         NO- EOF ?                                   03 01124
002161 001016 A 1130          JANZ    SRMAC       NO - GO BACK                                03 01125
002162 002141 R
002163 017000 I 1131          LDA     TCNT        YES -                                       03 01126
002164 005311 A 1132          DAR                 REDUCE COUNT                                03 01127
002165 001010 A 1133          JAZ     IUTLB       IF ZERO - DONE                              03 01128
002166 000073 R
002167 057000 I 1134          STA     TCNT        RESET COUNT                                 03 01129
002170 001000 A 1135          JMP     SRMAC       REPEAT                                      03 01130
002171 002141 R
               1136           EJEC                                                            03 01131
               1137 *                                                                         03 01132
               1138 *                             REWIND SUBCOMPONENT                         03 01133
               1139 *                                                                         03 01134
002172 006505 A 1140 IUREW    JSR     IUCKLN,X    GET LOG UNIT NO.                            03 01135
002173 004034 R
002174 054033 A 1141          STA     IUREZ                                                   03 01136
002175 006505 A 1142          JSR     IULNDV,X    GET DEVICE TYPE                             03 01137
002176 003727 R
002177 001016 A 1143          JANZ    IUERR2      NOT MAG TAPE - ERROR                        03 01138
002200 000505 R
002201 014006 A 1144          LDA     REWMAC+3                                                03 01139
002202 150462 A 1145          ANA     LHW         SET LOG.UNIT NO.                            03 01140
002203 114024 A 1146          ORA     IUREZ       INTO REW MACRO                              03 01141
002204 054003 A 1147          STA     REWMAC+3                                                03 01142
               1148 REWMAC    REW     0,0,0,0     REWIND                                      03 01143
002205 006505 A
002206 000404 A
002207 100000 A
002210 001400 A
002211 000000 A
002212 000000 A
002213 000000 A
002214 006505 A 1149          JSR     IOCHK,X     CHECK I/O STATUS                            03 01144
002215 004227 R
002216 047000 I 1150          INR     IGBLK                                                   03 01145
002217 006505 A 1151          JSR     IUSCAN,X    MORE LUNS LEFT ?                            03 01146
002220 003670 R
002221 001010 A 1152          JAZ     IUTLB       NO - DONE                                   03 01147
002222 000073 R
002223 017000 I 1153          LDA     IUPTR       YES -                                       03 01148
002224 005311 A 1154          DAR                 BACK UP                                     03 01149
002225 057000 I 1155          STA     IUPTR       SCAN                                        03 01150
002226 001000 A 1156          JMP     IUREW       GO BACK FOR NEXT                            03 01151
002227 002172 R
002230 000000 A 1157 IUREZ    DATA    0                                                       03 01152
               1158           EJEC                                                            03 01153
               1159 *                                                                         03 01154
               1160 *                             SKIP RECORDS SUBCOMPONENT                   03 01155
               1161 *                                                                         03 01156
002231 006505 A 1162 IUSREC   JSR     IUCKLN,X    GET LOG. UNIT NO.                           03 01157
002232 004034 R
002233 054071 A 1163          STA     IUSRZ                                                   03 01158
002234 006505 A 1164          JSR     IULNDV,X    GET DEVICE TYPE                             03 01159
002235 003727 R
002236 001004 A 1165          JAN     IUERR2      NOT RMD, NOT MT, ERROR                      03 01160
002237 000505 R
002240 001010 A 1166          JAZ     IUSRH       MAG TAPE                                    03 01161
002241 002266 R
002242 005004 A 1167          TZX                                                             03 01162
002243 006020 A 1168          LDBI    14          RMD -                                       03 01163
002244 000016 A
002245 006015 A 1169 IUSRB    LDAE    FCBLUN,X    SCAN FCBLUN                                 03 01164
002246 004654 R
002247 001010 A 1170          JAZ     IUSRC       TABLE FOR LUN                               03 01165
002250 002254 R
002251 144053 A 1171          SUB     IUSRZ                                                   03 01166
002252 001010 A 1172          JAZ     IUSRG       FOUND                                       03 01167
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002253 002263 R
002254 005144 A 1173 IUSRC   IXR                NOT FOUND -                                  03 01168
002255 005144 A 1174         IXR                INCREMENT INDEX                              03 01169
002256 005322 A 1175         DBR                END OF TABLE ?                               03 01170
002257 001026 A 1176         JBNZ    IUSRB      NO - GO BACK                                 03 01171
002260 002243 R
002261 001000 A 1177         JMP     IUERR3     YES - ERROR                                  03 01172
002262 000510 R
002263 006015 A 1178 IUSRG   LDAE    FCBLUN+1,X                                              03 01173
002264 004655 R
002265 054015 A 1179         STA     SRMACB+4   PUT FCB ADRS IN MACRO                        03 01174
002266 006505 A 1180 IUSRH   JSR     IUCNVT,X   GET NO. OF RECORDS                           03 01175
002267 004123 R
002270 001010 A 1181         JAZ     IUTLB      ZERO - DONE                                  03 01176
002271 000073 R
002272 057000 I 1182         STA     TCNT                                                    03 01177
002273 014006 A 1183         LDA     SRMACB+3                                                03 01178
002274 150462 A 1184         ANA     LHW        PUT LUN INTO                                 03 01179
002275 114027 A 1185         ORA     IUSRZ      SREC MACRO                                   03 01180
002276 054003 A 1186         STA     SRMACB+3                                                03 01181
               1187 SRMACB   SREC    0,0,0,0    SKIP RECORD                                  03 01182
002277 006505 A
002300 000404 A
002301 100000 A
002302 002000 A
002303 000000 A
002304 000000 A
002305 000000 A
002306 006505 A 1188         JSR     IOCHK,X    CHECK I/O STATUS                             03 01183
002307 004227 R
002310 006017 A 1189         LDAE    SRMACB+2                                                03 01184
002311 002301 R
002312 157000 I 1190         ANA     N300       GET STATUS                                   03 01185
002313 147000 I 1191         SUB     N300       EOF OR EOT ?                                 03 01186
002314 001010 A 1192         JAZ     IUERR5     YES - ERROR                                  03 01187
002315 000516 R
002316 017000 I 1193         LDA     TCNT       NO -                                         03 01188
002317 005311 A 1194         DAR                DECREMENT COUNT                              03 01189
002320 001010 A 1195         JAZ     IUTLB      DONE - RETURN                                03 01190
002321 000073 R
002322 057000 I 1196         STA     TCNT       RESET COUNT                                  03 01191
002323 001000 A 1197         JMP     SRMACB     GO BACK                                      03 01192
002324 002277 R
002325 000000 A 1198 IUSRZ   DATA    0                                                       03 01193
               1199          EJEC                                                           03 01194
               1200 *                                                                       03 01195
               1201 *                          WEOF SUBCOMPONENT                            03 01196
               1202 *                                                                       03 01197
002326 006505 A 1203 IUWEOF  JSR     IUCKLN,X   GET LOG. UNIT NO.                            03 01198
002327 004034 R
002330 054027 A 1204         STA     IUWEZ                                                   03 01199
002331 014006 A 1205         LDA     MACWF+3                                                 03 01200
002332 150462 A 1206         ANA     LHW        SET LUN INTO                                 03 01201
002333 114024 A 1207         ORA     IUWEZ      WEOF MACRO                                   03 01202
002334 054003 A 1208         STA     MACWF+3                                                 03 01203
               1209 MACWF    WEOF    0,0,0,0    WRITE EOF                                    03 01204
002335 006505 A
002336 000404 A
002337 100000 A
002340 001000 A
002341 000000 A
002342 000000 A
002343 000000 A
002344 006505 A 1210         JSR     IOCHK,X    CHECK I/O STATUS                             03 01205
002345 004227 R
002346 047000 I 1211         INR     IGBLK                                                   03 01206
002347 006505 A 1212         JSR     IUSCAN,X   LAST LUN ?                                   03 01207
002350 003670 R
002351 001010 A 1213         JAZ     IUTLB      YES - RETURN                                 03 01208
002352 000073 R
002353 017000 I 1214         LDA     IUPTR      NO -                                         03 01209
002354 005311 A 1215         DAR                BACK UP                                      03 01210
002355 057000 I 1216         STA     IUPTR      SCAN                                         03 01211
002356 001000 A 1217         JMP     IUWEOF     REPEAT                                       03 01212
002357 002326 R
002360 000000 A 1218 IUWEZ   DATA    0                                                       03 01213
               1219          EJEC                                                           03 01214
               1220 *                                                                       03 01215
               1221 *                          PFILE SUBCOMPONENT                           03 01216
               1222 *                                                                       03 01217
002361 006505 A 1223 IUPFIL  JSR     IUCKLN,X   GET LOG UNIT NO.                             03 01218
002362 004034 R
002363 054215 A 1224         STA     IUPFZ                                                   03 01219
002364 140422 A 1225         SUB     TWO        IS THIS LUN 51 ?                             03 01220
002365 001010 A 1226         JAZ     IUERR2     YES - ERROR                                  03 01221
002366 000505 R
002367 120422 A 1227         ADD     TWO            NO -                                     03 01222
002370 006503 A 1228         JSR     IULNDV,X   GET DEVICE TYPE                              03 01223
002371 003727 R
002372 005311 A 1229         DAR                RMD ?                                        03 01224
002373 001004 A 1230         JAN     IUERR2     NO - ERROR                                   03 01225
002374 000505 R
002375 006030 A 1231         LDXI    14                                                      03 01226
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002376 000016 A                                                                                    03 01226
002377 005002 A 1232          TZB                 IS THERE A FCB                                   03 01227
002400 006016 A 1233 IUPFAB   LDAE    FCBLUN,B     ALREADY OPEN FOR THIS LUN ?                      03 01228
002401 004654 R
002402 144176 A 1234          SUB     IUPFZ                                                        03 01229
002403 001010 A 1235          JAZ     IUPFD        YES                                             03 01230
002404 002445 R
002405 005122 A 1236          IBR                                                                  03 01231
002406 005122 A 1237          IBR                                                                  03 01232
002407 005344 A 1238          DXR                                                                  03 01233
002410 001046 A 1239          JXNZ    IUPFAB                                                       03 01234
002411 002400 R
002412 014166 A 1240          LDA     IUPFZ        NO -                                            03 01235
002413 140423 A 1241          SUB     FOUR         DOES THIS LUN USE A GLOBAL FCB ?                03 01236
002414 001004 A 1242          JAN     IUPFB        NO                                              03 01237
002415 002430 R
002416 140467 A 1243          SUB     SEVEN                                                        03 01238
002417 001002 A 1244          JAP     IUPFB        NO                                              03 01239
002420 002430 R
002421 120467 A 1245          ADD     SEVEN        YES -                                           03 01240
002422 004241 A 1246          LRLA    1            COMPUTE ADRS FOR                                03 01241
002423 006120 A 1247          ADDI    14           FCBLUN ENTRY                                    03 01242
002424 000016 A
002425 005012 A 1248          TAB                                                                  03 01243
002426 001000 A 1249          JMP     IUPFD                                                        03 01244
002427 002445 R
002430 005002 A 1250 IUPFB    TZB                                                                  03 01245
002431 030466 A 1251          LDX     SIX                                                          03 01246
002432 006016 A 1252 IUPFC    LDAE    FCBLUN,B     FIND FCB NOT ALREADY IN USE                     03 01247
002433 004654 R
002434 001010 A 1253          JAZ     IUPFD        FOUND ONE                                       03 01248
002435 002445 R
002436 005122 A 1254          IBR                  IN USE -                                        03 01249
002437 005122 A 1255          IBR                                                                  03 01250
002440 005344 A 1256          DXR                  END OF TABLE ?                                  03 01251
002441 001046 A 1257          JXNZ    IUPFC        NO                                              03 01252
002442 002432 R
002443 001000 A 1258          JMP     IUERR1       YES - ERROR                                     03 01253
002444 000502 R
002445 064137 A 1259 IUPFD    STB     IUPFY        SAVE ENTRY NO.                                  03 01254
002446 014116 A 1260          LDA     OPMAC+3                                                      03 01255
002447 150462 A 1261          ANA     LHW          PUT LUN IN                                      03 01256
002450 114130 A 1262          ORA     IUPFZ        OPEN MACRO                                      03 01257
002451 054113 A 1263          STA     OPMAC+3                                                      03 01258
002452 047000 I 1264          INR     IGBLK                                                        03 01259
002453 006505 A 1265          JSR     IUSCAN,X     GET PROT. KEY                                   03 01260
002454 003670 R
002455 054123 A 1266          STA     IUPFY                                                        03 01261
002456 147000 I 1267          SUB     N234         IS THIS A DELIMITER ?                           03 01262
002457 001010 A 1268          JAZ     IUPFEC       YES - COMMA                                     03 01263
002460 002473 R
002461 147000 I 1269          SUB     N21                                                          03 01264
002462 001010 A 1270          JAZ     IUPFEC       YES - EQUALS SIGN                               03 01265
002463 002473 R
002464 047000 I 1271          INR     IGBLK        NO -                                            03 01266
002465 006505 A 1272          JSR     IUSCAN,X     ADVANCE SCAN TO DELIMITER                       03 01267
002466 003670 R
002467 006505 A 1273          JSR     DLMCHK,X     CHECK IT                                        03 01268
002470 004260 R
002471 001000 A 1274          JMP     IUPFEG                                                       03 01269
002472 002474 R
002473 054107 A 1275 IUPFEC   STA     IUPFY        NO KEY - ASSUME ZERO                            03 01270
002474 006036 A 1276 IUPFEG   LDXE    FCBLUN+1,B   GET FCB ADRS                                    03 01271
002475 004655 R
002476 005001 A 1277          TZA                                                              C   03 01272
002477 114103 A 1278          ORA     IUPFY        IN FCB                                          03 01273
002500 110431 A 1279          ORA     B38          SET FOR SEQUENTIAL ADRS                         03 01274
002501 055002 A 1280          STA     2,X                                                          03 01275
002502 074063 A 1281          STX     OPMAC+4      PUT FCB ADRS IN OPEN MACRO                      03 01276
002503 006505 A 1282          JSR     IUCNVT,X     YES - GET RECORD LENGTH                         03 01277
002504 004123 R
002505 001010 A 1283          JAZ     IUERR2       TOO SMALL - ERROR                               03 01278
002506 000505 R
002507 144606 A 1284          SUB     N2001                                                        03 01279
002510 001002 A 1285          JAP     IUERR2       TOO LARGE - ERROR                               03 01280
002511 000505 R
002512 124603 A 1286          ADD     N2001                                                        03 01281
002513 024052 A 1287          LDB     OPMAC+4                                                      03 01282
002514 056000 A 1288          STA     0,B          STORE REC LENGTH IN FCB                         03 01283
002515 006017 A 1289          LDAE    DBLK                                                         03 01284
002516 004513 R
002517 056007 A 1290          STA     7,B          BLANK                                           03 01285
002520 056010 A 1291          STA     8,B          OUT FILE NAME                                   03 01286
002521 056011 A 1292          STA     9,B                                                          03 01287
002522 006047 A 1293          INRE    IGBLK                                                        03 01288
002523 004431 R
002524 010464 A 1294          LDA     THREE        SET COUNT                                       03 01289
002525 054056 A 1295 IUPFG    STA     IUPFW                                                        03 01290
002526 006505 A 1296          JSR     IUSCAN,X     GET RT HAND CHAR FOR FILE NAME                  03 01291
002527 003670 R
002530 001010 A 1297          JAZ     OPMAC        END OF BUFFER                                   03 01292
002531 002562 R
002532 144053 A 1298          SUB     N256         PERIOD ?                                        03 01293
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002533 001010 A 1299          JAZ     OPMAC    YES - END OF BUFFER                    03 01294
002534 002562 R
002535 124050 A 1300          ADD     N256                                            03 01295
002536 004250 A 1301          LRLA    8                                               03 01296
002537 054042 A 1302          STA     IUPFX    SAVE CHAR                              03 01297
002540 006127 A 1303          ADDE    N240                                            03 01298
002541 004430 R
002542 056007 A 1304          STA     7,B      STORE IN FILE NAME                     03 01299
002543 006505 A 1305          JSR     IUSCAN,X GET RT HAND CHAR                       03 01300
002544 003670 R
002545 001010 A 1306          JAZ     OPMAC    END OF BUFFER                          03 01301
002546 002562 R
002547 144036 A 1307          SUB     N256     PERIOD ?                               03 01302
002550 001010 A 1308          JAZ     OPMAC    YES                                    03 01303
002551 002562 R
002552 124033 A 1309          ADD     N256     NO -                                   03 01304
002553 114026 A 1310          ORA     IUPFX    COMBINE WITH LH CHAR                   03 01305
002554 056007 A 1311          STA     7,B      STORE IN FILE NAME                     03 01306
002555 005122 A 1312          IBR                                                     03 01307
002556 014025 A 1313          LDA     IUPFW    GET COUNT                              03 01308
002557 005311 A 1314          DAR              DONE ?                                 03 01309
002560 001016 A 1315          JANZ    IUPFG    NO - GO BACK                           03 01310
002561 002525 R
               1316 OPMAC     OPEN    0,0,0,0  OPEN FCB                               03 01311
002562 006505 A
002563 000404 A
002564 100000 A
002565 003000 A
002566 000000 A
002567 000000 A
002570 000000 A
002571 006505 A 1317          JSR     IUCHK,X  CHECK I/O STATUS                       03 01312
002572 004227 R
002573 024011 A 1318          LDB     IUPFV    GOOD -                                 03 01313
002574 014004 A 1319          LDA     IUPFZ    SET LUN IN                             03 01314
002575 006056 A 1320          STAE    FCBLUN,B FCBLUN TABLE                           03 01315
002576 004654 R
002577 001000 A 1321          JMP     IUTLB    RETURN                                 03 01316
002600 000073 R
002601 000000 A 1322 IUPFZ    DATA    0                                               03 01317
002602 000000 A 1323 IUPFX    DATA    0                                               03 01318
002603 000000 A 1324 IUPFY    DATA    0                                               03 01319
002604 000000 A 1325 IUPFW    DATA    0                                               03 01320
002605 000000 A 1326 IUPFV    DATA    0                                               03 01321
002606 000256 A 1327 N256     DATA    0256                                            03 01322
               1328           EJEC                                                    03 01323
               1329 *                                                                 03 01324
               1330 *                  DUMP SUBCOMPONENT                              03 01325
               1331 *                                                                 03 01326
002607 006505 A 1332 IUDUMP   JSR     IUCNVT,X GET NO. OF RECORDS                     03 01327
002610 004123 R
002611 057000 I 1333          STA     TCNT                                            03 01328
002612 006505 A 1334          JSR     IUCKLN,X GET LOG UNIT NO.                       03 01329
002613 004034 R
002614 054475 A 1335          STA     IUDPZ                                           03 01330
002615 047000 I 1336          INR     TGBLK                                           03 01331
002616 006505 A 1337          JSR     IUSCAN,X GET MODE                               03 01332
002617 003670 R
002620 147000 I 1338          SUB     NP64                                            03 01333
002621 001002 A 1339          JAP     IUERR2   INVALID - ERROR                        03 01334
002622 000505 R
002623 120423 A 1340          ADD     FOUR                                            03 01335
002624 001004 A 1341          JAN     IUERR2   INVALID - ERROR                        03 01336
002625 000505 R
002626 004254 A 1342          LRLA    12                                              03 01337
002627 054461 A 1343          STA     IUDPY                                           03 01338
002630 014121 A 1344          LDA     MACRD+3  SET MODE                               03 01339
002631 157000 I 1345          ANA     N10777                                          03 01340
002632 114456 A 1346          ORA     IUDPY                                           03 01341
002633 150462 A 1347          ANA     LHW      AND LUN                                03 01342
002634 114455 A 1348          ORA     IUDPZ                                           03 01343
002635 054114 A 1349          STA     MACRD+3  INTO READ MACRO                        03 01344
002636 047000 I 1350          INR     TGBLK                                           03 01345
002637 006505 A 1351          JSR     IUSCAN,X ADVANCE SCAN TO DELIMITER              03 01346
002640 003670 R
002641 006505 A 1352          JSR     DLMCHK,X CHECK IT                               03 01347
002642 004260 R
002643 006505 A 1353          JSR     IUCNVT,X GET RECORD LENGTH                      03 01348
002644 004123 R
002645 144450 A 1354          SUB     N2001    CHECK IT                               03 01349
002646 001002 A 1355          JAP     IUERR2   INVALID                                03 01350
002647 000505 R
002650 124445 A 1356          ADD     N2001                                           03 01351
002651 001010 A 1357          JAZ     IUERR2   INVALID                                03 01352
002652 000505 R
002653 054435 A 1358          STA     IUDPY                                           03 01353
002654 014435 A 1359          LDA     IUDPZ                                           03 01354
002655 006505 A 1360          JSR     IULNDV,X GET DEVICE TYPE                        03 01355
002656 003727 R
002657 005311 A 1361          DAR              IS IT RMB ?                            03 01356
002660 001004 A 1362          JAN     IUDPD    NO                                     03 01357
002661 002715 R
002662 005004 A 1363          TZX              YES -                                  03 01358
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002663 006020 A 1364         LDBI    14              SEARCH FCBLUN                          03 01359
002664 000016 A
002665 006015 A 1365 IUDPB   LDAE    FCBLUN,X        TABLE FOR LUN                          03 01360
002666 004654 R
002667 001010 A 1366         JAZ     IUDPBC                                                 03 01361
002670 002674 R
002671 144420 A 1367         SUB     IUDPZ                                                  03 01362
002672 001010 A 1368         JAZ     IUDPC           FOUND                                  03 01363
002673 002703 R
002674 005144 A 1369 IUDPBC  IXR                     NOT.FOUND -                            03 01364
002675 005144 A 1370         IXR                                                            03 01365
002676 005322 A 1371         DBR                     END OF TABLE ?                         03 01366
002677 001026 A 1372         JBNZ    IUDPB           NO                                     03 01367
002700 002665 R
002701 001000 A 1373         JMP     IUERR3          YES - ERROR                            03 01368
002702 000510 R
002703 006015 A 1374 IUDPC   LDAE    FCBLUN+1,X      GET FCB ADRS                           03 01369
002704 004655 R
002705 054405 A 1375         STA     IUDPX                                                  03 01370
002706 005C12 A 1376         TAB                                                            03 01371
002707 014401 A 1377         LDA     IUDPY           PUT REC LENGTH                         03 01372
002710 056000 A 1378         STA     0,B             IN FCB                                 03 01373
002711 017000 I 1379         LDA     BUFAD                                                  03 01374
002712 056001 A 1380         STA     1,B             PUT BUFFER ADRS IN FCB                 03 01375
002713 001000 A 1381         JMP     IUDPE                                                  03 01376
002714 002723 R
002715 014373 A 1382 IUDPD   LDA     IUDPY           BUILD DCB -                            03 01377
002716 057000 I 1383         STA     FRDCB           RECORD LENGTH IN DCB                   03 01378
002717 017000 I 1384         LDA     BUFAD           BUFR ADRS                              03 01379
002720 057000 I 1385         STA     FRDCB+1         IN DCB                                 03 01380
002721 017000 I 1386         LDA     FDCBAD                                                 03 01381
002722 054370 A 1387         STA     IUDPX                                                  03 01382
002723 014367 A 1388 IUDPE   LDA     IUDPX           SET FCB/DCB ADRS                       03 01383
002724 054026 A 1389         STA     MACRD+4         IN READ MACRO                          03 01384
002725 006505 A 1390         JSR     IUCKLN,X        GET 'TO' LOG UNIT NO.                  03 01385
002726 004034 R
002727 054362 A 1391         STA     IUDPZ                                                  03 01386
002730 006505 A 1392         JSR     IULNDV,X        GET DEVICE TYPE                        03 01387
002731 003727 R
002732 005311 A 1393         DAR                     RMD ?                                  03 01388
002733 001002 A 1394         JAP     IUERR2          YES - ERROR                            03 01389
002734 000505 R
002735 014255 A 1395         LDA     IUDPJ+3                                                03 01390
002736 150462 A 1396         ANA     LHW             SET LUN INTO                           03 01391
002737 114352 A 1397         ORA     IUDPZ           PRINT MACRO                            03 01392
002740 054252 A 1398         STA     IUDPJ+3                                                03 01393
002741 014313 A 1399         LDA     IUDPKB+3                                               03 01394
002742 150462 A 1400         ANA     LHW             SET LUN INTO                           03 01395
002743 114346 A 1401         ORA     IUDPZ           PRINT MACRO                            03 01396
002744 054310 A 1402         STA     IUDPKB+3        FOR HEADINGS                           03 01397
002745 010421 A 1403         LDA     ONE                                                    03 01398
002746 057000 I 1404         STA     RECNO                                                  03 01399
               1405 MACRD    READ    0,0,0,0         READ RECORD                            03 01400
002747 006505 A
002750 000404 A
002751 100000 A
002752 000000 A
002753 000000 A
002754 000000 A
002755 000000 A
002756 006505 A 1406         JSR     IOCHK,X         CHECK I/O STATUS                       03 01401
002757 004227 R
002760 006017 A 1407         LDAE    MACRD+2                                                03 01402
002761 002751 R
002762 157000 I 1408         ANA     N300            GET STATUS                             03 01403
002763 147000 I 1409         SUB     N300            EOF OR EOT ?                           03 01404
002764 001016 A 1410         JANZ    IUDPF           NO--CONTINUE                       D.103 01405
002765 002773 R
002766 017000 I 1411         LDA     TCNT            RECORD COUNT                       D.103 01406
002767 001016 A 1412         JANZ    IUERR5          IF NOT ZERO THEN EOF/EOD IS AN ERROR D.103 01407
002770 000516 R
002771 001000 A 1413         JMP     IUTLB           RETURN IF EOF FOUND                D.103 01408
002772 000073 R
002773 006017 A 1414 IUDPF   LDAE    DBLK                                               D.103 01409
002774 004513 R
002775 037000 I 1415         LDX     D40                                                    03 01410
002776 006055 A 1416 IUDPG   STAE    PRBAD+1,X       CLEAR                                  03 01411
002777 004552 R
003000 005344 A 1417         DXR                     PRINT                                  03 01412
003001 001046 A 1418         JXNZ    IUDPG           BUFFER                                 03 01413
003002 002776 R
003003 027000 I 1419         LDB     RELN1                                                  03 01414
003004 017000 I 1420         LDA     RECNO                                                  03 01415
003005 006505 A 1421         JSR     BINASC,X        PUT RECORD                             03 01416
003006 003635 R
               1422          WRITE   RCDCB,LO,0,1    OUTPUT RECORD NUMBER                   03 01417
003007 006505 A
003010 000404 A
003011 100000 A
003012 010400 A
003013 004546 R
003014 000000 A
003015 000000 A
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003016 006505 A 1423          JSR     IOCHK,X     CHECK FOR IO PROBLEMS                          03 01418
003017 004227 R
003020 006030 A 1424          LDXI    47                                                         C  03 01419
003021 000057 A
003022 017000 I 1425          LDA     DBLK                                                       C  03 01420
003023 006055 A 1426 IUDP1    STAE    PRBUF,1     BLANK FILL ONE BUFFER WORD                     C  03 01421
003024 004553 R
003025 001040 A 1427          JXZ     IUDP2       JUMP IF BUFFER FULLY BLANKED                   C  03 01422
003026 003032 R
003027 005344 A 1428          DXR                                                                C  03 01423
003030 001000 A 1429          JMP     IUDP1                                                      C  03 01424
003031 003023 R
       003032 R 1430 IUDP2    EQU     *                                                          C  03 01425
003032 047000 I 1431          INR     LNCNT       INCREMENT LINE COUNT                              03 01426
003033 005004 A 1432          TZX                                                                   03 01427
003034 074257 A 1433          STX     IUDX        SET WORDS INTO.                                   03 01428
003035 074257 A 1434          STX     IUDY        PRINT LINE                                        03 01429
003036 017000 I 1435          LDA     PRBAD                                                         03 01430
003037 004241 A 1436          LRLA    1           POINTER                                           03 01431
003040 054311 A 1437          STA     PPTR                                                          03 01432
003041 054311 A 1438          STA     IUDPW                                                         03 01433
003042 005001 A 1439 IUDPH    TZA                                                                   03 01434
003043 034251 A 1440          LDX     IUDY                                                          03 01435
003044 006025 A 1441          LDBE    IOBUF,X     GET WORD                                          03 01436
003045 005023 R
003046 004441 A 1442          LLRL    1                                                             03 01437
003047 127000 I 1443          ADD     N260        BIT 15                                            03 01438
003050 006505 A 1444          JSR     IUPUT,X     INTO LINE                                         03 01439
003051 003317 R
003052 004443 A 1445          LLRL    3                                                             03 01440
003053 127000 I 1446          ADD     N260        BITS 14-12                                        03 01441
003054 006505 A 1447          JSR     IUPUT,X     INTO LINE                                         03 01442
003055 003317 R
003056 004443 A 1448          LLRL    3                                                             03 01443
003057 127000 I 1449          ADD     N260        BITS 11-9                                         03 01444
003060 006505 A 1450          JSR     IUPUT,X     INTO LINE                                         03 01445
003061 003317 R
003062 004443 A 1451          LLRL    3                                                             03 01446
003063 127000 I 1452          ADD     N260        BITS 8-6                                          03 01447
003064 006505 A 1453          JSR     IUPUT,X     INTO LINE                                         03 01448
003065 003317 R
003066 004443 A 1454          LLRL    3                                                             03 01449
003067 127000 I 1455          ADD     N260        BITS 5-3                                          03 01450
003070 006505 A 1456          JSR     IUPUT,X     INTO LINE                                         03 01451
003071 003317 R
003072 004443 A 1457          LLRL    3                                                             03 01452
003073 127000 I 1458          ADD     N260        BITS 2-0                                          03 01453
003074 006505 A 1459          JSR     IUPUT,X     INTO LINE                                         03 01454
003075 003317 R
003076 006017 A 1460          LDAE    N240                                                          03 01455
003077 004430 R
003100 006505 A 1461          JSR     IUPUT,X     PUT BLANK BETWEEN WORDS                           03 01456
003101 003317 R
003102 024211 A 1462          LDB     IUDX                                                          03 01457
003103 005122 A 1463          IBR                                                                   03 01458
003104 064207 A 1464          STB     IUDX                                                          03 01459
003105 006627 A 1465          SRE     TEN,7,020   LINE COMPLETE ?                                   03 01460
003106 000471 A
003107 001000 A 1466          JMP     IUDPL       NO                                                03 01461
003110 003266 R
003111 006017 A 1467          LDAE    MACRD+3                                                    C  03 01462
003112 002752 R
003113 004354 A 1468          LSRA    12          GET MODE                                       C  03 01463
003114 005311 A 1469          DAR                                                                C  03 01464
003115 001016 A 1470          JANZ    IUDPJ       SKIP ASCII SCAN IF NOT IN ASCII MODE           C  03 01465
003116 003210 R
003117 006017 A 1471          LDAE    N240        BLANK                                          C  03 01466
003120 004430 R
003121 006505 A 1472          JSR     IUPUT,X                                                    C  03 01467
003122 003317 R
003123 006505 A 1473          JSR     IUPUT,X                                                    C  03 01468
003124 003317 R
003125 006505 A 1474          JSR     IUPUT,X                                                    C  03 01469
003126 003317 R
003127 006505 A 1475          JSR     IUPUT,X     INSERT BLANK CHARS                             C  03 01470
003130 003317 R
003131 014163 A 1476          LDA     IUDY                                                       C  03 01471
003132 006140 A 1477          SUBI    011         SET BACK TO START OF LINE                      C  03 01472
003133 000011 A
003134 054014 A 1478          STA     CNT                                                        C  03 01473
003135 034013 A 1479 IUASC    LDX     CNT                                                        C  03 01474
003136 006025 A 1480          LDBE    IOBUF,X     GET WORD                                       C  03 01475
003137 005023 R
003140 002000 A 1481          CALL    ASCII       CHECK FOR ASCII AND STORE                      C  03 01476
003141 003152 R
003142 044006 A 1482          INR     CNT                                                        C  03 01477
003143 014151 A 1483          LDA     IUDY                                                       C  03 01478
003144 144004 A 1484          SUB     CNT         CHECK FOR END OF LINE                          C  03 01479
003145 001002 A 1485          JAP     IUASC       JUMP IF MORE WORDS TO CHECK                    C  03 01480
003146 003135 R
003147 001000 A 1486          JMP     IUDPJ       GO TO OUTPUT LINE                              C  03 01481
003150 003210 R
003151 000000 A 1487 CNT      DATA    0                                                          C  03 01482
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                    1488 *                                                                                C   03 01483
                    1489 *       SUBROUTINE TO PERFORM SCAN FOR ASCII CHARS                               C   03 01484
                    1490 *            BLANK FILLS NON ASCII BYTES AND STORES THEN                         C   03 01485
                    1491 *                                                                                C   03 01486
003152 000000 A     1492 ASCII   ENTR                                                                       C   03 01487
003153 005021 A     1493         TBA                                                                        C   03 01488
003154 004350 A     1494         LSRA    8                  LEFT CHAR                                       C   03 01489
003155 002003 A     1495         CALL    ASCOK              CHECK IF ASCII CHAR                             C   03 01490
003156 003171 R
003157 006505 A     1496         JSR     IUPUT,X            STORE IT                                        C   03 01491
003160 003317 R
003161 005021 A     1497         TBA                                                                        C   03 01492
003162 150463 A     1498         ANA     RHW                RIGHT CHAR                                      C   03 01493
003163 002000 A     1499         CALL    ASCOK              CHECK IF ASCII CHAR                             C   03 01494
003164 003171 R
003165 006505 A     1500         JSR     IUPUT,X            STORE IT                                        C   03 01495
003166 003317 R
003167 001000 A     1501         RETU*   ASCII                                                              C   03 01496
003170 103152 R
                    1502 *                                                                                C   03 01497
003171 000000 A     1503 ASCOK   ENTR                                                                       C   03 01498
003172 147000 I     1504         SUB     N240                                                              C   03 01499
003173 001004 A     1505         JAN     ASCA               UNPRINTABLE                                     C   03 01500
003174 003205 R
003175 006140 A     1506         SUBI    0340-0240                                                         C   03 01501
003176 000100 A
003177 001002 A     1507         JAP     ASCA               UNPRINTABLE                                     C   03 01502
003200 003205 R
003201 006120 A     1508         ADDI    0340               RESTORE CHAR AS IT IS PRINTABLE                 C   03 01503
003202 000340 A
003203 001000 A     1509         RETU*   ASCOK                                                             C   03 01504
003204 103171 R
003205 017000 I     1510 ASCA    LDA     N240               REPLACE WITH BLANK                              C   03 01505
003206 001000 A     1511         RETU*   ASCOK                                                             C   03 01506
003207 103171 R
                    1512 *                                                                                    03 01507
                    1513 IUDPJ   WRITE   PRDCB,LO,0,1       YES - PRINT LINE                                 03 01508
003210 006505 A
003211 000404 A
003212 100000 A
003213 010405 A
003214 004635 R
003215 000000 A
003216 000000 A
003217 006505 A     1514         JSR     IOCHK,X            CHECK I/O STATUS                                03 01509
003220 004227 R
003221 037000 I     1515         LDX     D40                                                                03 01510
003222 006017 A     1516         LDAE    DBLK               CLEAR                                           03 01511
003223 004513 R
003224 006055 A     1517 IUDPK   STAE    PRBAD+1,X          PRINT                                           03 01512
003225 004552 R
003226 005344 A     1518         DXR                        BUFFER                                          03 01513
003227 001046 A     1519         JANZ    IUDPK                                                              03 01514
003230 003224 R
003231 014121 A     1520         LDA     IUDPW                                                              03 01515
003232 054117 A     1521         STA     PPTR                                                               03 01516
003233 005004 A     1522         TZX                                                                        03 01517
003234 074057 A     1523         STX     IUDX               RESET LINE                                      03 01518
003235 006017 A     1524         LDAE    LNCNT              WORD COUNT                                      03 01519
003236 000651 R
003237 005111 A     1525         IAR                        INCREMENT                                       03 01520
003240 006057 A     1526         STAE    LNCNT              LINE COUNT                                      03 01521
003241 000651 R
003242 140054 A     1527         SUB     V$LCNT             PAGE FULL ?                                     03 01522
003243 001004 A     1528         JAN     IUDPL              NO                                              03 01523
003244 003266 R
003245 027000 I     1529         LDB     PGAD               YES -                                           03 01524
003246 047000 I     1530         INR     PAGNO                                                              03 01525
003247 017000 I     1531         LDA     PAGNO                                                              03 01526
003250 006505 A     1532         JSR     BINASC,X           SET PAGE NUMBER IN HDG                          03 01527
003251 003635 R
                    1533 IUDPKB  WRITE   HEADCB,LO,0,1      PRINT HEADING                                    03 01528
003252 006505 A
003253 000404 A
003254 100000 A
003255 010405 A
003256 004477 R
003257 000000 A
003260 000000 A
003261 006505 A     1534         JSR     IOCHK,X            CHECK I/O STATUS                                03 01529
003262 004227 R
003263 010421 A     1535         LDA     ONE                                                                03 01530
003264 006057 A     1536         STAE    LNCNT              RESET LINE COUNT                                03 01531
003265 000651 R
003266 014026 A     1537 IUDPL   LDA     IUDY                                                               03 01532
003267 005111 A     1538         IAR                        INCREMENT                                       03 01533
003270 054024 A     1539         STA     IUDY               WORD COUNT                                      03 01534
003271 144017 A     1540         SUB     IUDPY              END OF THE RECORD ?                             03 01535
003272 001004 A     1541         JAN     IUDPH              NO                                              03 01536
003273 003042 R
003274 014017 A     1542         LDA     IUDX               YES - PARTIAL LINE TO PRINT ?                   03 01537
003275 001016 A     1543         JANZ    IUDPJ              YES                                             03 01538
003276 003210 R
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003277 017000 I 1544          LDA     TCNT            NO -                                    03 01539
003300 001010 A 1545          JAZ     IUDPM           IF ZERO THEN LOOKING FOR EOF          D.103 01540
003301 003306 R
003302 005311 A 1546          DAR                     DECREMENT COUNT                         03 01541
003303 001010 A 1547          JAZ     IUTLB           RETURN IF DONE                          03 01542
003304 000073 R
003305 057000 I 1548          STA     TCNT                                                    03 01543
       003306 R 1549 IUDPM    EQU     *                                                     D.103 01544
003306 047000 I 1550          INR     RECNO           NOT DONE -                              03 01545
003307 001000 A 1551          JMP     MACRD           GET NEXT RECORD                         03 01546
003310 002747 R
003311 000000 A 1552 IUDPY    DATA    0                                                       03 01547
003312 000000 A 1553 IUDPZ    DATA    0                                                       03 01548
003313 000000 A 1554 IUDPX    DATA    0                                                       03 01549
003314 000000 A 1555 IUDX     DATA    0                                                       03 01550
003315 000000 A 1556 IUDY     DATA    0                                                       03 01551
003316 002001 A 1557 N2001    DATA    02001                                                   03 01552
               1558           EJEC                                                          03 01553
               1559 *         SUBROUTINE TO STORE ONE CHARACTER, PPTR/2 IS WORD              03 01554
               1560 *         ADDRESS, PPTR(0)=0 GIVES BITS 15-8, PPTR(0)=1                 03 01555
               1561 *         GIVES BITS 7-09  ENTER WITH CHARACTER IN A REGISTER,           03 01556
               1562 *         BITS 7-0.                                                     03 01557
003317 064031 A 1563 IUPUT    STB     IUPUTZ                                                03 01558
003320 150463 A 1564          ANA     RHW                                                   03 01559
003321 054026 A 1565          STA     IUPUTY                                                03 01560
003322 024027 A 1566          LDB     PPTR                                                  03 01561
003323 005021 A 1567          TBA                                                           03 01562
003324 005111 A 1568          IAR                                                           03 01563
003325 054024 A 1569          STA     PPTR                                                  03 01564
003326 004141 A 1570          LSRB    1                                                     03 01565
003327 006440 A 1571          BT      RA0+B0,IUPUTA                                         03 01566
003330 003340 R
003331 016000 A 1572          LDA     0,B                                                   03 01567
003332 004250 A 1573          LRLA    8                                                     03 01568
003333 150462 A 1574          ANA     LHW                                                   03 01569
003334 114013 A 1575          ORA     IUPUTY                                                03 01570
003335 004250 A 1576          LRLA    8                                                     03 01571
003336 001000 A 1577          JMP     IUPUTB                                                03 01572
003337 003343 R
003340 016000 A 1578 IUPUTA   LDA     0,B                                                   03 01573
003341 150462 A 1579          ANA     LHW                                                   03 01574
003342 114005 A 1580          ORA     IUPUTY                                                03 01575
003343 056000 A 1581 IUPUTB   STA     0,B                                                   03 01576
003344 024004 A 1582          LDB     IUPUTZ                                                03 01577
003345 005001 A 1583          TZA                                                           03 01578
003346 006705 A 1584          IJMP    0,X             RETURN                                03 01579
003347 000000 A
003350 000000 A 1585 IUPUTY   DATA    0                                                     03 01580
003351 000000 A 1586 IUPUTZ   DATA    0                                                     03 01581
003352 000000 A 1587 PPTR     DATA    0                                                     03 01582
003353 000000 A 1588 IUDPW    DATA    0                                                     03 01583
               1589           EJEC                                                          03 01584
               1590 *                                                                       03 01585
               1591 *                                                                       03 01586
               1592 *                         CLOSE FILE SUBCOMPONENT                       03 01587
               1593 *                                                                       03 01588
               1594 *                                                                       03 01589
003354 006505 A 1595 IUCFIL   JSR     IUCKLN,X        GET LOG UNIT NO.                      03 01590
003355 004034 R
003356 054250 A 1596          STA     IUCFZ                                                 03 01591
003357 140422 A 1597          SUB     TWO             IS THIS LUN SI ?                      03 01592
003360 001010 A 1598          JAZ     IUERR2          YES -  ERROR                          03 01593
003361 000505 R
003362 120422 A 1599          ADD     TWO             NO                                    03 01594
003363 006020 A 1600          LDBI    14                                                    03 01595
003364 000016 A
003365 005004 A 1601          TZX                     SEARCH FCBLUN TABLE                   03 01596
003366 006015 A 1602 IUCFA    LDAE    FCBLUN,X        FOR THIS LUN.                         03 01597
003367 004653 R
003370 001010 A 1603          JAZ     IUCFB                                                 03 01598
003371 003373 R
003372 144234 A 1604          SUB     IUCFZ                                                 03 01599
003373 001010 A 1605          JAZ     IUCFD           FOUND                                 03 01600
003374 003404 R
003375 005144 A 1606 IUCFB    IXR                     NOT FOUND -                           03 01601
003376 005144 A 1607          IXR                                                           03 01602
003377 005322 A 1608          DNZ                                                           03 01603
003400 001026 A 1609          JBNZ    IUCFA           LOOK AT NEXT ENTRY                    03 01604
003401 003366 R
003402 001000 A 1610          JMP     IUERR3          END OF TABLE - ERROR                  03 01605
003403 000510 R
003404 014173 A 1611 IUCFD    LDA     CLMAC+3                                               03 01606
003405 150462 A 1612          ANA     LHW             PUT LUN INTO                          03 01607
003406 114220 A 1613          ORA     IUCFZ           CLOSE MACRO                           03 01608
003407 054173 A 1614          STA     CLMAC+3                                               03 01609
003410 006015 A 1615          LDAE    FCBLUN+1,X                                            03 01610
003411 004655 R
003412 054215 A 1616          STA     IUCFY           FCB ADRS                              03 01611
003413 074213 A 1617          STX     IUCFZ           SAVE FCBLUN ENTRY ADRS                03 01612
003414 047000 I 1618          INR     IGBLK                                                 03 01613
003415 006505 A 1619          JSR     IUSCAN,X        GET KEY                               03 01614
003416 003670 R
003417 054205 A 1620          STA     IUCFX                                                 03 01615
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003420 147000 I 1621          SUB     N254        IS THIS A COMMA ?                          03 01616
003421 001010 A 1622          JAZ     IUCFDB      YES                                        03 01617
003422 003435 R
003423 147000 I 1623          SUB     N21         NO - EQUALS SIGN ?                         03 01618
003424 001010 A 1624          JAZ     IUCFDB      YES                                        03 01619
003425 003435 R
003426 047000 I 1625          INR     IGBLK       NEITHER -                                  03 01620
003427 006505 A 1626          JSR     IUSCAN,X    ADVANCE SCAN TO DELIMITER                  03 01621
003430 003670 R
003431 006505 A 1627          JSR     DLMCHK,X    CHECK IT                                   03 01622
003432 004260 R
003433 001000 A 1628          JMP     IUCFDD                                                 03 01623
003434 003436 R
003435 054167 A 1629 IUCFDB   STA     IUCFX       NO KEY - DEFAULT TO ZERO                   03 01624
003436 024171 A 1630 IUCFDD   LDB     IUCFY                                                  03 01625
003437 016002 A 1631          LDA     2,B         THIS KEY SAME                              03 01626
003440 150463 A 1632          ANA     RHW         AS KEY IN                                  03 01627
003441 144163 A 1633          SUB     IUCFX       FCB ?                                      03 01628
003442 001016 A 1634          JANZ    IUERR2      NO - ERROR                                 03 01629
003443 000505 R
003444 006017 A 1635          LDAE    DBLK                                                   03 01630
003445 004513 R
003446 054162 A 1636          STA     IUCFTB                                                 03 01631
003447 054162 A 1637          STA     IUCFTB+1                                               03 01632
003450 054162 A 1638          STA     IUCFTB+2                                               03 01633
003451 005002 A 1639          TZB                                                            03 01634
003452 006505 A 1640 IUCFDG   JSR     IUSCAN,X    SCAN OFF FILE NAME                         03 01635
003453 003670 R
003454 001010 A 1641          JAZ     IUCFEC                                                 03 01636
003455 003546 R
003456 147000 I 1642          SUB     N254        COMMA ?                                    03 01637
003457 001010 A 1643          JAZ     IUCFE       YES                                        03 01638
003460 003532 R
003461 140422 A 1644          SUB     TWO         NO - PERIOD ?                              03 01639
003462 001010 A 1645          JAZ     IUCFEC      YES                                        03 01640
003463 003546 R
003464 144137 A 1646          SUB     N17         NO - EQUALS SIGN ?                         03 01641
003465 001010 A 1647          JAZ     IUCFE       YES                                        03 01642
003466 003532 R
003467 127000 I 1648          ADD     N275                                                   03 01643
003470 004250 A 1649          LRLA    8                                                      03 01644
003471 054131 A 1650          STA     IUCFV                                                  03 01645
003472 114735 A 1651          ORA     N240                                                   03 01646
003473 006056 A 1652          STAE    IUCFTB,B    SAVE CHAR                                  03 01647
003474 003631 R
003475 006505 A 1653          JSR     IUSCAN,X                                               03 01648
003476 003670 R
003477 001010 A 1654          JAZ     IUCFEC                                                 03 01649
003500 003546 R
003501 147000 I 1655          SUB     N254        COMMA ?                                    03 01650
003502 001010 A 1656          JAZ     IUCFE       YES                                        03 01651
003503 003532 R
003504 140422 A 1657          SUB     TWO         NO - PERIOD ?                              03 01652
003505 001010 A 1658          JAZ     IUCFEC      YES                                        03 01653
003506 003546 R
003507 144114 A 1659          SUB     N17         NO - EQUALS SIGN ?                         03 01654
003510 001010 A 1660          JAZ     IUCFE       YES                                        03 01655
003511 003532 R
003512 127000 I 1661          ADD     N275        NO -                                       03 01656
003513 114107 A 1662          ORA     IUCFV       COMBINE WITH PREV CHAR                     03 01657
003514 006056 A 1663          STAE    IUCFTB,B                                               03 01658
003515 003631 R
003516 005122 A 1664          IRR                                                            03 01659
003517 005021 A 1665          TBA                                                            03 01660
003520 140464 A 1666          SUB     THREE       FILENAME COMPLETE ?                        03 01661
003521 001004 A 1667          JAN     IUCFDG      NO - GO BACK                               03 01662
003522 003452 R
003523 044705 A 1668          INR     IGBLK       YES -                                      03 01663
003524 006505 A 1669          JSR     IUSCAN,X    ADVANCE SCAN TO DELIMITER                  03 01664
003525 003670 R
003526 001010 A 1670          JAZ     IUCFEC                                                 03 01665
003527 003546 R
003530 006505 A 1671          JSR     DLMCHK,X    CHECK IT                                   03 01666
003531 004260 R
003532 044676 A 1672 IUCFE    INR     IGBLK                                                  03 01667
003533 006505 A 1673          JSR     IUSCAN,X    GET MODE                                   03 01668
003534 003670 R
003535 001010 A 1674          JAZ     IUCFEC                                                 03 01669
003536 003546 R
003537 147000 I 1675          SUB     N262        CHECK IT                                   03 01670
003540 001002 A 1676          JAP     IUERR2      TOO BIG - ERROR                            03 01671
003541 000505 R
003542 120422 A 1677          ADD     TWO                                                    03 01672
003543 001004 A 1678          JAN     IUERR2      TOO SMALL - ERROR                          03 01673
003544 000505 R
003545 004254 A 1679          LRLA    12                                                     03 01674
003546 054057 A 1680 IUCFEC   STA     IUCFW       SAVE MODE                                  03 01675
003547 024060 A 1681          LDB     IUCFY                                                  03 01676
003550 014060 A 1682          LDA     IUCFTB      CHECK FILE NAME                            03 01677
003551 006146 A 1683          SUBE    7,B         1ST 2 CHAR MATCH ?                         03 01678
003552 000007 A
003553 001015 A 1684          JANZ    IUERR2      NO                                         03 01679
003554 000505 R
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003555 014054 A 1685          LDA     IUCFTB+1    YES -                                  03 01680
003556 006146 A 1686          SUBE    8,B         2ND 2 CHAR MATCH ?                     03 01681
003557 000010 A
003560 001016 A 1687          JANZ    IUERR2      NO                                     03 01682
003561 000505 R
003562 014050 A 1688          LDA     IUCFTB+2    YES -                                  03 01683
003563 006146 A 1689          SUBE    9,B         3RD 2 CHAR MATCH ?                     03 01684
003564 000011 A
003565 001016 A 1690          JANZ    IUERR2      NO                                     03 01685
003566 000505 R
003567 014010 A 1691          LDA     CLMAC+3                                            03 01686
003570 154725 0 1692          ANA     N10777      SET MODE INTO                          03 01687
003571 114034 A 1693          ORA     IUCFW       CLOSE MACRO                            03 01688
003572 054005 A 1694          STA     CLMAC+3                                            03 01689
003573 014034 A 1695          LDA     IUCFY       PUT FCB ADRS IN                        03 01690
003574 054004 A 1696          STA     CLMAC+4     CLOSE MACRO                            03 01691
               1697 CLMAC     CLOSE   0,0,0,0     CLOSE                                  03 01692
003575 006505 A
003576 000404 A
003577 100000 A
003600 003400 A
003601 000000 A
003602 000000 A
003603 000000 A
003604 006503 A 1698          JSR     IOCHK,X     CHECK I/O STATUS                       03 01693
003605 004227 R
003606 034020 A 1699          LDX     IUCFZ                                              03 01694
003607 005001 A 1700          TZA                 CLEAR FCBLUN                           03 01695
003610 006053 A 1701          STAE    FCBLUN,X    ENTRY                                  03 01696
003611 004654 R
003612 020471 A 1702          LDB     TEN                                                03 01697
003613 034014 A 1703          LDX     IUCFY                                              03 01698
003614 055000 A 1704 IUCFK    STA     0,X         CLEAR                                  03 01699
003615 005144 A 1705          IXR                 FCB                                    03 01700
003616 005322 A 1706          DBR                                                        03 01701
003617 001026 A 1707          JBNZ    IUCFK                                              03 01702
003620 003614 R
003621 001000 A 1708          JNP     IUTLB       RETURN                                 03 01703
003622 000073 R
003623 000000 A 1709 IUCFV    DATA    0                                                  03 01704
003624 000017 A 1710 N17      DATA    017                                                03 01705
003625 000000 A 1711 IUCFX    DATA    0                                                  03 01706
003626 000000 A 1712 IUCFW    DATA    0                                                  03 01707
003627 000000 A 1713 IUCFZ    DATA    0                                                  03 01708
003630 000000 A 1714 IUCFY    DATA    0                                                  03 01709
003631          1715 IUCFTB   BSS     4                                                  03 01710
                1716          CSEC                                                       03 01711
                1717 *                                                                   03 01712
                1718 *                    BINARY TO ASCII CONVERSION                   03 01713
                1719 *                    HAVE BINARY NUMBER IN A,                     03 01714
                1720 *                    ADDRESS TO STORE ASCII IN B.                 03 01715
                1721 *                    MAX VALUE IS 9999 - 4 DIGITS,                03 01716
                1722 *                    TWO WORDS.                                   03 01717
                1723 *                                                                 03 01718
003632 074030 A 1724 BINASC   STX     BINZ        SAVE RETURN                            03 01719
003633 005024 A 1725          TBX                                                        03 01720
003634 005012 A 1726          TAB                                                        03 01721
003635 005001 A 1727          TZA                                                        03 01722
003636 170471 A 1728          DIV     TEN         GET ONE'S                              03 01723
003637 054022 A 1729          STA     BINY        DIGIT                                  03 01724
003640 005001 A 1730          TZA                                                        03 01725
003641 170471 A 1731          DIV     TEN         GET TEN'S                              03 01726
003642 004250 A 1732          LRLA    0           DIGIT                                  03 01727
003643 114015 A 1733          ORA     BINY                                               03 01728
003644 124017 A 1734          ADD     HDZERO                                             03 01729
003645 055001 A 1735          STA     1,X         PUT IN RESULT                          03 01730
003646 005001 A 1736          TZA                                                        03 01731
003647 170471 A 1737          DIV     TEN         GET 100'S                              03 01732
003650 054011 A 1738          STA     BINY        DIGIT                                  03 01733
003651 005001 A 1739          TZA                                                        03 01734
003652 170471 A 1740          DIV     TEN         GET 1000'S                             03 01735
003653 004250 A 1741          LRLA    0           DIGIT                                  03 01736
003654 114005 A 1742          ORA     BINY                                               03 01737
003655 124006 A 1743          ADD     HDZERO                                             03 01738
003656 055000 A 1744          STA     0,X         STORE IN RESULT                        03 01739
003657 034003 A 1745          LDX     BINZ                                               03 01740
003660 006705 A 1746          XJMP    0,X         RETURN                                 03 01741
003661 000000 A
003662 000000 A 1747 BINY     DATA    0                                                  03 01742
003663 000003 A 1748 BINZ     DATA    3                                                  03 01743
003664 130260 A 1749 HDZERO   DATA    '00'                                               03 01744
                1750          BSC                                                        03 01745
                1751 *                    SUBROUTINE TO GET ONE CHARACTER,             03 01746
                1752 *                    IUPTR/2 IS WORD ADDRESS. IUPTR(0)=0          03 01747
                1753 *                    GIVES BITS 15-8, IUPTR(0)=1 GIVES            03 01748
                1754 *                    BITS 7-0.                                    03 01749
                1755 *                    CHARACTER RETURNED IN A REG BITS 7-0.        03 01750
                1756 *                    INCREMENTS POINTER, SAVES B REG.             03 01751
                1757 *                    IF IGBLK DOES NOT EQUAL ZERO,                03 01752
                1758 *                    BLANKS ARE IGNORED.                          03 01753
                1759 *                                                                 03 01754
                1760 *                                                                 03 01755
003670 064035 A 1761 IUSCAN STB       IUSCZ       SAVE B                                 03 01756
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003671 006027 A 1762 IUSCA   LDBE    IUPTR          GET CHAR POINTER                    03 01757
003672 004432 R
003673 005021 A 1763         TBA                                                       03 01758
003674 005111 A 1764         IAR                    INCREMENT                          03 01759
003675 006057 A 1765         STAE    IUPTR          AND SAVE                           03 01760
003676 004432 R
003677 004141 A 1766         LSRB    1                                                 03 01761
003700 006440 A 1767         BT      RA0+B0,IUSCD                                      03 01762
003701 003706 R
003702 016000 A 1768         LDA     0,B            IUPTR IS ODD -                     03 01763
003703 004350 A 1769         LSRA    8              GET BITS 15-8                      03 01764
003704 001000 A 1770         JMP     IUSCG                                             03 01765
003705 003710 R
003706 016000 A 1771 IUSCD   LDA     0,B            IUPTR IS EVEN -                    03 01766
003707 150463 A 1772         ANA     RHW            GET BITS 7-0                       03 01767
003710 024520 A 1773 IUSCG   LDB     IGBLK          IGNORE BLANKS ?                    03 01768
003711 001020 A 1774         JBZ     IUSCL          NO                                 03 01769
003712 003723 R
003713 006147 A 1775         SUBE    N240           YES - BLANK CHAR ?                 03 01770
003714 004430 R
003715 001010 A 1776         JAZ     IUSCA          YES - GO BACK                      03 01771
003716 003671 R
003717 006127 A 1777         ADDE    N240           NO -                               03 01772
003720 004430 R
003721 005002 A 1778         TZB                    CLEAR FLAG                         03 01773
003722 064506 A 1779         STB     IGBLK                                             03 01774
003723 024002 A 1780 IUSCL   LDB     IUSCZ          RESTORE B                          03 01775
003724 006705 A 1781         IJMP    0,X            RETURN                             03 01776
003725 000000 A
003726 000000 A 1782 IUSCZ   DATA    0                                                 03 01777
                1783         EJEC                                                      03 01778
                1784 *                              SUBROUTINE TO DETERMINE DEVICE     03 01779
                1785 *                              TYPE.  ENTER WITH A = LOGICAL      03 01780
                1786 *                              UNIT NUMBER; RETURN WITH A SET     03 01781
                1787 *                              = 1 FOR RMD'S, A = 0 FOR MT'S,     03 01782
                1788 *                              AND A = -1 FOR ALL OTHER DEVICES.  03 01783
                1789 *                              B IS SAVED.                        03 01784
                1790 *                                                                 03 01785
                1791 *                                                                 03 01786
003727 054102 A 1792 IULNDV  STA     IULNY          SAVE A                             03 01787
003730 064102 A 1793         STB     IULNZ          SAVE B                             03 01788
003731 144601 A 1794         SUB     D101           LUN LT 101 ?                       03 01789
003732 001002 A 1795         JAP     IULNB          NO                                 03 01790
003733 003745 R
003734 020400 A 1796         LDB     V$LUT1         YES -                              03 01791
003735 016000 A 1797         LDA     0,B            TEST FOR                           03 01792
003736 144073 A 1798         SUB     IULNY          VALID LUN                          03 01793
003737 001004 A 1799         JAN     IUERR2         OUT OF RANGE - ERROR               03 01794
003740 000505 R
003741 010400 A 1800         LDA     V$LUT1                                            03 01795
003742 124067 A 1801         ADD     IULNY          COMPUTE ENTRY ADRS                 03 01796
003743 001000 A 1802         JMP     IULNE                                             03 01797
003744 003774 R
003745 054064 A 1803 IULNB   STA     IULNY          101 LEQ LUN LEQ 179 ?              03 01798
003746 144565 A 1804         SUB     D79                                               03 01799
003747 001002 A 1805         JAP     IULND          NO                                 03 01800
003750 003763 R
003751 020401 A 1806         LDB     V$LUT2         YES -                              03 01801
003752 016000 A 1807         LDA     0,B            TEST FOR                           03 01802
003753 144056 A 1808         SUB     IULNY          VALID LUN                          03 01803
003754 001004 A 1809         JAN     IUERR2         OUT OF RANGE - ERROR               03 01804
003755 000505 R
003756 010401 A 1810         LDA     V$LUT2                                            03 01805
003757 124052 A 1811         ADD     IULNY          COMPUTE                            03 01806
003760 005111 A 1812         IAR                    ENTRY ADRS                         03 01807
003761 001000 A 1813         JMP     IULNE                                             03 01808
003762 003774 R
003763 054046 A 1814 IULND   STA     IULNY          180 LEQ LUN LEQ 255 ?              03 01809
003764 020402 A 1815         LDB     V$LUT3                                            03 01810
003765 016000 A 1816         LDA     0,B                                               03 01811
003766 144043 A 1817         SUB     IULNY                                             03 01812
003767 001004 A 1818         JAN     IUERR2         OUT OF RANGE - ERROR               03 01813
003770 000505 R
003771 010402 A 1819         LDA     V$LUT3         VALID LUN -                        03 01814
003772 124037 A 1820         ADD     IULNY          COMPUTE                            03 01815
003773 005111 A 1821         IAR                    ENTRY ADRS                         03 01816
003774 005012 A 1822 IULNE   TAB                                                       03 01817
003775 016000 A 1823         LDA     0,B            GET DST NO.                        03 01818
003776 150463 A 1824         ANA     RHW                                               03 01819
003777 005311 A 1825         DAR                                                       03 01820
004000 054031 A 1826         STA     IULNY          COMPUTE                            03 01821
004001 004201 A 1827         ASLA    1              DST                                03 01822
004002 124027 A 1828         ADD     IULNY          ENTRY                              03 01823
004003 120355 A 1829         ADD     V$DSTB                                            03 01824
004004 005012 A 1830         TAB                    ADDRESS                            03 01825
004005 016001 A 1831         LDA     1,B            GET DEVICE NAME                    03 01826
004006 005002 A 1832         TZB                                                       03 01827
004007 006617 A 1833         SRE     HMT,7,010      SKIP IF MAG TAPE                   03 01828
004010 004426 R
004011 001000 A 1834         JMP     IULNG                                             03 01829
004012 004015 R
004013 001000 A 1835         JMP     IULNP          MAG TAPE - FLAG = 0                03 01830
004014 004026 R
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004015 150462 A 1836 IULNG   ANA     LHW                                                    03 01831
004016 006617 A 1837         SRE     HDZ,7,010     SKIP IF DRUM                             03 01832
004017 004427 R
004020 001000 A 1838         JMP     IULNO         NOT DRUM                                 03 01833
004021 004025 R
004022 005122 A 1839         IBR                   DRUM - FLAG = 1                          03 01834
004023 001000 A 1840         JMP     IULNP                                                  03 01835
004024 004026 R
004025 005322 A 1841 IULNO   DBR                   NOT MT, NOT DRUM - FLAG = -1             03 01836
004026 005021 A 1842 IULNP   TBA                   SET FLAG IN A                            03 01837
004027 024003 A 1843         LDB     IULNZ         RESTORE B                                03 01838
004030 006705 A 1844         IJMP    0,X           RETURN                                   03 01839
004031 000000 A
004032 000000 A 1845 IULNY   DATA    0                                                      03 01840
004033 000000 A 1846 IULNZ   DATA    0                                                      03 01841
                1847         EJEC                                                           03 01842
                1848 *                             SUBROUTINE TO SCAN OFF LOGICAL         03 01843
                1849 *                             UNIT NAME OR NUMBER.  IF A NAME,       03 01844
                1850 *                             THEN THE NUMBER FOR THAT UNIT IS       03 01845
                1851 *                             FOUND FROM THE LOGICAL UNIT NAME       03 01846
                1852 *                             TABLE                                  03 01847
                1853 *                                                                    03 01848
                1854 *                                                                    03 01849
004034 074065 A 1855 IUCKLN  STX     IUCKZ         SAVE RETURN                              03 01850
004035 044373 A 1856         INR     IGBLK                                                  03 01851
004036 006505 A 1857         JSR     IUSCAN,X      GET CHARACTER                            03 01852
004037 003670 R
004040 054060 A 1858         STA     IUCKY                                                  03 01853
004041 144371 A 1859         SUB     N260          IS IT A NUMBER ?                         03 01854
004042 001004 A 1860         JAN     IUCKB         NO                                       03 01855
004043 004056 R
004044 140471 A 1861         SUB     TEN                                                    03 01856
004045 001002 A 1862         JAP     IUCKB         NO                                       03 01857
004046 004056 R
004047 014362 A 1863         LDA     IUPTR         YES -                                    03 01858
004050 005311 A 1864         DAR                   BACK UP SCAN                             03 01859
004051 054360 A 1865         STA     IUPTR                                                  03 01860
004052 006505 A 1866         JSR     IUCNVT,X      GET AND CONVERT NUMBER                   03 01861
004053 004123 R
004054 001000 A 1867         JMP     IUCKF                                                  03 01862
004055 004106 R
004056 014040 A 1868 IUCKB   LDA     IUCKY         CHARACTER IS                             03 01863
004057 004250 A 1869         LRLA    8             NOT A NUMBER -                           03 01864
004060 054040 A 1870         STA     IUCKY                                                  03 01865
004061 006505 A 1871         JSR     IUSCAN,X      GET 2ND CHARACTER                        03 01866
004062 003670 R
004063 114035 A 1872         ORA     IUCKY         COMBINE WITH FIRST                       03 01867
004064 054034 A 1873         STA     IUCKY                                                  03 01868
004065 044343 A 1874         INR     IGBLK                                                  03 01869
004066 006505 A 1875         JSR     IUSCAN,X      ADVANCE SCAN                             03 01870
004067 003670 R
004070 006505 A 1876         JSR     DLMCHK,X      CHECK DELINITER                          03 01871
004071 004260 R
004072 030347 A 1877         LDX     V$LUNT        SEARCH LOGICAL UNIT                      03 01872
004073 015000 A 1878 IUCKD   LDA     0,X           NAME TABLE FOR THIS LU NAME              03 01873
004074 001010 A 1879         JAZ     IUERR2        NOT FOUND - ERROR                        03 01874
004075 000505 R
004076 005144 A 1880         IXR                                                            03 01875
004077 005144 A 1881         IXR                                                            03 01876
004100 006617 A 1882         SRE     IUCKY,7,010   ENTRY FOUND ?                          03 01877
004101 004121 R
004102 001000 A 1883         JMP     IUCKD         NO - TRY NEXT                            03 01878
004103 004072 R
004104 005344 A 1884         DXR                   YES -                                    03 01879
004105 015000 A 1885         LDA     0,X           GET LOG. UNIT NUMBER                     03 01880
004106 001010 A 1886 IUCKF   JAZ     IUERR2        ZERO - INVALID                           03 01881
004107 000505 R
004110 001004 A 1887         JAN     IUERR2        MINUE - INVALID                          03 01882
004111 000505 R
004112 140431 A 1888         SUB     BS8                                                    03 01883
004113 001002 A 1889         JAP     IUERR2        GTR THAN 255 - INVALID                   03 01884
004114 000505 R
004115 120431 A 1890         ADD     BS8                                                    03 01885
004116 034003 A 1891         LDX     IUCKZ         RESTORE RETURN                           03 01886
004117 006705 A 1892         IJMP    0,X           RETURN                                   03 01887
004120 000000 A
004121 000000 A 1893 IUCKY   DATA    0                                                      03 01888
004122 000000 A 1894 IUCKZ   DATA    0                                                      03 01889
                1895         EJEC                                                           03 01890
                1896 *                             SUBROUTINE TO SCAN OFF AN ASCII        03 01891
                1897 *                             NUMBER AND CONVERT TO BINARY.          03 01892
                1898 *                             IF FIRST CHAR A ZERO - ASSUME OCTAL,   03 01893
                1899 *                             OTHERWISE DECIMAL. IF NUMBER GTR       03 01894
                1900 *                             077777, RETURN ZERO. NUMBER IS         03 01895
                1901 *                             TERMINATED BY COMMA, BLANK, EQUALS.    03 01896
                1902 *                             ANY OTHER CAUSES IU01.  RESULT         03 01897
                1903 *                             RETURNED IN A REG.                     03 01898
                1904 *                                                                    03 01899
                1905 *                                                                    03 01900
004123 074102 A 1906 IUCNVT  STX     IUCVZ         SAVE                                     03 01901
004124 064100 A 1907         STB     IUCVY         REGISTERS                                03 01902
004125 005001 A 1908         TZA                                                            03 01903
004126 054305 A 1909         STA     NUM           INITIALIZE                               03 01904
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004127 010471 A 1910          LDA     TEN                                                    03 01905
004130 054304 A 1911          STA     BASE                                                   03 01906
004131 044277 A 1912          INR     IGBLK                                                  03 01907
004132 006505 A 1913          JSR     IUSCAN,X        GET 1ST CHAR                           03 01908
004133 003670 R
004134 054067 A 1914          STA     IUCVX                                                  03 01909
004135 001010 A 1915          JAZ     IUCVP                                                  03 01910
004136 004214 R
004137 006617 A 1916          SRE     N260,7,010      CHAR A ZERO ?                          03 01911
004140 004433 R
004141 001000 A 1917          JMP     IUCVB           NO                                     03 01912
004142 004145 R
004143 001000 A 1918          JMP     IUCVD           YES                                    03 01913
004144 004155 R
004145 144265 A 1919 IUCVB    SUB     N260            IS CHAR A NUMBER (0 LEQ CHAR LT BASE) ?  03 01914
004146 001004 A 1920          JAN     IUCVJ           NO                                     03 01915
004147 004173 R
004150 144264 A 1921          SUB     BASE                                                   03 01916
004151 001002 A 1922          JAP     IUCVJ           NO                                     03 01917
004152 004173 R
004153 001000 A 1923          JMP     IUCVH           YES                                    03 01918
004154 004164 R
004155 010424 A 1924 IUCVD    LDA     EIGHT           1ST CHAR A ZERO -                      03 01919
004156 054256 A 1925          STA     BASE            CHANGE BASE                            03 01920
004157 006505 A 1926 IUCVF    JSR     IUSCAN,X        GET NEXT CHAR                          03 01921
004160 003670 R
004161 054042 A 1927          STA     IUCVX           SAVE IT                                03 01922
004162 001000 A 1928          JMP     IUCVB           TEST IT                                03 01923
004163 004145 R
004164 024247 A 1929 IUCVH    LDB     NUM             COMPUTE -                              03 01924
004165 014036 A 1930          LDA     IUCVX                                                  03 01925
004166 144244 A 1931          SUB     N260            NUM = NUM*BASE+CHAR-260                03 01926
004167 164245 A 1932          MUL     BASE                                                   03 01927
004170 064243 A 1933          STB     NUM                                                    03 01928
004171 001000 A 1934          JMP     IUCVF           GO BACK FOR NEXT CHAR                  03 01929
004172 004157 R
004173 014030 A 1935 IUCVJ    LDA     IUCVX           TEST CHAR                              03 01930
004174 001010 A 1936          JAZ     IUCVP                                                  03 01931
004175 004214 R
004176 144231 A 1937          SUB     N240            CHAR A BLANK ?                         03 01932
004177 001010 A 1938          JAZ     IUCVN           YES                                    03 01933
004200 004211 R
004201 144234 A 1939          SUB     N14             NO - CHAR A COMMA ?                    03 01934
004202 001010 A 1940          JAZ     IUCVP           YES                                    03 01935
004203 004214 R
004204 144444 A 1941          SUB     N21             NO - CHAR AN EQUALS ?                  03 01936
004205 001010 A 1942          JAZ     IUCVP           YES                                    03 01937
004206 004214 R
004207 001000 A 1943          JMP     IUCRR2          NO - NONE OF THE ABOVE - ERROR         03 01938
004210 000505 R
004211 044217 A 1944 IUCVN    INR     IGRLK                                                  03 01939
004212 006505 A 1945          JSR     IUSCAN,X        ADVANCE SCAN                           03 01940
004213 003670 R
004214 014217 A 1946 IUCVP    LDA     NUM             0 LEQ NUM LEQ 77777 ?                  03 01941
004215 001002 A 1947          JAP     IUCVR                                                  03 01942
004216 004220 R
004217 005001 A 1948          TZA                     NO - ZERO IT                           03 01943
004220 034005 A 1949 IUCVR    LDX     IUCVZ           RESTORE                                03 01944
004221 024003 A 1950          LDB     IUCVY           REGISTERS                              03 01945
004222 006705 A 1951          IJMP    0,X             RETURN                                 03 01946
004223 000000 A
004224 000000 A 1952 IUCVX    DATA    0                                                      03 01947
004225 000000 A 1953 IUCVY    DATA    0                                                      03 01948
004226 000000 A 1954 IUCVZ    DATA    0                                                      03 01949
                1955          EJEC                                                           03 01950
                1956 *                                                                       03 01951
                1957 *        SUBROUTINE TO CHECK I/O STATUS FOR ERROR CONDITIONS.          03 01952
                1958 *        IF NO ERROR - RETURNS TO CALLER                              03 01953
                1959 *        IF ERRORS, IF ON SO - EXIT. OTHERWISE, SET IU04 ERROR.       03 01954
                1960 *        SUBROUTINE CALL IS - JSX    IOCHK,X                          03 01955
                1961 *        CALL MUST BE IMMEDIATELY AFTER STANDARD VORTEX I/O MACRO.     03 01956
                1962 *                                                                     03 01957
004227 074027 A 1963 IOCHK    STX     IOCHKZ          SAVE RETURN                            03 01958
004230 005041 A 1964          TXA                                                            03 01959
004231 140467 A 1965          SUB     SEVEN               GET ADRS OF STATUS WORD            03 01960
004232 005014 A 1966          TAX                                                            03 01961
004233 015000 A 1967          LDA     0,X             GET STATUS WORD                        03 01962
004234 006150 A 1968          ANAI    0340                                                   03 01963
004235 000340 A
004236 006140 A 1969          SUBI    0240            ERROR ?                                03 01964
004237 000240 A
004240 001010 A 1970          JAZ     IOCHKB          YES                                    03 01965
004241 004245 R
004242 034014 A 1971          LDX     IOCHKZ                                                 03 01966
004243 006705 A 1972          IJMP    0,X             NO - RETURN                            03 01967
004244 000000 A
004245 015001 A 1973 IOCHKB   LDA     1,X                                                    03 01968
004246 150463 A 1974          ANA     RHW             GET LOGICAL UNIT                       03 01969
004247 140464 A 1975          SUB     THREE           IS IT SO ?                             03 01970
004250 001010 A 1976          JAZ     IOCHKD          YES                                    03 01971
004251 004254 R
004252 001000 A 1977          JMP     IUERR4          NO - TYPE 4 ERROR                      03 01972
004253 000513 R
```

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                    1978 IOCHKD EXIT                ERROR ON SO - EXIT                                  03 01973
004254 006505 A
004255 000406 A
004256 000200 A
004257 000000 A     1979 IOCHKZ DATA    0                                                               03 01974
                    1980        EJEC                                                                    03 01975
                    1981 *          SUBROUTINE TO CHECK DELIMITER.  ENTER WITH                          03 01976
                    1982 *          CHARACTER IN A REGISTER, IF COMMA OR EQUALS SIGN,                   03 01977
                    1983 *          RETURN IS MADE WITH A = 0.  IF PERIOD, IUPTR IS                     03 01978
                    1984 *          SET TO END OF JC BUFFER AND RETURN IS MADE WITH                     03 01979
                    1985 *          A = 0.  ANYTHING ELSE CAUSES AN EXIT TO IUERR1.                     03 01980
                    1986 *                                                                              03 01981
004260 001010 A     1987 DLMCHK JAZ     DLMX            END OF BUFFER                                   03 01982
004261 004301 R
004262 144365 A     1988        SUB     N254            COMMA ?                                         03 01983
004263 001010 A     1989        JAZ     DLMX            YES                                             03 01984
004264 004301 R
004265 144363 A     1990        SUB     N21             EQUALS SIGN ?                                   03 01985
004266 001010 A     1991        JAZ     DLMX            YES                                             03 01986
004267 004301 R
004270 006120 A     1992        ADDI    017             PERIOD ?                                        03 01987
004271 000017 A
004272 001016 A     1993        JANZ    IUERR2          NO - ERROR                                      03 01988
004273 000505 R
004274 010412 A     1994        LDA     V$JCB           YES -                                           03 01989
004275 004241 A     1995        LRLA    1               SET IUPTR TO                                    03 01990
004276 124125 A     1996        ADD     D80             END OF                                          03 01991
004277 006057 A     1997        STAE    IUPTR           JC BUFFER                                       03 01992
004300 004432 R
004301 006705 A     1998 DLMX   IJMP    0,X             RETURN                                          03 01993
004302 000000 A
                    1999        EJEC                                                                    03 01994
                    2000 *                                                                              03 01995
                    2001 *          SUBROUTINE TO DETERMINE IF LOGICAL UNIT IS                          03 01996
                    2002 *          ASSIGNED TO TELETYPE OR CRT.  CALLING SEQUENCE IS:                  03 01997
                    2003 *                                                                              03 01998
                    2004 *                          JSR  V$DVTP,X                                       03 01999
                    2005 *                                                                              03 02000
                    2006 *          ENTRANCE PARAMETER:  A REGISTER CONTAINS LOG. UNIT NO.              03 02001
                    2007 *                                                                              03 02002
                    2008 *          RETURN PARAMETER:  A REGISTER EQUALS ZERO - DEVICE IS               03 02003
                    2009 *                                        A TTY OR CRT.                         03 02004
                    2010 *                                                                              03 02005
                    2011 *                                A REGISTER NOT EQUAL ZERO - DEVICE            03 02006
                    2012 *                                        IS NOT A TTY OR CRT.                  03 02007
                    2013 *                                                                              03 02008
                    2014 *          B REGISTER IS SAVED.                                                03 02009
                    2015 *                                                                              03 02010
                    2016 *                                                                              03 02011
004303 064066 A     2017 V$DVTP STB     DVTPA                                                           E.1********
004304 074073 A     2018        STX     DVTPX           SAVE RETURN                                     E.1********
004305 005012 A     2019        TAB                                                                     E.1********
004306 005004 A     2020        TZX                                                                     E.1********
004307 006145 A     2021        SUBE    DVLUN,X                                                         E.1********
004310 004401 R
004311 001004 A     2022        JAN     DVTP5           IF IN LUT 1                                     E.1********
004312 004321 R                                                                                         -
004313 005144 A     2023        IXR                                                                     E.1********
004314 006145 A     2024        SUBE    DVLUN,X                                                         E.1********
004315 004401 R
004316 001004 A     2025        JAN     DVTP5           IF IN LUT 2                                     E.1********
004317 004321 R
004320 005144 A     2026        IXR                                                                     E.1********
004321 004321 R     2027 DVTP5  EQU     *               LUN                                             E.1********
004321 006125 A     2028        ADDE    DVLUN,X         ADJUST FOR LUT ENTRY                            E.1********
004322 004401 R
004323 006025 A     2029        LDBE    DVLUT,X                                                         E.1********
004324 004404 R
004325 126000 A     2030        ADD     0,B             BASE ADDR OF LUT                                E.1********
004326 005012 A     2031        TAB                                                                     E.1********
004327 016000 A     2032        LDA     0,B             CURRENT DST ENTRY NO.                           E.1********
004330 150463 A     2033        ANA     RHW                                                             E.1********
004331 005311 A     2034        DAR                                                                     E.1********
004332 054040 A     2035        STA     DVTPB                                                           E.1********
004333 004201 A     2036        ASLA    1                                                               E.1********
004334 124036 A     2037        ADD     DVTPB           TABLE DISPLACEMENT                              E.1********
004335 120355 A     2038        ADD     V$DSTB          ADD TABLE BASE                                  E.1********
004336 005012 A     2039        TAB                                                                     E.1********
004337 016001 A     2040        LDA     1,B             DEVICE NAME                                     E.1********
004340 144035 A     2041        SUB     DVTPSP                                                          E.1********
004341 001016 A     2042        JANZ    DVTP10          IF NOT A SPOOL UNIT                             E.1********
004342 004360 R
004343 016000 A     2043        LDA     0,B             DEVICE NUMBER (BITS 12-4)                       E.1********
004344 004352 A     2044        LSRA    10              POSITION MSB OF UNIT NUMBER                     E.1********
004345 150467 A     2045        ANA     BM7                                                             E.2********
004346 120402 A     2046        ADD     V$LUT3          SPOOL LUT BASE                                  E.1********
004347 005112 A     2047        INCR    012             ADJUST PAST LUT SIZE WORD                       E.2********
004350 016000 A     2048        LDA     0,B             CURRENT DST ENTRY NO.                           E.1********
004351 150463 A     2049        ANA     RHW                                                             E.1********
004352 005311 A     2050        DAR                                                                     E.1********
004353 054017 A     2051        STA     DVTPB                                                           E.1********
004354 004201 A     2052        ASLA    1                                                               E.1********
004355 124013 A     2053        ADD     DVTPB           TABLE DISPLACEMENT                              E.1********
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004356 120355 A 2054          ADD     V$DSTB    ADD TABLE BASE                    E.1********
004357 005012 A 2055          TAB                                                 E.1********
004360 016001 A 2056 DVTP10   LDA     1,B       DEVICE NAME                       E.1********
004361 144012 A 2057          SUB     DVTPTY    IS IT TY ?                           03 02024
004362 001010 A 2058          JAZ     DVTP1     YES                                  03 02025
004363 004366 R
004364 016001 A 2059          LDA     1,B       NO -                                 03 02026
004365 144007 A 2060          SUB     DVTPCT    TRY FOR CT                           03 02027
004366 024003 A 2061 DVTP1    LDB     DVTPA     RESTORE B                            03 02028
004367 034010 A 2062          LDX     DVTPX     RETURN ADDR                       E.1********
004370 006705 A 2063          IJMP    0,X       RETURN                               03 02029
004371 000000 A
004372 000000 A 2064 DVTPA    DATA    0                                              03 02030
004373 000000 A 2065 DVTPB    DATA    0                                              03 02031
004374 152331 A 2066 DVTPTY   DATA    'TY'                                           03 02032
004375 141724 A 2067 DVTPCT   DATA    'CT'                                           03 02033
004376 151720 A 2068 DVTPSP   DATA    'SP'                                        E.1********
004377 000000 A 2069 DVTPC    DATA    0                                           E.1********
004400 000000 A 2070 DVTPX    DATA    0                                           E.1********
004401 000145 A 2071 DVLUN    DATA    101       LUN ADJUSTMENT TABLE              E.1********
004402 000117 A 2072          DATA    79                                          E.1********
004403 000000 A 2073          DATA    0                                           E.1********
004404 000400 A 2074 DVLUT    DATA    V$LUT1    LUT TABLE BASE ADDR               E.1********
004405 000401 A 2075          DATA    V$LUT2                                      E.1********
004406 000402 A 2076          DATA    V$LUT3                                      E.1********
                2077          EJEC                                                   03 02034
                2078 *                                                               03 02035
                2079 *                SUBROUTINE TO DETERMINE IF LO LOGICAL          03 02036
                2080 *                UNIT AND SO LOGICAL UNIT ARE ASSIGNED          03 02037
                2081 *                TO THE SAME DEVICE.                            03 02038
                2082 *                                                               03 02039
                2083 *                CALLING SEQUENCE:                              03 02040
                2084 *                                                               03 02041
                2085 *                JSR  V$SOLO,X                                  03 02042
                2086 *                                                               03 02043
                2087 *                ENTRANCE PARAMETERS - NONE                     03 02044
                2088 *                                                               03 02045
                2089 *                RETURN PARAMETER - A REGISTER = ZERO,          03 02046
                2090 *                   SAME DEVICE.  A REGISTER NOT = ZERO,        03 02047
                2091 *                   DIFFERENT DEVICES.                          03 02048
                2092 *                                                               03 02049
                2093 *                B REGISTER IS PRESERVED DURING EXECUTION.      03 02050
                2094 *                                                               03 02051
004407 074012 A 2095 V$SOLO   STX     SOL01                                          03 02052
004410 030400 A 2096          LDX     V$LUT1                                         03 02053
004411 015003 A 2097          LDA     3,X       GET SO CURRENT                       03 02054
004412 150463 A 2098          ANA     RHW       ASSIGNMENT                           03 02055
004413 054007 A 2099          STA     SOL02                                          03 02056
004414 015005 A 2100          LDA     5,X       GET LO CURRENT                       03 02057
004415 150463 A 2101          ANA     RHW       ASSIGNMENT                           03 02058
004416 144004 A 2102          SUB     SOL02     TAKE DIFFERENCE                      03 02059
004417 034002 A 2103          LDX     SOL01                                          03 02060
004420 006705 A 2104          IJMP    0,X       RETURN                               03 02061
004421 000000 A
004422 000000 A 2105 SOL01    DATA    0                                              03 02062
004423 000000 A 2106 SOL02    DATA    0                                              03 02063
004424 000120 A 2107 D80      DATA    80                                             03 02064
004425 000144 A 2108 D100     DATA    100                                            03 02065
004426 146724 A 2109 HMT      DATA    'MT'                                           03 02066
004427 142000 A 2110 HDZ      DATA    0142000                                        03 02067
004430 000240 A 2111 N240     DATA    0240                                           03 02068
004431 000000 A 2112 IGBLK    DATA    0                                              03 02069
004432 000000 A 2113 IUPTR    DATA    0                                              03 02070
004433 000260 A 2114 N260     DATA    0260                                           03 02071
004434 000000 A 2115 NUM      DATA    0                                              03 02072
004435 000000 A 2116 BASE     DATA    0                                              03 02073
004436 000014 A 2117 N14      DATA    014                                            03 02074
004437 130720 A 2118 HEAD     DATA    '1PAGE 0001  ' HEADING, WDS  1-6               03 02075
004440 140707 A
004441 142640 A
004442 130260 A
004443 130261 A
004444 120240 A
004445 120240 A 2119          DATA    '             '          WDS  7-12              03 02076
004446 120240 A
004447 120240 A
004450 120240 A
004451 120240 A
004452 120240 A
004453 120240 A 2120          DATA    '       VORTEX'          WDS 13-18              03 02077
004454 120240 A
004455 120240 A
004456 153317 A
004457 151324 A
004460 142730 A
004461 120240 A 2121          DATA    '  IOUTIL     '          WDS 19-24              03 02078
004462 144717 A
004463 152724 A
004464 144714 A
004465 120240 A
004466 120240 A
004467 120240 A 2122          DATA    '             '          WDS 25-30              03 02079
004470 120240 A
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004471 120240 A
004472 120240 A
004473 120240 A
004474 120240 A
004475 004442 R 2123 PGAD    DATA    HEAD+3                                  03 02080
004476 000050 A 2124 D40     DATA    40                                      03 02081
                2125 HEADCB  DCB     30,HEAD,0                               03 02082
004477 000036 A
004500 004437 R
004501 000000 A
                2126 INDCB   DCB     40,0,0                                  03 02083
004502 000050 A
004503 000000 A
004504 000000 A
                2127 OUTDCB  DCB     40,0,0                                  03 02084
004505 000050 A
004506 000000 A
004507 000000 A
004510 000072 A 2128 N72     DATA    072                                     03 02085
004511 000366 A 2129 N366    DATA    0366                                    03 02086
004512 127400 A 2130 N12740  DATA    0127400                                 03 02087
004513 120240 A 2131 DBLK    DATA    '  '                                    03 02088
004514 000264 A 2132 N264    DATA    0264                                    03 02089
004515 004654 R 2133 FLUNAD  DATA    FCBLUN                                  03 02090
004516 107777 A 2134 N10777  DATA    C107777                                 03 02091
004517 000000 A 2135 LCNT    DATA    0                                       03 02092
004520 004535 R 2136 FDCBAD  DATA    FRDCB                                   03 02093
004521 005023 R 2137 BUFAD   DATA    IOBUF                                   03 02094
                2138 TODCB   DCB     0,0,0                                   03 02095
004522 000000 A
004523 000000 A
004524 000000 A
004525 004522 R 2139 TDCBAD  DATA    TODCB                                   03 02096
004526 151240 A 2140 HRBLK   DATA    'R  '                                   03 02097
004527 000340 A 2141 N340    DATA    0340                                    03 02098
004530 000300 A 2142 N300    DATA    0300                                    03 02099
004531 000040 A 2143 N40     DATA    040                                     03 02100
004532 000000 A 2144 IUSFZ   DATA    0                                       03 02101
004533 000145 A 2145 D101    DATA    101                                     03 02102
004534 000117 A 2146 D79     DATA    79                                      03 02103
                2147 FRDCB   DCB     0,0,0                                   03 02104
004535 000000 A
004536 000000 A
004537 000000 A
004540 004544 R 2148 RECN1   DATA    RECN+3                                  03 02105
004541 120322 A 2149 RECN    DATA    ' REC'                                  03 02106
004542 142703 A
004543 120240 A
004544 120240 A
004545 120240 A
                2150 RCDCB   DCB     5,RECN,0                                03 02107
004546 000005 A
004547 004541 R
004550 000000 A
004551 004554 R 2151 PRBAD   DATA    PRBUF+1                                 03 02108
004552 120240 A 2152         DATA    '  '                                    03 02109
004553          2153 PRBUF   BSS     48                                      C 03 02110
004633 120240 A 2154         DATA    '  '          BLANK AREA               C 03 02111
004634 120240 A
                2155 PRDCB   DCB     48,PRBUF,0                              C 03 02112
004635 000060 A
004636 004553 R
004637 000000 A
004640 000000 A 2156 PAGNO   DATA    0                                       03 02113
004641 000262 A 2157 N262    DATA    0262                                    03 02114
004642 000000 A 2158 PRTFLG  DATA    0                                       03 02115
004643 000000 A 2159 TLNT    DATA    0                                       03 02116
004644 000000 A 2160 RCNT    DATA    0                                       03 02117
004645 000000 A 2161 WCNT    DATA    0                                       03 02118
004646 000000 A 2162 MCNT    DATA    0                                       03 02119
004647 000000 A 2163 RECNO   DATA    0                                       03 02120
004650 000254 A 2164 N254    DATA    0254                                    03 02121
004651 000021 A 2165 N21     DATA    021                                     03 02122
004652 000275 A 2166 N275    DATA    0275                                    03 02123
004653 000137 E 2167 SIFADD  DATA    SIFCB                                   03 02124
004654 000000 A 2168 FCBLUN  DATA    0,FCBA,0,FCBB,0,FCBC,0,FCBD             03 02125
004655 004710 R
004656 000000 A
004657 004722 R
004660 000000 A
004661 004734 R
004662 000000 A
004663 004746 R
004664 000000 A 2169         DATA    0,FCBE,0,FCBF,0,SIFCB,0,PIFCB           03 02126
004665 004766 R
004666 000000 A
004667 004772 R
004670 000000 A
004671 004653 E
004672 000000 A
004673 000000 E
004674 000000 A 2170         DATA    0,LOFCB,0,BIFCB,0,ROFCB,0,SSFCB,0,GOFCB,0,POFCB  03 02127
004675 000605 E
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004676 000000 A
004677 000000 E
004700 000000 A
004701 000000 E
004702 000000 A
004703 000000 E
004704 000000 A
004705 000000 E
004706 000000 A
004707 000000 E
                    2171 FCBA   FCB     0,0,0,0,0,0,0,0,0,0                          03 02128
004710 000000 A
004711 000000 A
004712 000000 A
004713 000000 A
004714 000000 A
004715 000000 A
004716 000000 A
004717 000000 A
004720 000000 A
004721 000000 A
004722 000000 A     2172 FCBB   DATA    0,0,0,0,0,0,0,0,0,0                          03 02129
004723 000000 A
004724 000000 A
004725 000000 A
004726 000000 A
004727 000000 A
004730 000000 A
004731 000000 A
004732 000000 A
004733 000000 A
004734 000000 A     2173 FCBC   DATA    0,0,0,0,0,0,0,0,0,0                          03 02130
004735 000000 A
004736 000000 A
004737 000000 A
004740 000000 A
004741 000000 A
004742 000000 A
004743 000000 A
004744 000000 A
004745 000000 A
004746 000000 A     2174 FCBD   DATA    0,0,0,0,0,0,0,0,0,0                          03 02131
004747 000000 A
004750 000000 A
004751 000000 A
004752 000000 A
004753 000000 A
004754 000000 A
004755 000000 A
004756 000000 A
004757 000000 A
004760 000000 A     2175 FCBE   DATA    0,0,0,0,0,0,0,0,0,0                          03 02132
004761 000000 A
004762 000000 A
004763 000000 A
004764 000000 A
004765 000000 A
004766 000000 A
004767 000000 A
004770 000000 A
004771 000000 A
004772 000000 A     2176 FCBF   DATA    0,0,0,0,0,0,0,0,0,0                          03 02133
004773 000000 A
004774 000000 A
004775 000000 A
004776 000000 A
004777 000000 A
005000 000000 A
005001 000000 A
005002 000000 A
005003 000000 A
005004              2177 LUNLST BSS     14                                           03 02134
005022 120240 A     2178        DATA    ' '                                          03 02135
005023              2179 IOBUF  BSS     1025                                         03 02136
007024 000000 A     2180 ENDPRG DATA    0                                            03 02137
       000000 R     2181        END     V$IUTL                                       03 02138
ENTRY NAMES
000000 R V$IUTL
EXTERNAL NAMES
004677 E BIFCB   004701 E BOFCB   004705 E GOFCB   004675 E LOFCB
004673 E PIFCB   004707 E POFCB   004671 E SIFCB   004703 E SSFCB
000000 E V$EXEC  000000 E V$IOC
SYMBOLS
000044 A APIM    003205 R ASCA    003152 R ASCII   003171 R ASCOK
000002 A B       000000 A B0      000001 A B1      000012 A B10
000013 A B11     000014 A B12     000015 A B13     000016 A B14
000017 A B15     000002 A B2      000003 A B3      000004 A B4
000005 A B5      000006 A B6      000007 A B7      000010 A B8
000011 A B9      004435 R BASE    004677 E BIFCB   003635 R BINASC
003665 R BINY    003666 R BINZ    000421 A BM1     000472 A BM17
000475 A BM177   000477 A BM1777  000464 A BM3     000473 A BM37
000463 A BM377   000467 A BM7     000474 A BM77    000476 A BM777
004701 E BOFCB   000441 A BR0     000442 A BR1     000453 A BR10
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000454 A BR11   000455 A BR12   000456 A BR13   000457 A BR14
000460 A BR15   000443 A BR2    000444 A BR3    000445 A BR4
000446 A BR5    000447 A BR6    000450 A BR7    000451 A BR8
000452 A BR9    000421 A BS0    000422 A BS1    000433 A BS10
000434 A BS11   000435 A BS12   000436 A BS13   000437 A BS14
000440 A BS15   000423 A BS2    000424 A BS3    000425 A BS4
000426 A BS5    000427 A BS6    000430 A BS7    000431 A BS8
000432 A BS9    004521 R BUFAD  003570 R CLMAC  000047 A CLOCK
003151 R CNT    000642 R CODE1  000643 R CODE2  000644 R CODE3
000645 R CODE4  000646 R CODE5  004425 R D100   004533 R D101
004476 R D40    004534 R D79    004424 R D80    004513 R DBLK
000747 A DISCLK 000745 A DISMP  000444 A DISPIM 004260 R DLMCHK
004301 R DLMX   004401 R DVLUN  004404 R DVLUT  004366 R DVTP1
004360 R DVTP10 004321 R DVTP5  004372 R DVTPA  004373 R DVTPB
004377 R DVTPC  004375 R DVTPCT 004376 R DVTPSP 004374 R DVTPTY
004400 R DVTPX  000424 A EIGHT  000147 A ENACLK 000645 A ENAMP
000244 A ENAPIM 007024 R ENDPRG 000632 R ERRBUF 000637 R ERRDCB
004710 R FCBA   004722 R FCBB   004734 R FCBC   004746 R FCBD
004760 R FCBE   004772 R FCBF   004654 R FCBLUN 004520 R FDCBAD
000465 A FIVE   004515 R FLUNAD 000423 A FOUR   004535 R FRDCB
002033 R FUNMAC 004705 E GOFCB  000477 R HASTR  000650 R HCBLK
004427 R HDZ    003667 R HDZERO 004437 R HEAD   004477 R HEADCB
000417 R HFBLK  004426 R HMT    000647 R HOC    004526 R HRBLK
004431 R IGBLK  004502 R INDCB  005023 R IOBUF  004227 R IOCHK
004245 R IOCHKB 004254 R IOCHKD 004257 R IOCHKZ 003135 R IUASC
001567 R IUBAD  000665 R IUC1   003366 R IUCFA  003375 R IUCFB
003404 R IUCFD  003435 R IUCFDB 003436 R IUCFDD 003452 R IUCFDG
003532 R IUCFE  003546 R IUCFEC 003354 R IUCFIL 003614 R IUCFK
003631 R IUCFTB 003623 R IUCFV  003626 R IUCFW  003625 R IUCFX
003630 R IUCFY  003627 R IUCFZ  004056 R IUCKB  004073 R IUCKD
004106 R IUCKF  004034 R IUCKLN 004121 R IUCKY  004122 R IUCKZ
004123 R IUCNVT 000652 R IUCOPY 000727 R IUCPA  000750 R IUCPB
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  249  BM7      2045
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  210  BS8      1279  1888  1890
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  599  CODE2     550
  600  CODE3     552
  601  CODE4     554
  602  CODE5     568
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    0  D40       382   577  1415  1515
    0  D79      1804
    0  D80      1936
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 2074  DVLUT    2029
 2061  DVTP1    2058
 2056  DVTP10   2042
 2027  DVTP5    2022  2025
 2064  DVTPA    2017  2061
 2065  DVTPB    2035  2037  2051  2053
 2067  DVTPCT    897   901  2060
 2068  DVTPSP   2041
 2066  DVTPTY   2057
 2070  DVTPX    2018  2062
  244  EIGHT    1924
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  597  ERRDCB    582
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   0  HMT      1833
 603  HOC       566
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1979  IOCHKZ   1963  1971
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 908  IUCPRK    944
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1953   IUCVY    1907  1950
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 242  SIX      1251
 333  SO        352   582   589
1123  SRMAC    1119  1122  1125  1130  1135
1187  SRMACB   1179  1183  1186  1189  1197
   0  SSFCB     329
   0  TCNT      556   622   768   802   804   833   835   964  1046
             1063  1065  1118  1131  1134  1182  1193  1196  1333
             1411  1544  1548
   0  TDCBAD    741  1011
 246  TEN       558   564  1465  1702  1728  1731  1737  1740  1861
             1910
 239  THREE    1294  1666  1975
   0  TODCB     738   740   903   905   906   908   920   922   923
              925  1006  1008  1010  1061
 955  TODCBF    887   910   921   924
1041  TOFFUN   1035  1038  1040
 238  TWO       349   392  1225  1227  1597  1599  1644  1657  1677
 111  V$DATE    363   365   367   369
 158  V$DSTB   1829  2038  2054
2017  V$DVTP    393   894   899
   0  V$IOUT     11
 341  V$IUTL    340
 181  V$JCB     383   390   396   403   430   576   591  1994
 101  V$JNAM    371   373   375   377
 102  V$LCNT    418  1527
 141  V$LLUP    645   650   703   708
 150  V$LUNT   1877
 171  V$LUT1    351  1796  1800  2074
 172  V$LUT2   1806  1810  2075
 173  V$LUT3   1815  1819  2046  2076
   0  V$SOLO    584
   0  WCNT      767   783   846   916   933   936
 824  WEFMAC    816   819   821
 918  WRMAC     693   696   772   880   883   885   888   912   913
              926
1094  WRMAC1   1088  1091  1093  1096
 330  X         343   352   355   381   393   400   406   426   429
              435   436   439   442   452   462   491   492   494
              498   501   508   583   584   588   590   613   623
              629   641   642   643   655   660   669   684   686
              698   699   700   715   720   729   745   747   752
              760   780   788   818   820   825   839   852   882
              884   894   899   919   939   962   965   972   978
              987  1003  1015  1017  1022  1037  1039  1042  1051
             1072  1074  1077  1090  1092  1095  1112  1114  1116
             1124  1140  1142  1149  1151  1162  1164  1169  1178
             1180  1188  1203  1210  1212  1223  1228  1265  1272
             1273  1280  1282  1296  1305  1317  1332  1334  1337
             1351  1352  1353  1360  1365  1374  1390  1392  1406
             1416  1421  1423  1441  1444  1447  1450  1453  1456
             1459  1461  1472  1473  1474  1475  1480  1496  1500
             1514  1517  1532  1534  1584  1595  1602  1615  1619
             1626  1627  1640  1653  1669  1671  1673  1698  1701
             1704  1735  1744  1746  1781  1844  1857  1866  1871
             1875  1876  1878  1885  1892  1913  1926  1945  1951
             1967  1972  1973  1998  2021  2024  2028  2029  2063
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                         1          TITLE   MERGE                                                                  00 00001
                         2 ********************************************************************************       00 00002
                         3 *                                                                              *       00 00003
                         4 * VORTEX OPERATING SYSTEM SORT UTILITY                                         *       00 00004
                         5 *                                                                              *       00 00005
                         6 ********************************************************************************       00 00006
                         7 *                                                                              *       00 00007
                         8 *  SORT MEMORY MAP                                                             *       00 00008
                         9 *                                                                              *       00 00009
                        10 ********************************************************************************       00 00010
                        11 * SND1 *                              * END OF WORK AREAS                     *       00 00011
                        12 *      *                              *                                       *       00 00012
                        13 * SINI * INITIALIZATION PHASE         * START OF SORT PHASE WORK AREA         *       00 00013
                        14 *      *                              *                                       *       00 00014
                        15 * SRT1 * SORT PHASE                   * START OF MERGE PHASE WORK AREAS       *       00 00015
                        16 *      *                              *                                       *       00 00016
                        17 * XIT2 * DUMMY OUTEXIT                *                                       *       00 00017
                        18 *      *                              *                                       *       00 00018
                        19 * XIT1 * DUMMY INEXIT                 *                                       *       00 00019
                        20 *      *                              *                                       *       00 00020
                        21 * BTOA * ROUTINES                     *                                       *       00 00021
                        22 *      *  USED                        *                                       *       00 00022
                        23 * MOVE *    BY                       *                                       *       00 00023
                        24 *      *     INITIALIZATION          *                                       *       00 00024
                        25 * COMP *      SORT                   *                                       *       00 00025
                        26 *      *       AND                  *                                       *       00 00026
                        27 * SRTC *         MERGE PHASES       *                                       *       00 00027
                        28 *      *                              *                                       *       00 00028
                        29 * MERG * MERGE PHASE                  *                                       *       00 00029
                        30 *      *                              *                                       *       00 00030
                        31 * ROOT * PRIMARY CONTROL              *                                       *       00 00031
                        32 ********************************************************************************       00 00032
                        33 * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *       00 00033
                        34 * THE FOLLOWING EQUATES REPRESENT DISPLACEMENTS IN THE SORT CONTROL TABLE.     *       00 00034
                        35 * TABLE. FUNCTIONS OF THE VARIOUS CELLS ARE COMMENTED IN THE SORT              *       00 00035
                        36 * TABLE GENERATION CODE. INDEX FOR THE TABLE IS SYMBOL SRTC                      *       00 00036
                        37 * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *       00 00037
000000  A               38 INPT    EQU     0                                                                    00 00038
000001  A               39 ACCP    EQU     1                                                                    00 00039
000002  A               40 INST    EQU     2                                                                    00 00040
000003  A               41 DLTD    EQU     3                                                                    00 00041
000004  A               42 ORCT    EQU     4                                                                    00 00042
000005  A               43 INRL    EQU     5                                                                    00 00043
000006  A               44 OTRL    EQU     6                                                                    00 00044
000007  A               45 SLGH    EQU     7                                                                    00 00045
000010  A               46 SBLK    EQU     8                                                                    00 00046
000010  A               47 MBLH    EQU     8                                                                    00 00047
000011  A               48 FSOB    EQU     9                                                                    00 00048
000012  A               49 SOUT    EQU     10                                                                   00 00049
000013  A               50 SPCT    EQU     11                                                                   00 00050
000014  A               51 SPWT    EQU     12                                                                   00 00051
000015  A               52 INBF    EQU     13                                                                   00 00052
000016  A               53 OUBF    EQU     14                                                                   00 00053
000017  A               54 CMBF    EQU     15                                                                   00 00054
000020  A               55 SBEG    EQU     16                                                                   00 00055
000021  A               56 SEND    EQU     17                                                                   00 00056
000022  A               57 SCUR    EQU     18                                                                   00 00057
000023  A               58 SNUM    EQU     19                                                                   00 00058
000024  A               59 MFLH    EQU     20                                                                   00 00059
000025  A               60 SWK1    EQU     21                                                                   00 00060
000026  A               61 SWK2    EQU     22                                                                   00 00061
000027  A               62 SWK3    EQU     23                                                                   00 00062
000030  A               63 NCTL    EQU     24                                                                   00 00063
000031  A               64 SND1    EQU     25                                                                   00 00064
000032  A               65 SFPT    EQU     26                                                                   00 00065
000033  A               66 STOT    EQU     27                                                                   00 00066
000033  A               67 TSEQ    EQU     27                                                                   00 00067
000034  A               68 SFIB    EQU     28                                                                   00 00068
000035  A               69 STM1    EQU     29                                                                   00 00069
000036  A               70 STM2    EQU     30                                                                   00 00070
000037  A               71 IPRC    EQU     31                                                                   00 00071
000040  A               72 CTLI    EQU     32                                                                   00 00072
000041  A               73 CTLP    EQU     33                                                                   00 00073
000042  A               74 LCNT    EQU     34                                                                   00 00074
000043  A               75 CTLC    EQU     35                                                                   00 00075
000044  A               76 CKEY    EQU     36                                                                   00 00076
000045  A               77 CKE1    EQU     37                                                                   00 00077
000046  A               78 CKE2    EQU     38                                                                   00 00078
000047  A               79 CKE3    EQU     39                                                                   00 00079
000050  A               80 CTLF    EQU     40                                                                   00 00080
000113  A               81 SCPT    EQU     75                                                                   00 00081
000114  A               82 SCIP    EQU     76                                                                   00 00082
000122  A               83 SCTL    EQU     82                                                                   00 00083
000174  A               84 SSPT    EQU     124                                                                  00 00084
000175  A               85 SLPT    EQU     125                                                                  00 00085
000176  A               86 SOPT    EQU     126                                                                  00 00086
000177  A               87 SFAS    EQU     127                                                                  00 00087
000202  A               88 SFAL    EQU     130                                                                  00 00088
000205  A               89 SFAO    EQU     133                                                                  00 00089
000210  A               90 SASP    EQU     136                                                                  00 00090
000211  A               91 SALP    EQU     137                                                                  00 00091
000212  A               92 SAOP    EQU     138                                                                  00 00092
000213  A               93 OCAB    EQU     139                                                                  00 00093
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000214 A    94 DCAE   EQU     140                                                    00 00094
000215 A    95 SFAC   EQU     141                                                    00 00095
000216 A    96 SFFC   EQU     142                                                    00 00096
000217 A    97 DCB5   EQU     143                                                    00 00097
000220 A    98 FSIO   EQU     144                                                    00 00098
000221 A    99 DSI    EQU     145                                                    00 00099
000222 A   100 DILU   EQU     146                                                    00 00100
000223 A   101 FSOI   EQU     147                                                    00 00101
000224 A   102 SIOI   EQU     148                                                    00 00102
000225 A   103 S1IO   EQU     149                                                    00 00103
000236 A   104 S2IO   EQU     158                                                    00 00104
000247 A   105 S3IO   EQU     167                                                    00 00105
000260 A   106 SWCH   EQU     176                                                    00 00106
000261 A   107 LPSW   EQU     177                                                    00 00107
000262 A   108 MBUF   EQU     178                                                    00 00108
           109 * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *      00 00109
           110 * END OF SORT CONTROL TABLE DISPLACEMENT EQUATES  *                 00 00110
           111 * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *      00 00111
000001 A   112 X       EQU     1                                                      00 00112
000002 A   113 B       EQU     2                                                      00 00113
           114 ***************************************************************      00 00114
           115 *                                                                    00 00115
           116 ****     BIT TEST BIT DESIGNATION                          ****      00 00116
           117 *                                                                    00 00117
           118 ***************************************************************      00 00118
000040 A   119 RA0     EQU     040          BT JUMPS WHEN A REGISTER IS 0             00 00119
000000 A   120 RA1     EQU     000          BT JUMPS WHEN A REGISTER IS 1             00 00120
           121 ***************************************************************      00 00121
           122 *                                                                    00 00122
           123 ****     MASK TABLE DESCRIPTION                            ****      00 00123
           124 *                                                                    00 00124
           125 ***************************************************************      00 00125
000420 A   126 MT      SET     0420                                                   00 00126
000420 A   127 ZERO    EQU     MT          ZERO WORD                                  00 00127
000421 A   128 ONE     EQU     MT+1        CONTAINS NUMBER  1                         00 00128
000422 A   129 TWO     EQU     MT+2        CONTAINS NUMBER  2                         00 00129
000464 A   130 THREE   EQU     MT+36         CONTAINS NUMBER  3                       00 00130
000423 A   131 FOUR    EQU     MT+3        CONTAINS NUMBER  4                         00 00131
000465 A   132 FIVE    EQU     MT+37       CONTAINS NUMBER  5                         00 00132
000466 A   133 SIX     EQU     MT+38       CONTAINS NUMBER  6                         00 00133
000467 A   134 SEVEN   EQU     MT+39       CONTAINS NUMBER  7                         00 00134
000424 A   135 EIGHT   EQU     MT+4        CONTAINS NUMBER 8                          00 00135
000471 A   136 TEN     EQU     MT+41       CONTAINS NUMBER 10                         00 00136
000462 A   137 LHW     EQU     MT+34       LEFT HALF WORD MASK 0177400                00 00137
000463 A   138 RHW     EQU     MT+35       RIGHT HALF WORD MASK   0377                00 00138
000421 A   139 BS3     EQU     MT+4                                 000010  BIT SET  3  00 00139
000426 A   140 BS5     EQU     MT+6        BIT MASK CONTENTS        000040  BIT SET  5  00 00140
000427 A   141 BS6     EQU     MT+7                                 000100  BIT SET  6  00 00141
000430 A   142 BS7     EQU     MT+8                                 000200  BIT SET  7  00 00142
000440 A   143 BS15    EQU     MT+16                               0100000  BIT SET 15  00 00143
000441 A   144 BR0     EQU     MT+17                               0177776  BIT RESET  0  00 00144
000442 A   145 BR1     EQU     MT+18                               0177775  BIT RESET  1  00 00145
000444 A   146 BR3     EQU     MT+20                               0177767  BIT RESET  3  00 00146
000450 A   147 BR7     EQU     MT+24                               0177577  BIT RESET  7  00 00147
000451 A   148 BR8     EQU     MT+25                               0177377  BIT RESET  8  00 00148
000460 A   149 BR15    EQU     MT+32                                 077777  BIT RESET 15  00 00149
000461 A   150 NEG     EQU     MT+33                               0177777  ALL ONES      00 00150
           151           NAME    SRTC,COMP,MOVE,BTOA,XIT1                           00 00151
           152           EXT     XIT2,SRT1,SINI                                     00 00152
000000 R   153 SORT    EQU     *                                                      00 00153
000000 002000 A 154           CALL    SINI                                         00 00154
000001 000000 E
000002 002000 A 155           CALL    SRT1                                         00 00155
000003 000000 E
000004 002000 A 156           CALL    MERG                                         00 00156
000005 000011 R
           157           EXIT              END THE PROGRAM                        00 00157
000006 006505 A
000007 000406 A
000010 000200 A
           158           EJEC                                                     00 00158
           159 ***************************************************************      00 00159
           160 *                                                                    00 00160
           161 * MERGE PHASE ROUTINES                                             00 00161
           162 *                                                                    00 00162
           163 * MERG - MERGE PHASE PRIMARY CONTROL                               00 00163
           164 *                                                                    00 00164
           165 * MERG USES THE TWO-WAY POLYPHASE MERGE METHOD TO REPEATEDLY MERGE  00 00165
           166 * THE SORTED SEQUENCES FROM TWO WORKFILES ONTO THE THIRD WORKFILE.  00 00166
           167 * LONGER SEQUENCES RESULT FROM EACH MERGE PASS AND FINALLY A       00 00167
           168 * SINGLE SORTED SEQUENCE IS OUTPUT.                                00 00168
           169 *                                                                    00 00169
           170 * EXAMPLE: EACH DIGIT REPRESENTS THE LENGTH OF ONE SEQUENCE        00 00170
           171 *                                                                    00 00171
           172 * PASS  WORKFILE1  WORKFILE2  WORKFILE3  OUTPUT                     00 00172
           173 *       111        11111      -           -                       00 00173
           174 * 1     -             11      222         -                       00 00174
           175 * 2     33         -             3       -                       00 00175
           176 * 3      3         5          -           -                       00 00176
           177 * 4     -          -          -           8                       00 00177
           178 *                                                                00 00178
           179 ***************************************************************  00 00179
000011 000000 A 180 MERG    ENTR                                                 00 00180
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000012 002000 A  181          CALL    S1CA        RE-OPEN SORTFILE1                          00 00181
000013 002756 R
000014 002000 A  182          CALL    S2CA        RE-OPEN SORTFILE2                          00 00182
000015 003026 R
000016 006030 A  183          LDXI    SRTC                                                   00 00183
000017 002473 R
000020 015260 A  184          LDA     SWCH,X                                                 00 00184
000021 150444 A  185          ANA     BR3                                                    00 00185
000022 055260 A  186          STA     SWCH,X      RESET USER EXIT EOF SWITCH                 00 00186
000023 006444 A  187          BT      RA0+4,MG0   JUMP IF NOT TAG SORT                       00 00187
000024 000036 R
000025 002000 A  188          CALL    IFCLS       CLOSE INPUT FILE                           00 00188
000026 003204 R
000027 006017 A  189          LDAE    FCBI+2                                                 00 00189
000030 003326 R
000031 150451 A  190          ANA     BR8         CHANGE INPUT ACCESS METHOD TO DIRECT       00 00190
000032 006057 A  191          STAE    FCBI+2                                                 00 00191
000033 003326 R
000034 002000 A  192          CALL    IFCA        RE-OPEN INPUT FILE                         00 00192
000035 003146 R
000036 006030 A  193 MG0      LDXI    SRTC                                                   00 00193
000037 002473 R
000040 005001 A  194          TZA                                                            00 00194
000041 055001 A  195          STA     ACCP,X      ZERO ACCEPTED RECORD COUNT                 00 00195
000042 055002 A  196          STA     INST,X      ZERO INSERTED RECORD COUNT                 00 00196
000043 055003 A  197          STA     DLTD,X      ZERO DELETED  RECORD COUNT                 00 00197
                 198 * CHECK FOR ONE SEQUENCE...IF SO SWITCH SF AND LF POINTERS              00 00198
000044 015033 A  199          LDA     TSEQ,X                                                 00 00199
000045 005311 A  200          DAR                                                            00 00200
000046 001016 A  201          JANZ    MG1                                                    00 00201
000047 000054 R
000050 015176 A  202          LDA     SOPT,X                                                 00 00202
000051 025175 A  203          LDB     SLPT,X                                                 00 00203
000052 055175 A  204          STA     SLPT,X                                                 00 00204
000053 065176 A  205          STB     SOPT,X                                                 00 00205
                 206 * NOW PROCESS NORMALLY                                                  00 00206
000054 015033 A  207 MG1      LDA     TSEQ,X      GET TOTAL SEQUENCE CNT                     00 00207
000055 001010 A  208          JAZ     MGND          TOTAL SEQ=0 GO TO END OF JOB             00 00208
000056 000502 R
000057 005311 A  209          DAR               MINUS 1                                      00 00209
000060 001010 A  210          JAZ     MG2         JUMP IF TOT SEQ CNT = 1                    00 00210
000061 000232 R
000062 005311 A  211          DAR                                                            00 00211
000063 001010 A  212          JAZ     MG3         JUMP IF TOT SEQ CNT = 2                    00 00212
000064 000225 R
000065 015176 A  213 MG4      LDA     SOPT,X      GET OUTPUT FILE PTR                        00 00213
000066 025175 A  214          LDB     SLPT,X      GET LF PTR                                 00 00214
000067 055175 A  215          STA     SLPT,X      MAKE THE OLD OUTPUT FILE, THE NEW LF       00 00215
000070 015174 A  216          LDA     SSPT,X                                                 00 00216
000071 055176 A  217          STA     SOPT,X      MAKE THE OLD SF FILE, THE NEW OUTPUT       00 00217
000072 065174 A  218          STB     SSPT,X      MAKE THE OLD LF FILE, THE NEW SF FILE      00 00218
000073 002000 A  219          CALL    SCMP        COMPUTE NEW OUTPUT SEQUENCE CNTS           00 00219
000074 002176 R
000075 006030 A  220          LDXI    SRTC                                                   00 00220
000076 002473 R
000077 025176 A  221          LDB     SOPT,X      GET OUTPUT FILE PTR                        00 00221
000100 016007 A  222          LDA     7,B         GET SWITCH                                 00 00222
000101 150441 A  223          ANA     BR0         TURN OFF WRITE SWITCHES FOR FILE           00 00223
000102 056007 A  224          STA     7,B         SAVE  SWITCH                               00 00224
000103 025174 A  225          LDB     SSPT,X      DO THE SAME                                00 00225
000104 016007 A  226          LDA     7,B           FOR OTHER FILES                          00 00226
000105 150441 A  227          ANA     BR0                                                    00 00227
000106 056007 A  228          STA     7,B                                                    00 00228
000107 025175 A  229          LDB     SLPT,X                                                 00 00229
000110 016007 A  230          LDA     7,B                                                    00 00230
000111 150441 A  231          ANA     BR0                                                    00 00231
000112 056007 A  232          STA     7,B                                                    00 00232
000113 025175 A  233 MG5      LDB     SLPT,X        GET LF FILE POINTER                      00 00233
000114 065216 A  234          STB     SFFC,X      MAKE IT THE CURRENT FILE                   00 00234
000115 016007 A  235          LDA     7,B         GET FILE SWITCH                            00 00235
000116 006401 A  236          BT      01,MG6      JUMP IF DUMMY SWITCH ON                    00 00236
000117 000267 R
000120 025175 A  237          LDB     SLPT,X                                                 00 00237
000121 016005 A  238          LDA     5,B       GET BLK PER REG SEQ                          00 00238
000122 056010 A  239          STA     8,B       MAKE IT NEW BLK COUNT                        00 00239
000123 016003 A  240          LDA     3,B       GET REG SEQ COUNT                            00 00240
000124 001016 A  241          JANZ    MG75        IF ANY, BLOCK COUNT IS OKAY                00 00241
000125 000134 R
000126 016006 A  242          LDA     6,B       IF NOT GET BLK PER SEQ, SHT SEQ              00 00242
000127 056010 A  243          STA     0,B       MAKE IT THE BLK COUNT                        00 00243
000130 016004 A  244          LDA     4,B         GET SHORT SEQ COUNT                    E.1**0******
000131 126002 A  245          ADD     2,B         PLUS DUMMYS                            E.1*********
000132 001010 A  246          JAZ     MG8         JUMP IF ZERO                           E.1*********
000133 000271 R
000134 000134 R  247 MG7B     EQU     *                                                      00 00244
000134 026000 A  248          LDB     0,B                                                    00 00245
000135 026004 A  249          LDB     4,B                                                    00 00246
000136 015203 A  250          LDA     SFAL+1,X                                               00 00247
000137 056001 A  251          STA     1,2                                                    00 00248
000140 001000 A  252 MG7C     JMP     MG7A        READ THE LF SWITCH (JMP MG7A OR MG9)       00 00249
000141 000142 R
000142 002000 A  253 MG7A     CALL    MRPA,0      READ AN INITIAL SEQ BLK ON LF              00 00250
000143 001777 R
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000144 000000 A
000145 006030 A  254          LDXI    SRTC                                                    00 00251
000146 002473 R
000147 006017 A  255          LDAE    MG7A+2                                                  00 00252
000150 000144 R
000151 001004 A  256          JAN     MG8           JUMP IF EOF                               00 00253
000152 000271 R
000153 025211 A  257          LDB     SALP,X        GET PTR TO LF AREA PTRS                   00 00254
000154 016001 A  258          LDA     1,B           GET START OF IO AREA                      00 00255
000155 056000 A  259          STA     0,B           MAKE IT CURRENT LF AREA PTR               00 00256
000156 025174 A  260 MG9      LDB     SSPT,X        DO THE SAME FOR                           00 00257
000157 006010 A  261          LDAI    MG7A        GET LF READ PTR                             00 00258
000160 000142 R
000161 006057 A  262          STAE    MG7C+1      RESET SWITCH                                00 00259
000162 000141 R
000163 065216 A  263          STB     SFFC,X                                                  00 00260
000164 016007 A  264          LDA     7,B             THE SHORT FILE                          00 00261
000165 006401 A  265          BT      01,MG10                                                 00 00262
000166 000302 R
000167 025174 A  266          LDB     SSPT,X                                                  00 00263
000170 016005 A  267          LDA     5,B         GET BLK PER REG SEQ                         00 00264
000171 056010 A  268          STA     8,B         MAKE IT NEW BLK COUNT                       00 00265
000172 016003 A  269          LDA     3,B         GET REG SEQ COUNT                           00 00266
000173 001016 A  270          JANZ    MG11B           IF ANY, BLOCK COUNT IS OKAY             00 00267
000174 000203 R
000175 016006 A  271          LDA     6,B       IF NOT GET BLK PER SEQ, SHT SEQ               00 00268
000176 056010 A  272          STA     8,B       MAKE IT THE BLK COUNT                         00 00269
000177 016004 A  273          LDA     4,B           GET SHORT SEQ COUNT                     E.1********
000200 126002 A  274          ADD     2,B           PLUS DUMMYS                             E.1********
000201 001010 A  275          JAZ     MG12          JUMP IF ZERO                            E.1********
000202 000304 R
       000203 R  276 MG11B    EQU     *                                                       00 00270
000203 026000 A  277          LDB     0,B                                                     00 00271
000204 026004 A  278          LDB     4,B                                                     00 00272
000205 015200 A  279          LDA     SFAS+1,X                                                00 00273
000206 056001 A  280          STA     1,B                                                     00 00274
000207 002000 A  281 MG11A    CALL    MRRA,0                                                  00 00275
000210 001777 R
000211 000000 A
000212 006030 A  282          LDXI    SRTC                                                    00 00276
000213 002473 R
000214 006017 A  283          LDAE    MG11A+2                                                 00 00277
000215 000211 R
000216 001004 A  284          JAN     MG12                                                    00 00278
000217 000304 R
000220 025210 A  285          LDB     SASP,X                                                  00 00279
000221 016001 A  286          LDA     1,B                                                     00 00280
000222 056000 A  287          STA     0,B                                                     00 00281
000223 001000 A  288          JMP     MRGE          GO MERGE THE SEQUENCES                    00 00282
000224 000721 R
000225 025175 A  289 MG3      LDB     SLPT,X        GET OLD LONG FILE PTR                     00 00283
000226 016000 A  290          LDA     0,B                                                     00 00284
000227 145220 A  291          SUB     FSID,X        IF SAME FILE AS FINAL OUTPUT              00 00285
000230 001010 A  292          JAZ     MG4           YES - CAN'T MAKE FINAL MERGE PASS         00 00286
000231 000065 R
000232 025176 A  293 MG2      LDB     SOPT,X        GET OLD OUTPUT FILE PTR                   00 00287
000233 016000 A  294          LDA     0,B                                                     00 00288
000234 145220 A  295          SUB     FSID,X        OF SAME FILE AS FINAL OUTPUT              00 00289
000235 001010 A  296          JAZ     MG4           YES - CAN'T MAKE FINAL MERGE PASS         00 00290
000236 000065 R
000237 015260 A  297          LDA     SWCH,X                                                  00 00291
000240 110427 A  298          ORA     BS6           TURN ON FINAL MERGE PASS SWITCH           00 00292
000241 025174 A  299          LDB     SSPT,X          GET SHT FILE POINTER                    00 00293
000242 055260 A  300          STA     SWCH,X                                                  00 00294
000243 015223 A  301          LDA     FSOI,X        GET FINAL FILE PTR                        00 00295
000244 056000 A  302          STA     0,B           STORE AS OLD SF                           00 00296
000245 025212 A  303          LDB     SAOP,X          GET OUTPUT AREA POINTER                 00 00297
000246 016001 A  304          LDA     1,B           GET START OF AREA                         00 00298
000247 125011 A  305          ADD     FSOB,X        PLUS OUTPUT REC LGH IN WORDS              00 00299
000250 005311 A  306          DAR                 MINUS 1                                     00 00300
000251 056002 A  307          STA     2,B           MAKE IT NEW END OF AREA                   00 00301
000252 055214 A  308          STA     OCAE,X          SAVE END-AREA ADR FOR FINAL OUTPUT      00 00302
000253 015033 A  309          LDA     TSEQ,X                                                  00 00303
000254 005311 A  310          DAR                                                             00 00304
000255 001016 A  311          JANZ    MG4           JUMP IF TOT SEQ CNT NOT 1                 00 00305
000256 000065 R
000257 025175 A  312          LDB     SLPT,X                                                  00 00306
000260 005101 A  313          INCR    1                                                       00 00307
000261 056002 A  314          STA     2,B           MAKE OLD LF DUMMY COUNT = 1               00 00308
000262 016007 A  315          LDA     7,B                                                     00 00309
000263 110422 A  316          ORA     TWO                                                     00 00310
000264 056007 A  317          STA     7,B           TURN ON OLD LF DUMMY SWITCH               00 00311
000265 001000 A  318          JMP     MG4                                                     00 00312
000266 000065 R
000267 150442 A  319 MG6      ANA     BR1           TURN OFF DUMMY SWITCH                     00 00313
000270 056007 A  320          STA     7,B           SAVE SWITCH                               00 00314
000271 025175 A  321 MG8      LDB     SLPT,X    GET LF PTR                                    00 00315
000272 016002 A  322          LDA     2,B       GET DUMMY CNT LF                              00 00316
000273 001010 A  323          JAZ     MR50          GO START NEW PASS                         00 00317
000274 000421 R
000275 016007 A  324          LDA     7,B           GET FILE SWITCH LF                        00 00318
000276 110422 A  325          ORA     TWO           TURN ON DUMMY SWITCH LF                   00 00319
000277 056007 A  326          STA     7,B                                                     00 00320
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000300 001000 A  327          JMP     MG9                                                    00 00321
000301 000156 R
000302 150442 A  328 MG10     ANA     BR1       TURN OFF DUMMY SWITCH SF                     00 00322
000303 056007 A  329          STA     7,B                                                    00 00323
000304 025174 A  330 MG12     LDB     SSPT,X    GET SHT FILE PTR                             00 00324
000305 016002 A  331          LDA     2,B     GET DUMMY CNT SF                               00 00325
000306 001010 A  332          JAZ     MR50      GO START NEW PASS                            00 00326
000307 000421 R
000310 025175 A  333          LDB     SLPT,X    GET LF PTR                                   00 00327
000311 016007 A  334          LDA     7,B       DUMMY SWITCH LF                              00 00328
000312 006401 A  335          BT      01,MG14   DUMMY SWITCH OFF LF                          00 00329
000313 000322 R
000314 025174 A  336          LDB     SSPT,X    GET SF PTR                                   00 00330
000315 016007 A  337          LDA     7,B       GET SF SWITCH                                00 00331
000316 110422 A  338          ORA     TWO       TURN ON DUMMY SWITCH SF                      00 00332
000317 056007 A  339          STA     7,B       SAVE IT                                      00 00333
000320 001000 A  340          JMP     MRGE      GO WRITE SEQ FROM LF                         00 00334
000321 000721 R
000322 025175 A  341 MG14     LDB     SLPT,X    GET LF PTR                                   00 00335
000323 016002 A  342          LDA     2,B       GET DUMMY CNT                                00 00336
000324 025174 A  343          LDB     SSPT,X    GET SF PTR                                   00 00337
000325 146002 A  344          SUB     2,B       SUB DUM CNT SF FROM DUM CNT LF               00 00338
000326 001016 A  345          JANZ    MG17      NOT EQUAL                                    00 00339
000327 000335 R
000330 056002 A  346          STA     2,B       ZERO SF DUMMY CNT                            00 00340
000331 025175 A  347 MG16     LDB     SLPT,X                                                 00 00341
000332 056002 A  348          STA     2,B       ZERO LF DUMMY CNT                            00 00342
000333 001000 A  349          JMP     MR50      START NEXT PASS                              00 00343
000334 000421 R
000335 001004 A  350 MG17     JAN     MG15      JUMP IF RESULT NEGATIVE                      00 00344
000336 000346 R
000337 025175 A  351          LDB     SLPT,X    GET LF PTR                                   00 00345
000340 056002 A  352          STA     2,B         MAKE LF DUMMY COUNT = DIFFERENCE           00 00346
000341 025174 A  353          LDB     SSPT,X    GET SF PTR                                   00 00347
000342 005001 A  354          TZA                                                            00 00348
000343 056002 A  355          STA     2,B       ZERO THE SF DUMMY CNT                        00 00349
000344 001000 A  356          JMP     MR50      START NEXT PASS                              00 00350
000345 000421 R
000346 005211 A  357 MG15     CPA                                                            00 00351
000347 005111 A  358          IAR                                                            00 00352
000350 056002 A  359          STA     2,B       MAKE SF DUMMY CNT = THE DIFFERENCE           00 00353
000351 005001 A  360          TZA                                                            00 00354
000352 001000 A  361          JMP     MG16                                                   00 00355
000353 000331 R
000354 025175 A  362 MR20     LDB     SLPT,X    GET LF PTR                                   00 00356
000355 016007 A  363          LDA     7,B       GET SWITCH LF                                00 00357
000356 006150 A  364          ANAI    0177772   TURN OFF EOS AND WRITE SWITCH                00 00358
000357 177772 A
000360 056007 A  365          STA     7,B       SAVE IT                                      00 00359
000361 025174 A  366          LDB     SSPT,X    DO THE SAME                                  00 00360
000362 016007 A  367          LDA     7,B       FOR SF                                       00 00361
000363 006150 A  368          ANAI    0177772                                                00 00362
000364 177772 A
000365 056007 A  369          STA     7,B                                                    00 00363
000366 025175 A  370          LDB     SLPT,X    GET LF PTR                                   00 00364
000367 016003 A  371          LDA     3,B       LF REG SEQ CNT LF                            00 00365
000370 126004 A  372          ADD     4,B       PLUS SHT SEQ CNT LF                          00 00366
000371 025174 A  373          LDB     SSPT,X                                                 00 00367
000372 126003 A  374          ADD     3,B       PLUS REG SEQ CNT SF                          00 00368
000373 126004 A  375          ADD     4,B       PLUS SHT SEQ CNT SF                          00 00369
000374 055033 A  376          STA     TSEQ,X    STORE TOT SEQ CNT                            00 00370
000375 015260 A  377          LDA     SWCH,X    GET SYSTEM SWITCH                            00 00371
000376 006407 A  378          BT      0007,MR50 START NEXT PASS IF FEOF SWITCH ON            00 00372
000377 000421 R
000400 025174 A  379          LDB     SSPT,X    GET SF PTR                                   00 00373
000401 016003 A  380          LDA     3,B       GET SF REG SEQ CNT                           00 00374
000402 126004 A  381          ADD     4,B       PLUS SF SHT SEQ CNT                          00 00375
000403 126002 A  382          ADD     2,B       PLUS SF DUM SEQ CNT                          00 00376
000404 001016 A  383          JANZ    MG5       IF NOT 0, LEAVE SWITCH TO READ LF            00 00377
000405 000113 R
000406 025175 A  384          LDB     SLPT,X    GET LF PTR                                   00 00378
000407 126003 A  385          ADD     3,B       PLUS LF REG SEQ CNT                          00 00379
000410 126004 A  386          ADD     4,B       PLUS LF SHT SEQ CNT                          00 00380
000411 001010 A  387          JAZ     MG5       IF LF BLK CNT = 0 , READ LF FOR EOF          00 00381
000412 000113 R
000413 006010 A  388          LDAI    MG9       GET SF READ PTR                              00 00382
000414 000156 R
000415 006057 A  389          STAE    MG7C+1    SET SWITCH TO BYPASS LF READ                 00 00383
000416 000141 R
000417 001000 A  390          JMP     MG5         **********                                 00 00384
000420 000113 R
000421 006030 A  391 MR50     LDXI    SRTC                                                   00 00385
000422 002473 R
000423 025176 A  392          LDB     SOPT,X                                                 00 00386
000424 015260 A  393          LDA     SWCH,X      GET SYSTEM SWITCH                          00 00387
000425 150450 A  394          ANA     BR7       TURN OFF FEOF SWITCH                         00 00388
000426 055260 A  395          STA     SWCH,X      SAVE SWITCH                                00 00389
000427 016003 A  396          LDA     3,B                                                    00 00390
000430 126004 A  397          ADD     4,B       SEQUENCE COUNT                               00 00391
000431 126002 A  398          ADD     2,B       DUMMY COUNT                                  00 00392
000432 025175 A  399          LDB     SLPT,X      GET LONG FILE POINTER                      00 00393
000433 126003 A  400          ADD     3,B                                                    00 00394
000434 126004 A  401          ADD     4,B                                                    00 00395
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000435 126002 A  402          ADD     2,B          DUMMY COUNT                                    00 00396
000436 055033 A  403          STA     TSEQ,X                                                      00 00397
000437 015260 A  404          LDA     SWCH,X                                                      00 00398
000440 006446 A  405          BT      RA0+6,MR51   JUMP IF NOT END OF FINAL MERGE PASS            00 00399
000441 000446 R
000442 006410 A  406          BT      RA1+8,DEOF   TELL USER OUTEXIT ABOUT EOF                    00 00400
000443 001556 R
000444 001000 A  407          JMP     MGND         DONE                                           00 00401
000445 000502 R
000446 025176 A  408 MR51     LDB     SOPT,X       GET OLD OUTPUT FILE                            00 00402
000447 016000 A  409          LDA     0,B          GET I/O MACRO PTRS                             00 00403
000450 006120 A  410          ADDI    30           PTR TO CLOSE                                   00 00404
000451 000036 A
000452 005311 A  411          DAR                                                                 00 00405
000453 054001 A  412          STA     *+2          STORE IN JUMP                                  00 00406
000454 002000 A  413          JMPM    0            CLOSE OF WITH FILE MARK                        00 00407
000455 000000 A
000456 006030 A  414          LDXI    SRTC                                                        00 00408
000457 002473 R
000460 025174 A  415          LDB     SSPT,X         GET SHORT FILE MACRO POINTER                 00 00409
000461 016000 A  416          LDA     0,B                                                         00 00410
000462 005311 A  417          DAR                                                                 00 00411
000463 054001 A  418          STA     *+2                                                         00 00412
000464 002000 A  419          JMPM    0            OPEN SF FILE WITH REWIND                       00 00413
000465 000000 A
000466 006030 A  420          LDXI    SRTC                                                        00 00414
000467 002473 R
000470 025176 A  421          LDB     SOPT,X                                                      00 00415
000471 016000 A  422          LDA     0,B                                                         00 00416
000472 005311 A  423          DAR                                                                 00 00417
000473 054001 A  424          STA     *+2                                                         00 00418
000474 002000 A  425          JMPM    0            OPEN OUTPUT FILE WITH REWIND                   00 00419
000475 000000 A
000476 006030 A  426          LDXI    SRTC                                                        00 00420
000477 002473 R
000500 001000 A  427          JMP     MG1                                                         00 00421
000501 000054 R
000502 006030 A  428 MGND     LDXI    SRTC                                                    F   ********
000503 002473 R
000504 015260 A  429          LDA     SWCH,X         GET SWITCH                               F   ********
000505 006411 A  430          BT      RA1+9,FMOM     FINISH UP MERGE OMIT FILE                F   ********
000506 001762 R
       000507 R  431 MGN0     EQU     *                                                       F   ********
000507 002000 A  432          CALL    IFCLS        CLOSE INPUT FILE                               00 00423
000510 003204 R
000511 006030 A  433          LDXI    SRTC                                                        00 00424
000512 002473 R
000513 015001 A  434          LDA     ACCP,X       GET ACCEPTED RECORD COUNT                      00 00425
000514 125002 A  435          ADD     INST,X       PLUS INSERTED RECORD COUNT                     00 00426
000515 054002 A  436          STA     *+3                                                         00 00427
000516 002000 A  437          CALL    BTOA,0       CONVERT TO ASCII                               00 00428
000517 004206 R
000520 000000 A
000521 064004 A  438          STB     MGM2+4       STORE AS SOURCE                                00 00429
000522 002000 A  439 MGM2     CALL    MOVE,MGS1+19,0,0,0,5                                        00 00430
000523 004042 R
000524 000657 R
000525 000000 A
000526 000000 A
000527 000000 A
000530 000005 A
000531 002000 A  440          CALL    CLR5         CLEAR THE LIST OUTPUT BUFFER                   00 00431
000532 003350 R
000533 002000 A  441          CALL    MOVE,LU5B,0,MGS1,0,44  MOVE MGS1 TO BUFFER                  00 00432
000534 004042 R
000535 003402 R
000536 000000 A
000537 000634 R
000540 000000 A
000541 000054 A
000542 002000 A  442          CALL    WRT5         WRITE MESSAGE 1                                00 00433
000543 003365 R
000544 006030 A  443          LDXI    SRTC                                                        00 00434
000545 002473 R
000546 015012 A  444          LDA     SOUT,X       GET TOTAL RECS OUTPUT BY SORT PHASE            00 00435
000547 054002 A  445          STA     *+3                                                         00 00436
000550 002000 A  446          CALL    BTOA,0       CONVERT TO ASCII                               00 00437
000551 004206 R
000552 000000 A
000553 064004 A  447          STB     MGM3+4                                                      00 00438
000554 002000 A  448 MGM3     CALL    MOVE,MGS2+4,0,0,0,5  MOVE TOTAL MERGE RECS TO MSG           00 00439
000555 004042 R
000556 000666 R
000557 000000 A
000560 000000 A
000561 000000 A
000562 000003 A
000563 006030 A  449          LDXI    SRTC+ACCP                                                   00 00440
000564 002474 R
000565 005041 A  450          TXA                                                                 00 00441
000566 054043 A  451          STA     MGN3                                                        00 00442
000567 120464 A  452          ADD     THREE        LOOP 3 TIMES - ACCP, INST, DLTD                00 00443
000570 054042 A  453          STA     MGN4                                                        00 00444
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000571 014012 A   454 MGN1   LDA     MGN2+2                                          00 00445
000572 120424 A   455         ADD     EIGHT       BUMP MOVE TGT TO NEXT TOTAL         00 00446
000573 054010 A   456         STA     MGN2+2                                          00 00447
000574 015000 A   457         LDA     0,X         GET TOTAL                           00 00448
000575 054002 A   458         STA     *+3                                             00 00449
000576 002000 A   459         CALL    BTOA,0      CONVERT TO ASCII                    00 00450
000577 004206 R
000600 000000 A
000601 064004 A   460         STB     MGN2+4      MAKE IT THE SOURCE FOR MOVE         00 00451
000602 002000 A   461 MGN2    CALL    MOVE,MGS2+4,0,0,0,5                             00 00452
000603 004042 R
000604 000666 R
000605 000000 A
000606 000000 A
000607 000000 A
000610 000005 A
000611 044020 A   462         INR     MGN3        BUMP PTR TO BINARY TOTAL            00 00453
000612 034017 A   463         LDX     MGN3                                            00 00454
000613 005041 A   464         TXA                                                     00 00455
000614 144016 A   465         SUB     MGN4                                            00 00456
000615 001004 A   466         JAN     MGN1        IF NOT DONE - GO CONVERT & MOVE ANOTHER 00 00457
000616 000571 R
000617 002000 A   467         CALL    MOVE,LU5B,0,MGS2,0,62  MOVE MGS2 TO BUFFER      00 00458
000620 004042 R
000621 003402 R
000622 000000 A
000623 000662 R
000624 000000 A
000625 000076 A
000626 002000 A   468         CALL    WRT5        WRITE MESSAGE 2                     00 00459
000627 003365 R
000630 001000 A   469         JMP*    MERG        RETURN                              00 00460
000631 100011 R
000632 000000 A   470 MGN3    DATA    0                                               00 00461
000633 000000 A   471 MGN4    DATA    0                                               00 00462
000634 120240 A   472 MGS1    DATA    '  SORT COMPLETE, OUTPUT RECORD COUNT= XXXXX '  00 00463
000635 151717 A
000636 151324 A
000637 120303 A
000640 147715 A
000641 150314 A
000642 142724 A
000643 142654 A
000644 120317 A
000645 152724 A
000646 150325 A
000647 152240 A
000650 151305 A
000651 141717 A
000652 151304 A
000653 120303 A
000654 147725 A
000655 147324 A
000656 136640 A
000657 154330 A
000660 154330 A
000661 154240 A
000662 120240 A   473 MGS2    DATA    '  MERGE=XXXXX  ACCEPTED=XXXXX '              00 00464
000663 146705 A
000664 151307 A
000665 142675 A
000666 154330 A
000667 154330 A
000670 154240 A
000671 120301 A
000672 141703 A
000673 142720 A
000674 152305 A
000675 142275 A
000676 154330 A
000677 154330 A
000700 154240 A
000701 120311 A   474         DATA    ' INSERTED=XXXXX  DELETED= XXXXX '           00 00465
000702 147323 A
000703 142722 A
000704 152305 A
000705 142275 A
000706 154330 A
000707 154330 A
000710 154240 A
000711 120304 A
000712 142714 A
000713 142724 A
000714 142704 A
000715 136640 A
000716 154330 A
000717 154330 A
000720 154240 A
                  475         EJEC                                                00 00466
                  476 ********************************************************************** 00 00467
                  477 *                                                                00 00468
                  478 * MRGE - MERGE PHASE ROUTINE TO MERGE TWO SEQUENCES              00 00469
                  479 *                                                                00 00470
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                    480 ************************************************************      00 00471
000721 006030 A     481 MRGE    LDXI    SRTC        GET SORT CONTROL TABLE                00 00472
000722 002473 R
000723 025175 A     482         LDB     SLPT,X      GET LONG FILE PTR                     00 00473
000724 016007 A     483         LDA     7,B         GET LONG FILE SWITCH                  00 00474
000725 006401 A     484         BT      01,MR1      JUMP IF DUMMY SWITCH IS ON            00 00475
000726 001101 R
000727 025174 A     485         LDB     SSPT,X      GET SHT FILE PTR                      00 00476
000730 016007 A     486         LDA     7,B         GET SHT FILE SWITCH                   00 00477
000731 006401 A     487         BT      01,MR2      JUMP IF DUMMY SWITCH IS ON            00 00478
000732 001120 R
000733 025175 A     488 MR3     LDB     SLPT,X                                            00 00479
000734 016007 A     489         LDA     7,B         GET LONG FILE SWITCH                  00 00480
000735 006400 A     490         BT      00,MR4      JUMP IF LONG FILE WRITE SWITCH IS ON   00 00481
000736 001161 R
000737 025174 A     491 MR5     LDB     SSPT,X                                            00 00482
000740 016007 A     492         LDA     7,B         GET SHORT FILE SWITCH                 00 00483
000741 006400 A     493         BT      00,MR6      JUMP IF SHT FILE WRITE SWITCH IS ON    00 00484
000742 000754 R
000743 002000 A     494 MR7     CALL    MCMP,0      COMPARE RECORDS FOR MERGE             00 00485
000744 001563 R
000745 000000 A
000746 006030 A     495         LDXI    SRTC        GET SORT CONTROL TABLE                00 00486
000747 002473 R
000750 006017 A     496         LDAE    MR7+2       GET COMPARE RESULT                    00 00487
000751 000745 R
000752 001004 A     497         JAN     MR4         LONG FILE REC LT SHT FILE REC         00 00488
000753 001161 R
000754 015210 A     498 MR6     LDA     SASP,X      GET SHORT FILE I/O AREA PTR           00 00489
000755 055215 A     499         STA     SFAC,X      MAKE IT THE CURRENT RECORD            00 00490
000756 015174 A     500         LDA     SSPT,X      GET SHORT FILE PTR                    00 00491
000757 055216 A     501         STA     SFFC,X      MAKE IT CURRENT FILE                  00 00492
000760 015260 A     502 MR8     LDA     SWCH,X      GET SORT SWITCH                       00 00493
000761 006406 A     503         BT      06,MR9      JUMP IF FINAL MERGE PASS SWITCH IS ON  00 00494
000762 001326 R
000763 025215 A     504         LDB     SFAC,X      GET CURRENT AREA PTR, PTR             00 00495
000764 016000 A     505         LDA     0,B         GET CURRENT AREA REC PTR              00 00496
000765 054010 A     506         STA     MRM1+4      STORE AS SOURCE                       00 00497
000766 015205 A     507         LDA     SFAD,X      GET PTR TO CURRENT OUTPUT AREA        00 00498
000767 054004 A     508         STA     MRM1+2      STORE AS TARGET                       00 00499
000770 015007 A     509         LDA     SLGH,X      GET INTERMEDIATE RECORD SIZE          00 00500
000771 054006 A     510         STA     *+7         STORE IN CALL                         00 00501
000772 002000 A     511 MRM1    CALL    MOVE,0,0,0,0,0 MOVE CURRENT REC TO OUTPUT         00 00502
000773 004042 R
000774 000000 A
000775 000000 A
000776 000000 A
000777 000000 A
001000 000000 A
001001 006030 A     512         LDXI    SRTC        GET SORT CONTROL TABLE                00 00503
001002 002473 R
001003 025011 A     513 MR34    LDB     FSDB,X      OUTPUT RECORD LENGTH                  00 00504
001004 015260 A     514         LDA     SWCH,X        SWITCH                              00 00505
001005 006406 A     515         BT      6,MR35      JUMP IF FINAL MERGE PASS              00 00506
001006 001010 R
001007 025024 A     516         LDB     MFLH,X      MERGE REC LENGTH (TAGS + RECNO OR REC) 00 00507
001010 005021 A     517 MR35    TBA                                                       00 00508
001011 125205 A     518         ADD     SFAD,X        PLUS OUTPUT AREA POINTER            00 00509
001012 055205 A     519         STA     SFAD,X      STORE NEW OUTPUT REC PTR              00 00510
001013 145214 A     520         SUB     DCAE,X      MINUS END OF OUTPUT AREA              00 00511
001014 001002 A     521         JAP     MR11        JUMP IF OUTPUT AREA FULL              00 00512
001015 001167 R
001016 025215 A     522 MR22    LDB     SFAC,X      GET CURRENT AREA PTR, PTR             00 00513
001017 016000 A     523         LDA     0,B         GET CURRENT REC PTR                   00 00514
001020 125024 A     524         ADD     MFLH,X        PLUS INTERMEDIATE RECORD LENGTH     00 00515
001021 056000 A     525         STA     0,B           PUT BACK IN CURRENT AREA PTR        00 00516
001022 146002 A     526         SUB     2,B           MINUS END OF CURRENT AREA           00 00517
001023 001004 A     527         JAN     MRGE          JUMP IF MORE RECORDS IN AREA        00 00518
001024 000721 R
001025 025216 A     528         LDB     SFFC,X        GET CURRENT FILE PTR                00 00519
001026 016010 A     529         LDA     8,B         GET BLOCKS REMAINING                  00 00520
001027 005311 A     530         DAR               MINUS 1 JUST READ                       00 00521
001030 056010 A     531         STA     8,B       SAVE NEW REMAINING COUNT                00 00522
001031 001010 A     532         JAZ     MR12      IF COUNT ZERO, ADJUST SEQ COUNTS        00 00523
001032 001035 R
001033 001002 A     533         JAP     MR13          JUMP IF .GT. 0                    E.1********
001034 001210 R
001035 016003 A     534 MR12    LDA     3,B           GET REG SEQ CNT                     00 00525
001036 001010 A     535         JAZ     MR14          IF ZERO, CHECK SHT SEQ CNT          00 00526
001037 001047 R
001040 005311 A     536         DAR               MINUS 1                                 00 00527
001041 056003 A     537         STA     3,B           SAVE NEW REG SEQ CNT                00 00528
001042 015033 A     538 MR16    LDA     TSEQ,X        DECREMENT                           00 00529
001043 005311 A     539         DAR               TOTAL SEQ CNT                           00 00530
001044 055033 A     540         STA     TSEQ,X                                            00 00531
001045 001000 A     541         JMP     MR17                                              00 00532
001046 001056 R
001047 016004 A     542 MR14    LDA     4,B           GET SHT SEQ CNT                     00 00533
001050 001010 A     543         JAZ     MR17          JUMP IF 0                           00 00534
001051 001056 R
001052 005311 A     544         DAR               MINUS 1                                 00 00535
001053 056004 A     545         STA     4,B           STORE NEW SHORT SEQ CNT             00 00536
001054 001000 A     546         JMP     MR16                                              00 00537
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001055 001042 R
001056 015175 A   547 MR17    LDA     SLPT,X      GET LONG FILE PTR                                  00 00538
001057 145216 A   548         SUB     SFFC,X      MINUS CURRENT FILE PTR                             00 00539
001060 001010 A   549         JAZ     MR18        JUMP IF CURRENT FILE IS LONG FILE                  00 00540
001061 001065 R
001062 025175 A   550         LDB     SLPT,X      GET LONG FILE PTR                                  00 00541
001063 001000 A   551         JMP     MR19                                                           00 00542
001064 001066 R
001065 025174 A   552 MR18    LDB     SSPT,X      GET LONG FILE PTR                                  00 00543
001066 016007 A   553 MR19    LDA     7,B         GET SWITCH                                         00 00544
001067 006402 A   554         BT      RA1+2,MR20  JUMP IF EOS ON BOTH FILES                          00 00545
001070 000354 R
001071 110421 A   555         ORA     ONE         TURN ON WRITE SWITCH FOR NON-ACTIVE FILE           00 00546
001072 056007 A   556         STA     7,B         AND SAVE                                           00 00547
001073 025216 A   557         LDB     SFFC,X                                                         00 00548
001074 016007 A   558         LDA     7,B         GET CURRENT FILE SWITCH                            00 00549
001075 110423 A   559         ORA     FOUR        TURN ON EOS SWITCH                                 00 00550
001076 056007 A   560         STA     7,B         AND SAVE                                           00 00551
001077 001000 A   561         JMP     MRGE        MAKE ANOTHER PASS                                  00 00552
001100 000721 R
001101 025174 A   562 MR1     LDB     SSPT,X      GET SHT FILE PTR                                   00 00553
001102 016007 A   563         LDA     7,B         GET SWITCH                                         00 00554
001103 006401 A   564         BT      01,MR21     JUMP IF DUMMY SWITCH ON                            00 00555
001104 001146 R
001105 110421 A   565         ORA     ONE           TURN ON SHORT FILE WRITE SW                      00 00556
001106 056007 A   566         STA     7,B           AND SAVE                                         00 00557
001107 025175 A   567         LDB     SLPT,X        GET LONG FILE PTR                                00 00558
001110 016002 A   568         LDA     2,B           GET LONG FILE DUMMY CNT                          00 00559
001111 005311 A   569         DAR                 MINUS 1                                            00 00560
001112 056002 A   570         STA     2,B           AND SAVE NEW DUMMY CNT                           00 00561
001113 016007 A   571         LDA     7,B           GET LF SWITCH                                    00 00562
001114 110423 A   572         ORA     FOUR          TURN ON EOS SWITCH                               00 00563
001115 056007 A   573         STA     7,B           AND SAVE                                         00 00564
001116 001000 A   574         JMP     MR3                                                            00 00565
001117 000737 R
001120 006402 A   575 MR2     BT      02,MR3          IF DUMMY AND EOS, IGNORE DUMMY                 00 00566
001121 000733 R
001122 016002 A   576         LDA     2,B             GET DUMMY COUNT SF                             00 00567
001123 005311 A   577         DAR                 MINUS 1                                            00 00568
001124 056002 A   578         STA     2,B           SAVE NEW DUMMY CNT                               00 00569
001125 001016 A   579         JANZ    MR2A            JIF DUMMY COUNT NOT ZERO                       00 00570
001126 001135 R
001127 016007 A   580         LDA     7,B             GET SF SWITCH                                  00 00571
001130 150442 A   581         ANA     BR1           TURN OFF DUMMY SWITCH                            00 00572
001131 056007 A   582         STA     7,B             SAVE SW SWITCH                                 00 00573
001132 015260 A   583         LDA     SWCH,X          GET SYSTEM SWITCH                              00 00574
001133 110430 A   584         ORA     BS7           TURN ON FEOF SWITCH                              00 00575
001134 055260 A   585         STA     SWCH,X        SAVE SYSTEM SWITCH                               00 00576
       001135 R   586 MR2A    EQU     *                                                              00 00577
001135 016007 A   587         LDA     7,B           GET SF SWITCH                                    00 00578
001136 110423 A   588         ORA     FOUR          TURN ON EOS SWITCH                               00 00579
001137 056007 A   589         STA     7,B           SAVE                                             00 00580
001140 025175 A   590         LDB     SLPT,X        GET LF PTR                                       00 00581
001141 016007 A   591         LDA     7,B           GET LF SWITCH                                    00 00582
001142 110421 A   592         ORA     ONE           TURN ON WRITE LF SWITCH                          00 00583
001143 056007 A   593         STA     7,B           AND SAVE                                         00 00584
001144 001000 A   594         JMP     MR3                                                            00 00585
001145 000733 R
001146 025175 A   595 MR21    LDB     SLPT,X        GET LF PTR                                       00 00586
001147 016002 A   596         LDA     2,B           GET LF DUMMY CNT                                 00 00587
001150 025174 A   597         LDB     SSPT,X        GET SF PTR                                       00 00588
001151 146002 A   598         SUB     2,B           MINUS SF DUMMY CNT                               00 00589
001152 025175 A   599         LDB     SLPT,X        GET LF PTR                                       00 00590
001153 056002 A   600         STA     2,B           SAVE NEW DUMMY CNT                               00 00591
001154 015260 A   601         LDA     SWCH,X        GET SWITCH                                       00 00592
001155 110430 A   602         ORA     BS7           TURN ON FEOF SF SWITCH                           00 00593
001156 055260 A   603         STA     SWCH,X                                                         00 00594
001157 001000 A   604         JMP     MR50          GO START A NEW PASS                              00 00595
001160 000421 R
001161 015211 A   605 MR4     LDA     SALP,X        GET LF I/O AREA PTR                              00 00596
001162 055215 A   606         STA     SFAC,X        MAKE IT THE CURRENT RECORD                       00 00597
001163 015175 A   607         LDA     SLPT,X        GET LF PTR                                       00 00598
001164 055216 A   608         STA     SFFC,X        MAKE IT CURRENT FILE                             00 00599
001165 001000 A   609         JMP     MR8                                                            00 00600
001166 000760 R
001167 025176 A   610 MR11    LDB     SDPT,X                                                         00 00601
001170 026000 A   611         LDB     0,B                                                            00 00602
001171 026004 A   612         LDB     4,B                                                            00 00603
001172 015206 A   613         LDA     SFAD+1,X                                                       00 00604
001173 056001 A   614         STA     1,B                                                            00 00605
001174 015260 A   615         LDA     SWCH,X          GET SWITCH                                   F ********
001175 006411 A   616         BT      RA1+9,*+4       SKIP WRITE IF FILE OF TAGS                   F ********
001176 001201 R
001177 002000 A   617         CALL    MRCB          WRITE THE OUTPUT BLOCK                           00 00606
001200 002104 R
001201 006030 A   618         LDXI    SRTC          GET SORT CONTROL TABLE                           01 01607
001202 002472 R
001203 025212 A   619         LDB     SHDP,X                                                         00 00608
001204 016001 A   620         LDA     1,B                                                            00 00609
001205 056000 A   621         STA     0,B                                                            00 00610
001206 001000 A   622         JMP     MR22                                                           00 00611
001207 001016 R
001210 002000 A   623 MR13    CALL    MRR9,0        READ ANOTHER SEQ BLOCK FROM ACTIVE FILE          00 00612
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001211 001777 R
001212 000000 A
001213 006030 A   624          LDXI    SRTC                                        00 00613
001214 002473 R
001215 006017 A   625          LDAE    MR13+2      GET RETURN CODE                 E.1********
001216 001212 R
001217 001004 A   626          JAN     MMEG        INVALID END OF FILE             E.1********
001220 002030 R
001221 015216 A   627          LDA     SFFC,X      GET ACTIVE FILE PTR                 00 00614
001222 145175 A   628          SUB     SLPT,X      MINUS LF PTR                        00 00615
001223 001010 A   629          JAZ     MR23        IF EQUAL, LF IS ACTIVE FILE         00 00616
001224 001230 R
001225 025175 A   630          LDB     SLPT,X      GET LF POINTER                      00 00617
001226 001000 A   631          JMP     MR24                                            00 00618
001227 001231 R
001230 025174 A   632 MR23     LDB     SSPT,X      GET SF POINTER                      00 00619
001231 016007 A   633 MR24     LDA     7,B         GET SWITCH FOR INACTIVE FILE        00 00620
001232 006402 A   634          BT      02,MR25     IF EOS, JUMP                        00 00621
001233 001250 R
001234 015215 A   635          LDA     SFAC,X      GET ACTIVE AREA PTR, PTR            00 00622
001235 145211 A   636          SUB     SALP,X      MINUS PTR TO LF AREA PTR            00 00623
001236 001010 A   637          JAZ     MR26        JUMP IF LF AREA IS ACTIVE           00 00624
001237 001245 R
001240 025210 A   638          LDB     SASP,X      GET SF AREA PTR, PTR                00 00625
001241 016001 A   639 MR27     LDA     1,B         GET START OF AREA                   00 00626
001242 056000 A   640          STA     0,B         MAKE IT CURRENT AREA                00 00627
001243 001000 A   641          JMP     MRGE        MAKE ANOTHER PASS                   00 00628
001244 000721 R
001245 025211 A   642 MR26     LDB     SALP,X      GET LF AREA PTR, PTR                00 00629
001246 001000 A   643          JMP     MR27                                            00 00630
001247 001241 R
001250 015260 A   644 MR25     LDA     SWCH,X      GET SWITCH                          00 00631
001251 006406 A   645          BT      0006,MR28   JUMP IF FINAL MERGE                 00 00632
001252 001312 R
001253 015215 A   646          LDA     SFAC,X      GET CURRENT AREA PTR, PTR           00 00633
001254 145211 A   647          SUB     SALP,X      MINUS LF AREA PTR, PTR              00 00634
001255 001010 A   648          JAZ     MR29        JUMP IF LF IS CURRENT               00 00635
001256 001262 R
001257 025210 A   649          LDB     SASP,X      GET SF PTR. ITS CURRENT AREA PTR, PTR   00 00636
001260 001000 A   650          JMP     MR30                                            00 00637
001261 001263 R
001262 025211 A   651 MR29     LDB     SALP,X      GET LF PTR ITS CURRENT AREA PTR, PTR    00 00638
001263 016001 A   652 MR30     LDA     1,B         GET START OF ACTIVE AREA            00 00639
001264 054016 A   653          STA     MRM2+4      MAKE IT THE SOURCE                  00 00640
001265 016002 A   654          LDA     2,B         GET END OF ACTIVE AREA              00 00641
001266 005111 A   655          IAR                                                     00 00642
001267 145024 A   656          SUB     MFLH,X      MINUS INTERMEDIATE RECORD SIZE IN WORDS 00 00643
001270 056000 A   657          STA     0,B         MAKE IT ACTIVE AREA PTR TO FORCE ECB    00 00644
001271 025212 A   658          LDB     SAOP,X      GET OUTPUT AREA PTR, PTR            00 00645
001272 016001 A   659          LDA     1,B         GET START OF OUTPUT AREA            00 00646
001273 054005 A   660          STA     MRM2+2      MAKE IT THE TARGET                  00 00647
001274 015010 A   661          LDA     SBLK,X      GET BLOCK LENGTH IN WORDS           00 00648
001275 004241 A   662          LRLA    1           TIMES 2                             00 00649
001276 054006 A   663          STA     *+7         STORE IN CALL                       00 00650
001277 002000 A   664 MRM2     CALL    MOVE,0,0,0,0,0   MOVE INPUT BLOCK TO OUTPUT BLOCK   00 00651
001300 004042 R
001301 000000 A
001302 000000 A
001303 000000 A
001304 000000 A
001305 000000 A
001306 006030 A   665          LDXI    SRTC        GET SORT CONTROL TABLE              00 00652
001307 002473 R
001310 001000 A   666          JMP     MR11        WRITE THE OUTPUT BLOCK              00 00653
001311 001167 R
                  667 *                                                              00 00654
                  668 * FINAL MERGE PASS                                           00 00655
                  669 *                                                              00 00656
                  670 *       ACTIVE AREA PTR POINTS TO MERGE RECORD              00 00657
                  671 *       IF IT IS A DUMMY, ONLY OUTEXIT INSERTS ARE ALLOWED, ELSE DONE   00 00658
                  672 *       READ (TAGSORT) OR MOVE (FULL REC SORT) RECORD TO OUTBUF   00 00659
                  673 *       IF NO USER OUTEXIT, WRITE AND GO GET NEXT REC (MR22)   00 00660
                  674 *       CALL USER ROUTINE                                   00 00661
                  675 *       IF RECORD INSERTED, WRITE IT, GET NEXT OUT IF REJ, GO CALL USER   00 00662
                  676 *       IF EOF, DONE - END OF MERGE PHASE                   00 00663
                  677 *       IF RECORD ACCEPTED, WRITE IT AND GO GET NEXT REC (MR22)   00 00664
001312 015215 A   678 MR28     LDA     SFAC,X      GET CURRENT AREA PTR, PTR           00 00665
001313 145211 A   679          SUB     SALP,X      MINUS LF AREA PTR, PTR              00 00666
001314 001010 A   680          JAZ     MR31        JUMP IF LF CURRENT AREA             00 00667
001315 001323 R
001316 025210 A   681          LDB     SASP,X      GET SF AREA PTR PTR                 00 00668
001317 016001 A   682 MR32     LDA     1,B         GET START OF AREA                   00 00669
001320 056000 A   683          STA     0,B         MAKE IT CURRENT AREA                00 00670
001321 001000 A   684          JMP     MR9                                             00 00671
001322 001326 R
001323 025211 A   685 MR31     LDB     SALP,X      GET LF AREA PTR, PTR                00 00672
001324 001000 A   686          JMP     MR32                                            00 00673
001325 001317 R
001326 015260 A   687 MR9      LDA     SWCH,X      GET SWITCH                          00 00674
001327 006404 A   688          BT      004,MR33    JUMP IF KEY SORT                    00 00675
001330 001423 R
001331 025215 A   689          LDB     SFAC,X      GET CURRENT AREA PTR, PTR           00 00676
001332 026000 A   690          LDB     0,B         GET CURRENT AREA PTR                00 00677
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001333 016000 A  691          LDA     0,B         GET FIRST WORD OF CONTROL FIELD                00 00678
001334 140440 A  692          SUB     BS15                                                       00 00679
001335 001010 A  693          JAZ     MR9A        JUMP IF LOW VALUE, BYPASS FILE WRITE           00 00680
001336 001344 R
001337 016000 A  694          LDA     0,B                                                        00 00681
001340 005111 A  695          IAR                                                              E.1********
001341 001016 A  696          JANZ    MR9C        JUMP IF NOT HIGH VALUE                         00 00683
001342 001360 R
001343 005301 A  697          DECR    1                                                          00 00684
001344 054055 A  698 MR9A     STA     MPAD                                                       00 00685
001345 035024 A  699          LDX     MFLH,X      GET MERGE REC LENGTH AS LOOP CTR               00 00686
001346 005344 A  700 MR9B     DXR                                                                00 00687
001347 001040 A  701          JXZ     MR50        IF DUMMY REC, END OF PASS                      00 00688
001350 000421 R
001351 005122 A  702          IBR                                                                00 00689
001352 016000 A  703          LDA     0,B                                                        00 00690
001353 144046 A  704          SUB     MPAD                                                       00 00691
001354 001010 A  705          JAZ     MR9B                                                       00 00692
001355 001346 R
001356 006030 A  706          LDXI    SRTC                                                       00 00693
001357 002473 R
001360 015040 A  707 MR9C     LDA     CTLI,X      GET PTR TO CTL FLD                             00 00694
001361 006120 A  708          ADDI    30          FOR RECORD MOVE                                00 00695
001362 000036 A
001363 025043 A  709          LDB     CTLC,X        NUMBER OF CTL FLDS                           00 00696
001364 005001 A  710          TZA                                                                00 00697
001365 160465 A  711          MUL     FIVE                                                       00 00698
001366 005021 A  712          TBA                                                                00 00699
001367 125040 A  713          ADD     CTLI,X    PLUS START OF CTL FLD TABLE                      00 00700
001370 005012 A  714          TAB               PUT IN B REG                                     00 00701
001371 016000 A  715          LDA     0,B           GET RECORD FIELD DISPLACEMENT                00 00702
001372 054022 A  716          STA     MRM3+4        STORE IN PARAMETER                           00 00703
001373 016001 A  717          LDA     1,B           GET RECORD STARTING BYTE                     00 00704
001374 054021 A  718          STA     MRM3+5        STORE IN PARAMETER                           00 00705
001375 015006 A  719          LDA     OTRL,X        GET OUTPUT RECORD LENGTH                     00 00706
001376 054020 A  720          STA     MRM3+6        STORE IN PARAMETER                           00 00707
001377 025212 A  721          LDB     SAOP,X        GET OUTPUT AREA PTR                          00 00708
001400 016001 A  722          LDA     1,B           GET START OF OUTPUT AREA                     00 00709
001401 054011 A  723          STA     MRM3+2        STORE AS TARGET                              00 00710
001402 125011 A  724          ADD     FSOB,X        ADD OUTPUT RECORD LENGTH IN WORDS            00 00711
001403 005311 A  725          DAR               MINUS 1                                          00 00712
001404 056002 A  726          STA     2,B           MAKE IT NEW END OF OUTPUT BUFFER             00 00713
001405 025215 A  727          LDB     SFAC,X        GET ACTIVE AREA PTR, PTR                     00 00714
001406 016000 A  728          LDA     0,B           GET ACTIVE AREA PTR                          00 00715
001407 124005 A  729          ADD     MRM3+4        PLUS DISPLACEMENT OF RECORD                  00 00716
001410 054004 A  730          STA     MRM3+4                                                     00 00717
001411 002000 A  731 MRM3     CALL    MOVE,0,0,0,0,0    MOVE FINAL OUTPUT REC TO OUTPUT AREA     00 00718
001412 004042 R
001413 000000 A
001414 000000 A
001415 000000 A
001416 000000 A
001417 000000 A
001420 001000 A  732          JMP     MR36          GO CHECK FOR USER EXIT                       00 00719
001421 001450 R
001422 000000 A  733 MPAD     DATA    0                                                          00 00720
001423 025043 A  734 MR33     LDB     CTLC,X        GET NUM OF CTL FLDS                          00 00721
001424 005001 A  735          TZA                                                                00 00722
001425 160465 A  736          MUL     FIVE                                                       00 00723
001426 005021 A  737          TBA                                                                00 00724
001427 125040 A  738          ADD     CTLI,X        PLUS START OF CTL FLD TABLE                  00 00725
001430 005012 A  739          TAB                                                                00 00726
001431 016000 A  740          LDA     0,B           GET TARGET WD DISP                           00 00727
001432 006125 A  741          ADDE*   SFAC,X        ADD START OF MERGE RECORD                    00 00728
001433 100215 A
001434 005012 A  742          TAB                                                              *00 00729
001435 016000 A  743          LDA     0,B           GET RELATIVE RECORD NUMBER                   00 00730
001436 001010 A  744          JAZ     MR50          IF LOW VALUE, END OF PASS                    00 00731
001437 000421 R
001440 005111 A  745          IAR                                                                00 00732
001441 001010 A  746          JAZ     MR50          IF HIGH VALUE, END OF PASS                   00 00733
001442 000421 R
001443 005311 A  747          DAR                                                              *00 00734
001444 054002 A  748          STA     *+3           STORE IN CALL                                00 00735
001445 002000 A  749          CALL    MRRI,0            READ ACTUAL RECORD INTO OUTPUT AREA      00 00736
001446 001674 R
001447 000000 A
001450 006030 A  750 MR36     LDXI    SRTC                                                       00 00737
001451 002473 R
001452 015260 A  751          LDA     SWCH,X                                                     00 00738
001453 150442 A  752          ANA     BR1           TURN OFF ACCEPT OUTPUT SWITCH                00 00739
001454 055260 A  753          STA     SWCH,X                                                     00 00740
001455 006410 A  754          BT      RA1+8,OXIT    JUMP IF OUTEXIT                              00 00741
001456 001462 R
001457 045001 A  755          INR     ACCP,X        ADD 1 TO ACCEPTED OUTPUT CTR                 00 00742
001460 001003 A  756          JMP     MR34          GO WRITE                                     00 00743
001461 001003 R
001462 010422 A  757 OXIT     LDA     TWO           GET 2                                        00 00744
001463 054014 A  758 OXT0     STA     OXT1+4        SET OPTION FLAG - DEFAULT TO 2 = ACCEPT OUT  00 00745
001464 015262 A  759          LDA     MBUF,X        GET OUTPUT BUFFER PTR                        00 00746
001465 054010 A  760          STA     OXT1+2        STORE IN CALL                                00 00747
001466 015205 A  761          LDA     SFAO,X        GET OUTPUT BUFFER PTR                        00 00748
001467 054007 A  762          STA     OXT1+3        STORE IN CALL                                00 00749
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001470 015260 A  763          LDA     SWCH,X                                                  00 00750
001471 006150 A  764          ANAI    0177774         TURN OF ACCEPT I/O SWITCHES             00 00751
001472 177774 A
001473 055260 A  765          STA     SWCH,X                                                  00 00752
001474 002000 A  766 OXT1     CALL    XIT2,0,0,0      CALL USER OUTPUT EXIT ROUTINE           00 00753
001475 000000 E
001476 000000 A
001477 000000 A
001500 000000 A
001501 006017 A  767          LDAE    OXT1+4                                                  00 00754
001502 001500 R
001503 150464 A  768          ANA     THREE           SELECT BITS OF RETURN CODE              00 00755
001504 006030 A  769          LDXI    SRTC                                                    00 00756
001505 002473 R
001506 115260 A  770          ORA     SWCH,X          SET USER RETURN CODE SWITCHES           00 00757
001507 055260 A  771          STA     SWCH,X                                                  00 00758
001510 006400 A  772          BT      0,OEX1          JUMP IF INPUT ACCEPTED (REC INSERTED)   00 00759
001511 001521 R
001512 006403 A  773          BT      03,MGND         DONE IF EOF HAS BEEN REACHED            00 00760
001513 000502 R
001514 006401 A  774          BT      01,OEX2         JUMP IF OUTPUT RECORD ACCEPTED          00 00761
001515 001534 R
001516 045003 A  775          INR     DLTD,X          ADD 1 TO DELETED RECORD COUNT           00 00762
001517 001000 A  776          JMP     MR22            GO GET NEXT OUTPUT RECORD               00 00763
001520 001016 R
001521 045002 A  777 OEX1     INR     INST,X          ADD 1 TO INSERTED RECORD COUNT          00 00764
001522 015262 A  778          LDA     MBUF,X          GET PTR TO INSERTED RECORD              00 00765
001523 006057 A  779          STAE    FCB0+1          PUT IN OUTPUT FCB                       00 00766
001524 003337 R
001525 006403 A  780          BT      03,OEX3         JUMP IF EOF HAS BEEN REACHED (INSERTS ONLY) 00 00767
001526 001543 R
001527 006401 A  781          BT      01,OEX3         JUMP IF OUTPUT RECORD ACCEPTED          00 00768
001530 001543 R
001531 045003 A  782          INR     DLTD,X          ADD 1 TO DELETED RECORD COUNT           00 00769
001532 001000 A  783          JMP     OEX3            GO WRITE                                00 00770
001533 001543 R
001534 045001 A  784 OEX2     INR     ACCP,X          ADD 1 TO ACCEPTED RECORD COUNT          00 00771
001535 015206 A  785          LDA     SFA0+1,X        GET PTR TO OUTPUT BUFFER                00 00772
001536 006057 A  786          STAE    FCB0+1          PUT IN OUTPUT FCB                       00 00773
001537 003337 R
001540 015260 A  787          LDA     SWCH,X                                                  00 00774
001541 150442 A  788          ANA     BR1             TURN OFF ACCEPT OUTPUT SWITCH           00 00775
001542 055260 A  789          STA     SWCH,X                                                  00 00776
001543 002000 A  790 OEX3     CALL    MROB            WRITE FINAL OUTPUT RECORD               00 00777
001544 002104 R
001545 006030 A  791          LDXI    SRTC                                                    00 00778
001546 002473 R
001547 015260 A  792          LDA     SWCH,X                                                  00 00779
001550 006403 A  793          BT      03,OXIT         JUMP IF EOF HAS BEEN REACHED (INSERT MORE) 00 00780
001551 001462 R
001552 006401 A  794          BT      01,OXIT         JUMP IF OUTPUT REC ACCEPTED (INSERT MORE) 00 00781
001553 001462 R
001554 001000 A  795          JMP     MR22            GO GET NEXT OUTPUT RECORD               00 00782
001555 001016 R
001556 110424 A  796 OEOF     ORA     BS3                                                     00 00783
001557 055260 A  797          STA     SWCH,X          TURN ON OUTEXIT EOF SWITCH              00 00784
001560 005001 A  798          TZA                     SET OPTION CODE TO ZERO FOR EOF         00 00785
001561 001000 A  799          JMP     OXT0            JUMP TO USER EXIT ROUTINE               00 00786
001562 001460 R
                 800          EJEC                                                            00 00787
                 801 **********************************************************************  00 00788
                 802 *                                                                        00 00789
                 803 * MCMP - MERGE PHASE ROUTINE TO COMPARE TWO RECORDS                      00 00790
                 804 *                                                                        00 00791
                 805 *       CALLING SEQUENCE:  CALL     MCMP,RETURNCODE                     00 00792
                 806 *           WHERE RETURNCODE = -1  IF LF SHOULD BE OUTPUT BEFORE SF     00 00793
                 807 *                            =  0  IF SF SHOULD BE OUTPUT BEFORE LF     00 00794
                 808 *                                                                       00 00795
                 809 *       CALLS:                COMP                                      00 00796
                 810 **********************************************************************  00 00797
001563 000000 A  811 MCMP     ENTR                                                            00 00798
001564 006030 A  812          LDXI    SRTC            GET SORT CONTROL TABLE                  00 00799
001565 002473 R
001566 015030 A  813          LDA     NCTL,X          GET NUMBER OF CONTROL FIELDS            00 00800
001567 055027 A  814          STA     SWK3,X          SAVE IN SORT WORK 3                     00 00801
001570 015027 A  815 MC1      LDA     SWK3,X          GET NUMBER OF CONTROL FIELDS            00 00802
001571 005311 A  816          DAR                   MINUS 1                                   00 00803
001572 055027 A  817          STA     SWK3,X          SAVE CONTROL FIELD LOOP CTR             00 00804
001573 001004 A  818          JAN     MC8             CONTROL FIELDS ARE EQUAL                00 00805
001574 001652 R
001575 015113 A  819          LDA     SCPT,X          GET SORT CONTROL FIELD PTR TABLE        00 00806
001576 125027 A  820          ADD     SWK3,X          ADD CTL FIELD CTR                       00 00807
001577 120466 A  821          ADD     SIX                                                     00 00808
001600 145030 A  822          SUB     NCTL,X                                                  00 00809
001601 005012 A  823          TAB                                                             00 00810
001602 026000 A  824          LDB     0,B                                                     00 00811
001603 016000 A  825          LDA     0,B             GET TARGET WD DISPLACEMENT              00 00812
001604 125202 A  826          ADD     SFAL,X          ADD SF AREA PTR                         00 00813
001605 054017 A  827          STA     MC3+2           STORE TARGET IN PARAMETER               00 00814
001606 016001 A  828          LDA     1,B             GET TARGET BYTE                         00 00815
001607 054016 A  829          STA     MC3+3           STORE IN PARAMETER                      00 00816
001610 016002 A  830          LDA     2,B             GET SOURCE WD DISPLACEMENT              00 00817
001611 125177 A  831          ADD     SFAS,X          ADD SF AREA PTR                         00 00818
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001612 054014 A   832          STA     MC3+4          STORE IN PARAMETER                          00 00819
001613 016003 A   833          LDA     3,B            GET SOURCE BYTE                             00 00820
001614 054013 A   834          STA     MC3+5          STORE AS PARAMETER                          00 00821
001615 016004 A   835          LDA     4,B            GET NUMBER OF BYTES                         00 00822
001616 054012 A   836          STA     MC3+6          STORE AS PARAMETER                          00 00823
001617 016005 A   837          LDA     5,B                                                        00 00824
001620 054011 A   838          STA     MC3+7                                                      00 00825
001621 016006 A   839          LDA     6,B            GET RESULT INDICATOR                        00 00826
001622 054010 A   840          STA     MC3+8          STORE AS PARAMETER                          00 00827
001623 002000 A   841 MC3      CALL    COMP,1,2,3,4,5,6,7 COMPARE THE CONTROL FIELD               00 00828
001624 003452 R
001625 000001 A
001626 000002 A
001627 000003 A
001630 000004 A
001631 000005 A
001632 000006 A
001633 000007 A
001634 006030 A   842          LDXI    SRTC                                                       00 00829
001635 002473 R
001636 006017 A   843          LDAE    MC3+8          GET THE RESULT                              00 00830
001637 001633 R
001640 001010 A   844          JAZ     MC1            JUMP IF CONTROL FIELD EQUAL                 00 00831
001641 001570 R
001642 001002 A   845          JAP     MC4            JUMP IF LF CT SF RECORD                     00 00832
001643 001646 R
001644 001004 A   846          JAN     MC5            JUMP IF LF LT SF RECORD                     00 00833
001645 001666 R
001646 006017 A   847 MC4      LDAE    MC3+7          GET SEQ INDICATOR                           00 00834
001647 001632 R
001650 001010 A   848          JAZ     MC6            ASCENDING SEQ, LF GT SF                     00 00835
001651 001661 R
001652 005301 A   849 MC8      DECR    1              DESCENDING SEQ LF GT SF, MOVE LF            00 00836
001653 006057 A   850          STAE*   MCMP                                                       00 00837
001654 101563 R
001655 006047 A   851 MC7      INRE    MCMP                                                       00 00838
001656 001563 R
001657 001000 A   852          JMP*    MCMP                                                       00 00839
001660 101563 R
001661 005001 A   853 MC6      TZA                  ASCENDING SEQ LF GT SF, MOVE SF               00 00840
001662 006057 A   854          STAE*   MCMP                                                       00 00841
001663 101563 R
001664 001000 A   855          JMP     MC7                                                        00 00842
001665 001655 R
001666 006017 A   856 MC5      LDAE    MC3+7          GET SEQ INDICATOR                           00 00843
001667 001632 R
001670 001010 A   857          JAZ     MC8            ASCENDING SEQ LF LT SF, MOVE LF             00 00844
001671 001652 R
001672 001000 A   858          JMP     MC6            DESCENDING SEQ LF LT SF, MOVE SF            00 00845
001673 001661 R
                  859          EJEC                                                               00 00846
                  860 ***************************************************************           00 00847
                  861 *                                                                         00 00848
                  862 * MRRI - MERGE PHASE ROUTINE TO READ INPUT FOR KEYWORD SORT               00 00849
                  863 *                                                                         00 00850
                  864 *      CALLING SEQUENCE:  CALL    MRRI,RECNO                             00 00851
                  865 *          WHERE RECNO IS THE RECORD NUMBER OF THE REC TO BE READ         00 00852
                  866 *                                                                         00 00853
                  867 *      CALLS:             IFRD                                           00 00854
                  868 *      ERROR EXIT:        MER6 IN MRRA ENDS THE JOB                      00 00855
                  869 *                                                                         00 00856
                  870 ***************************************************************           00 00857
001674 000000 A   871 MRRI     ENTR                                                               00 00858
001675 006030 A   872          LDXI    SRTC                                                       00 00859
001676 002473 R
001677 015260 A   873          LDA     SWCH,X           GET SWITCH                              F  ********
001700 006411 A   874          BT      RA1+9,MOMT       BUILD FILE OF TAGS                      F  ********
001701 001732 R
001702 025221 A   875          LDB     DSI,X          GET PTR TO SORT INPUT FCB                   00 00860
001703 015205 A   876          LDA     SFAD,X         GET OUTPUT AREA PTR                         00 00861
001704 056001 A   877          STA     1,B            STORE IN THE SORT IN FCB                    00 00862
001705 006017 A   878          LDAE*   MRRI         GET RECORD NUMBER                             00 00863
001706 101674 R
001707 056003 A   879          STA     3,B            STORE IN FCB                                00 00864
001710 002000 A   880          CALL    IFRD           READ INPUT RECORD                           00 00865
001711 003160 R
                  881          STAT    IFRD+1,MIER,MIER,MIER,MIER  CHECK STATUS                   00 00866
001712 006505 A
001713 000373 A
001714 003161 R
001715 001725 R
001716 001725 R
001717 001725 R
001720 001725 R
001721 006047 A   882          INRE    MRRI           INCREMENT RETURN PTR                        00 00867
001722 001674 R
001723 001000 A   883          JMP*    MRRI           RETURN                                      00 00868
001724 101674 R
001725 006030 A   884 MIER     LDXI    SRTC                                                      *00 00869
001726 002473 R
001727 015221 A   885          LDA     DSI,X          GET PTR TO INPUT FCB                        00 00870
001730 001000 A   886          JMP     MER6           PRINT ERROR MSG AND END JOB                 00 00871
001731 002040 R
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                    887          EJEC                                                                F  ********
                    888  *                                                                           F  ********
                    889  *                                                                           F  ********
                    890  * MOMT - BUILD LIST OF TAGS ON THE OUTPUT FILE                              F  ********
                    891  *                                                                           F  ********
                    892  *                                                                           F  ********
        001732  R   893  MOMT     EQU      *                                                         F  ********
001732  006020  A   894          LDBI     FCBO                                                      F  ********
001733  003336  R
001734  016001  A   895          LDA      1,B          OUTPUT ADDRESS                               F  ********
001735  124040  A   896          ADD      CWC          PLUS CURRENT OUTPUT WORD                     F  ********
001736  054003  A   897          STA      MOMTA                                                     F  ********
001737  006017  A   898          LDAE*    MRRI         RECORD NUMBER                                F  ********
001740  101674  R
001741  006057  A   899          STAE     000                                                       F  ********
001742  000000  A
        001742  R.  900  MOMTA    EQU      *-1                                                       F  ********
001743  044032  A   901          INR      CWC          BUMP CURRENT WORD                            F  ********
001744  014031  A   902          LDA      CWC                                                       F  ********
001745  146000  A   903          SUB      0,B          TEST FOR END                                 F  ********
001746  001010  A   904          JAZ      MOMT1                                                     F  ********
001747  001754  R
001750  006047  A   905  MOMTX    INRE     MRRI         STEP RETURN                                  F  ********
001751  001674  R
001752  001000  A   906          JMP*     MRRI         -EXIT-                                       F  ********
001753  101674  R
001754  002000  A   907  MOMT1    CALL     MROB         WRITE TAGS                                   F  ********
001755  002104  R
001756  005001  A   908          TZA                   ZERO                                         F  ********
001757  054016  A   909          STA      CWC          WORD COUNTER                                 F  ********
001760  001000  A   910          JMP      MOMTX        -EXIT-                                       F  ********
001761  001750  R
                    911  *                                                                           F  ********
                    912  * FINISH UP FILE OF TAGS                                                   F  ********
                    913  *                                                                           F  ********
        001762  R   914  FMOM     EQU      *                                                         F  ********
001762  014013  A   915          LDA      CWC          RECORD OUT?                                  F  ********
001763  001010  A   916          JAZ      FMOM1        -YES-                                        F  ********
001764  001772  R
001765  002000  A   917          CALL     MRRI,0       PUT TAG OF ZERO                              F  ********
001766  001674  R
001767  000000  A
001770  001000  A   918          JMP      FMOM         LOOP                                         F  ********
001771  001762  R
001772  002000  A   919  FMOM1    CALL     OFCLS        CLOSE OUTPUT FILE WITH FILE MARK             F  ********
001773  003254  R
001774  001000  A   920          JMP      MGN0                                                      F  ********
001775  000507  R
                    921  *                                                                           F  ********
001776  000000  A   922  CWC      DATA     0            CURRENT WORD COUNTER                         F  ********
                    923          EJEC                                                                   00  00872
                    924  ***************************************************************************   00  00873
                    925  *                                                                              00  00874
                    926  * MRRA - MERGE PHASE ROUTINE TO READ A SEQUENCE BLOCK                          00  00875
                    927  *                                                                              00  00876
                    928  *       CALLING SEQUENCE:  CALL    MRRA,RETURNCODE                            00  00877
                    929  *            WHERE RETURNCODE = -1 IF EOF                                      00  00878
                    930  *                               0 OTHERWISE                                    00  00879
                    931  *       CALLS:                WORKFILE READ MACRO IN SRTC                     00  00880
                    932  *       ENTRIES:              MMEF, MER6 TO END THE JOB IF READ ERROR         00  00881
                    933  *                                                                              00  00882
                    934  ***************************************************************************   00  00883
001777  000000  A   935  MRRA     ENTR                                                                   00  00884
002000  006030  A   936          LDXI     SRTC                                                          00  00885
002001  002473  R
002002  006015  A   937          LDAE*    SFFC,X       GET CURRENT FILE PTR                             00  00886
002003  100216  A
002004  120471  A   938          ADD      TEN          GET PTR TO READ                                  00  00887
002005  054006  A   939          STA      MA2+2        STORE IN STAT                                    00  00888
002006  005311  A   940          DAR                                                                    00  00889
002007  054001  A   941          STA      MA1+1        STORE IN JUMP                                    00  00890
002010  002000  A   942  MA1      JMPM     0            READ THE BLOCK                                   00  00891
002011  000000  A
                    943  MA2      STAT     0,MAER,MAEF,MAEF,MAER                                          00  00892
002012  006505  A
002013  000373  A
002014  000000  A
002015  002033  R
002016  002077  R
002017  002077  R
002020  002033  R
002021  005001  A   944          TZA                                                                    00  00893
002022  006057  A   945          STAE*    MRRA         STORE RETURN CODE 0 FOR NORMAL RETURN            00  00894
002023  101777  R
002024  006047  A   946  MA3      INRE     MRRA         INCREMENT RETURN PTR                             00  00895
002025  001777  R
002026  001000  A   947          JMP*     MRRA         RETURN                                           00  00896
002027  101777  R
002030  006010  A   948  MMEG     LDAI     '07'           MAKE ST07                                  E.1********
002031  130267  A
002032  054037  A   949          STA      MER3+2                                                    E.1********
        002033  R   950  MAER     EQU      *                                                            00  00897
002033  006017  A   951  MMEF     LDAE     MA2+2        GET PTR TO READ MACRO                            00  00898
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002034 002014 R
002035 120423 A  952          ADD     FOUR                                          00 00899
002036 005012 A  953          TAB                                                   00 00900
002037 016000 A  954          LDA     0,B     \       GET PTR TO FCB                00 00901
002040 120467 A  955 MER6     ADD     SEVEN           GET PTR TO FILENAME           00 00902
002041 054004 A  956          STA     MER1+4          STORE AS SOURCE               00 00903
002042 002000 A  957 MER1     CALL    MOVE,MER3+4,0,0,0,6  MOVE FILENAME TO ERROR MSG 00 00904
002043 004042 R
002044 002074 R
002045 000000 A
002046 000000 A
002047 000000 A
002050 000006 A
                 958          WRITE   MER2,5,0,1  WRITE ERROR MSG                  00 00905
002051 006505 A
002052 000404 A
002053 100000 A
002054 010405 A
002055 002065 R
002056 000000 A
002057 000000 A
002060 002000 A  959          CALL    DFCLS           CLOSE OUTPUT FILE WITH FILE MARK 00 00906
002061 003254 R
                 960          EXIT                    END THE JOB                   00 00907
002062 006505 A
002063 000406 A
002064 000200 A
                 961 MER2     DCB     7,MER3,0                                      00 00908
002065 000007 A
002066 002070 R
002067 000000 A
002070 120240 A  962 MER3     DATA    '   ST06,       '                             00 00909
002071 151724 A
002072 130266 A
002073 126240 A
002074 120240 A
002075 120240 A
002076 120240 A
002077 005301 A  963 MAEF     DECR    1               GET -1                        00 00910
002100 006057 A  964          STAE*   MRRA                STORE AS RETURN CODE      00 00911
002101 101777 R
002102 001000 A  965          JMP     MA3                 RETURN                    00 00912
002103 002024 R
                 966          EJEC                                                  00 00913
                 967 ************************************************************** 00 00914
                 968 *                                                              00 00915
                 969 * MROB - MERGE PHASE ROUTINE TO WRITE A SEQUENCE BLOCK         00 00916
                 970 *                                                              00 00917
                 971 *       CALLING SEQUENCE:  CALL    MROB                      00 00918
                 972 *                                                              00 00919
                 973 *       CALLS:             WORKFILE WRITE MACRO IN SRTC       00 00920
                 974 *       ERROR EXIT:        MER6 IN MRRA ENDS THE JOB          00 00921
                 975 *                                                              00 00922
                 976 ************************************************************** 00 00923
002104 000000 A  977 MROB     ENTR                                                  00 00924
002105 006030 A  978          LDXI    SRTC            GET SORT CONTROL TABLE        00 00925
002106 002473 R
002107 025176 A  979          LDB     SOPT,X          GET OUTPUT FILE PTR, PTR      00 00926
002110 016000 A  980          LDA     0,B             GET OUTPUT FILE PTR           00 00927
002111 006120 A  981          ADDI    20              GET PTR TO WRITE              00 00928
002112 000024 A
002113 005311 A  982          DAR                                                   00 00929
002114 054032 A  983          STA     MRO1+1          PUT IN JUMP                   00 00930
002115 054022 A  984          STA     MRO3+1          PUT IN JUMP                   00 00931
002116 005111 A  985          IAR                                                   00 00932
002117 054032 A  986          STA     MRO2+2          PUT IN STAT                   00 00933
002120 015260 A  987          LDA     SWCH,X                                        00 00934
002121 006446 A  988          BT      RA0+06,MRO1 JUMP IF NOT FINAL MERGE PASS      00 00935
002122 002146 R
002123 015261 A  989          LDA     LPSW,X                                        00 00936
002124 001010 A  990          JAZ     MRO1            JUMP IF NOT LINE PRINTER OUTPUT 00 00937
002125 002146 R
002126 025206 A  991          LDB     SFAD+1,X        GET PTR TO OUTPUT BUFFER      00 00938
002127 005322 A  992          DIR                     MINUS 1                       00 00939
002130 006067 A  993          STBE    FCBD+1          PUT IN OUTPUT FCB             00 00940
002131 003337 R
002132 016000 A  994          LDA     0,B                                           00 00941
002133 054011 A  995          STA     LSAVE           SAVE BUFF-1                   00 00942
002134 006010 A  996          LDAI    '  '                                          00 00943
002135 120240 A
002136 056000 A  997          STA     0,B             BLANK IT                      00 00944
002137 002000 A  998 MRO3     JMPM    *-*             WRITE                         00 00945
002140 000000 A
002141 014003 A  999          LDA     LSAVE                                         00 00946
002142 056000 A 1000          STA     0,B             RESTORE BUFF-1                00 00947
002143 001000 A 1001          JMP     MRO2            GO CHECK STATUS               00 00948
002144 002150 R
002145 000000 A 1002 LSAVE    DATA    0                                             00 00949
002146 002000 A 1003 MRO1     JMPM    0               ISSUE THE WRITE               00 00950
002147 000000 A
                1004 MRO2     STAT    0,MRER,MRER7,MRER7,MRER                       00 00951
002150 006505 A
002151 000373 P
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002152 000000 A
002153 002167 R
002154 002161 R
002155 002161 R
002156 002167 R
002157 001000 A 1005          JMP*    MROB        RETURN                                  00 00952
002160 102104 R
002161 006017 A 1006 MRER7    LDAE    MRO2+2                                              E.1********
002162 002152 R
002163 006057 A 1007          STAE    MA2+2                                               E.1********
002164 002014 R
002165 001000 A 1008          JMP     MMEG                                                E.1********
002166 002030 R
002167 006017 A 1009 MRER     LDAE    MRO2+2      GET PTR TO WRITE MACRO                  00 00954
002170 002152 R
002171 120423 A 1010          ADD     FOUR                                                00 00955
002172 005012 A 1011          TAB                                                         00 00956
002173 016000 A 1012          LDA     0,2         GET PTR TO OUTPUT FILE FCB              00 00957
002174 001000 A 1013 MRJMP    JMP     MER6        PRINT ERROR MSG AND END JOB             00 00958
002175 002040 R
                 1014          EJEC                                                        00 00959
                 1015 ********************************************************************* 00 00960
                 1016 *                                                                    00 00961
                 1017 * SCMP - MERGE PHASE ROUTINE TO COMPUTE NEW OUTPUT SEQUENCE COUNTS   00 00962
                 1018 *                                                                    00 00963
                 1019 *      CALLING SEQUENCE:  CALL SCMP                                  00 00964
                 1020 *                                                                    00 00965
                 1021 ********************************************************************* 00 00966
                 1022 *                          *                                        00 00967
                 1023 *        SHORT FILE        *            OUTPUT FILE                 00 00968
                 1024 * RSC       SSC      DSC   *  RSC    SSC      DSC  BSS      BRS      00 00969
                 1025 *                          *                                        00 00970
                 1026 ********************************************************************* 00 00971
                 1027 *                          *                                        00 00972
                 1028 * 0         0              *  SFDSC  0        0    0        LFBRS    00 00973
                 1029 *           LE LFRSC       *  SFSSC  0        0    0        SFBSS    00 00974
                 1030 *                          *                                +LFBRS  00 00975
                 1031 *                          *                                        00 00976
                 1032 *           GT LFRSC       *  LFRSC  SFSSC    0    SFBSS    SFBSS    00 00977
                 1033 *                          *         -LFRSC         +LFBSS   +LFBRS  00 00978
                 1034 *                          *                                        00 00979
                 1035 * LE LFRSC  0         0    *  SFRSC  0        0    0        SFBRS    00 00980
                 1036 *                          *                                +LFBRS  00 00981
                 1037 *                          *                                        00 00982
                 1038 *           0         NE 0 *  SFRSC  SFDSC    0    LFBRS    SFBRS    00 00983
                 1039 *                          *                                +LFBRS  00 00984
                 1040 *                          *                                        00 00985
                 1041 *           NE 0           *  SFRSC  SFSSC    0    SFBSS    SFBRS    00 00986
                 1042 *                          *                    +LFBRS   +LFBRS  00 00987
                 1043 *                          *                                        00 00988
                 1044 * GT LFRSC                 *  LFRSC  SFRSC    0    SFBRS    SFBRS    00 00989
                 1045 *                          *         -LFRSC         +LFBRS   +LFBRS  00 00990
                 1046 *                          *                                        00 00991
                 1047 ********************************************************************* 00 00992
                 1048 *                                                                    00 00993
                 1049 * OUTPUT FILE TOTAL SEQ COUNT = OFSSC + OFRSC                        00 00994
                 1050 *                                                                    00 00995
                 1051 * TOTAL SEQUENCE COUNT = LFRSC + LFSSC + SFRSC + SFSSC               00 00996
                 1052 *                                                                    00 00997
                 1053 * WHERE LF   = LONG FILE                                            00 00998
                 1054 *       SF   = SHORT FILE                                           00 00999
                 1055 *       RSC  = REGULAR SEQUENCE COUNT                               00 01000
                 1056 *       SSC  = SHORT SEQUENCE COUNT                                 00 01001
                 1057 *       DSC  = DUMMY SEQUENCE COUNT                                 00 01002
                 1058 *       BSS  = BLOCKS PER SHORT SEQUENCE                            00 01003
                 1059 *       BRS  = BLOCKS PER REGULAR SEQUENCE                          00 01004
                 1060 *                                                                   00 01005
                 1061 ********************************************************************* 00 01006
002176 000000 A 1062 SCMP     ENTR                                                        00 01007
002177 006030 A 1063          LDXI    SRTC                                                00 01008
002200 002473 R
002201 025174 A 1064          LDB     SSPT,X        GET SF PTR                            00 01009
002202 016003 A 1065          LDA     3,B           GET SF REG SEQ CNT                    00 01010
002203 001010 A 1066          JAZ     SCM1        JUMP IF 0                               00 01011
002204 002322 R
002205 025175 A 1067          LDB     SLPT,X        GET LF PTR                            00 01012
002206 146003 A 1068          SUB     3,B           SF REG SEQ CNT MINUS LF REG SEQ CNT   00 01013
002207 001010 A 1069          JAZ     SCM2        JUMP IF SF REG SEQ CNT                  00 01014
002210 002244 R
002211 001004 A 1070          JAN     SCM2        LESS THAN OR = LF REG SEQ CNT           00 01015
002212 002244 R
002213 016003 A 1071          LDA     3,B           GET LF REG SEQ CNT                    00 01016
002214 025176 A 1072          LDB     SOPT,X        GET OF PTR                            00 01017
002215 056003 A 1073          STA     3,B           OF REG SEQ CNT = LF REG SEQ CNT       00 01018
002216 025174 A 1074          LDB     SSPT,X        GET SF PTR                            00 01019
002217 016003 A 1075          LDA     3,B           GET SF REG SEQ CNT                    00 01020
002220 025175 A 1076          LDB     SLPT,X        GET LF PTR                            00 01021
002221 146003 A 1077          SUB     3,B           MINUS LF REG SEQ CNT                  00 01022
002222 025176 A 1078          LDB     SOPT,X        GET OF PTR                            00 01023
002223 056004 A 1079          STA     4,B           OF SHT SEQ CNT= SF REG SEQ CNT- LF REG SEQ 00 01024
002224 005001 A 1080          TZA                                                         00 01025
002225 056002 A 1081          STA     2,B           OF DUM SEQ CNT=0                      00 01026
002226 025174 A 1082          LDB     SSPT,X        GET SF PTR                            00 01027
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002227 016005 A 1083          LDA     5,B         GET SF B/S SF REG SEQ                          00 01028
002230 025175 A 1084          LDB     SLPT,X      GET LF PTR                                     00 01029
002231 126005 A 1085          ADD     5,B         PLUS LF REG SEQ CNT                            00 01030
002232 025176 A 1086          LDB     SDPT,X      GET DF PTR                                     00 01031
002233 056005 A 1087          STA     5,B         DF B/S REG SEQ=SF B/S REG SEQ+LF B/S REG S     00 01032
002234 025174 A 1088          LDB     SSPT,X      GET SF PTR                                     00 01033
002235 016005 A 1089          LDA     5,B         GET SF B/S REG SEQ                             00 01034
002236 025175 A 1090          LDB     SLPT,X      GET LF PTR                                     00 01035
002237 126006 A 1091          ADD     6,B         PLUS LF B/S SHT SEQ CNT                        00 01036
002240 025176 A 1092          LDB     SDPT,X      GET DF PTR                                     00 01037
002241 056006 A 1093          STA     6,B         DF B/S SHT SEQ=SF B/S REG SEQ+LF B/S SHT S     00 01038
002242 001000 A 1094          JMP     SCMT      RETURN                                           00 01039
002243 002421 R
002244 025174 A 1095 SCM2     LDB     SSPT,X    GET SF PTR                                       00 01040
002245 016003 A 1096          LDA     3,B         GET SF REG SEQ CNT                             00 01041
002246 025176 A 1097          LDB     SDPT,X      GET DF PTR                                     00 01042
002247 056003 A 1098          STA     3,B         DF REG SEQ CNT=SF REG SEQ CNT                  00 01043
002250 025174 A 1099          LDB     SSPT,X      GET SF PTR                                     00 01044
002251 016005 A 1100          LDA     5,B         GET SF B/S REG SEQ                             00 01045
002252 025175 A 1101          LDB     SLPT,X      GET LF PTR                                     00 01046
002253 126005 A 1102          ADD     5,B         PLUS LF B/S REG SEQ                            00 01047
002254 025176 A 1103          LDB     SDPT,X      GET DF PTR                                     00 01048
002255 056005 A 1104          STA     5,B         DF B/S REG SEQ=SF B/S REG SEQ+LF B/S REG S     00 01049
002256 025174 A 1105          LDB     SSPT,X      GET SF PTR                                     00 01050
002257 016004 A 1106          LDA     4,B         GET SF SHT SEQ CNT                             00 01051
002260 001010 A 1107          JAZ     SCM3      JUMP                                             00 01052
002261 002276 R
002262 025176 A 1108          LDB     SDPT,X      GET DF PTR                                     00 01053
002263 056004 A 1109          STA     4,B         DF SHT SEQ CNT=SF SHT SEQ CNT                  00 01054
002264 005001 A 1110          TZA                                                                00 01055
002265 056002 A 1111          STA     2,B         DF DUM SEQ CNT = 0                             00 01056
002266 025174 A 1112          LDB     SSPT,X      GET SF PTR                                     00 01057
002267 016006 A 1113          LDA     6,B         GET SF B/S SHT SEQ                             00 01058
002270 025175 A 1114          LDB     SLPT,X      GET LF PTR                                     00 01059
002271 126005 A 1115          ADD     5,B         PLUS LF B/S REG SEQ                            00 01060
002272 025176 A 1116          LDB     SDPT,X      GET DF PTR                                     00 01061
002273 056006 A 1117          STA     6,B         DF B/S SHT SEQ=SF B/S SHT SEQ+LF B/S REG S     00 01062
002274 001000 A 1118          JMP     SCMT      RETURN                                           00 01063
002275 002421 R
002276 025174 A 1119 SCM3     LDB     SSPT,X    GET SF PTR                                       00 01064
002277 016002 A 1120          LDA     2,B         GET SF DUM SEQ CNT                             00 01065
002300 001010 A 1121          JAZ     SCM4      JUMP IF 0                                        00 01066
002301 002314 R
002302 025176 A 1122          LDB     SDPT,X      GET DF PTR                                     00 01067
002303 056004 A 1123          STA     4,B         DF SHT SEQ CNT=SF DUM SEQ CNT                  00 01068
002304 005001 A 1124          TZA                                                                00 01069
002305 056002 A 1125          STA     2,B         DF DUM SEQ CNT = 0                             00 01070
002306 025175 A 1126          LDB     SLPT,X      GET LF PTR                                     00 01071
002307 016005 A 1127          LDA     5,B         GET LF B/S REG SEQ                             00 01072
002310 025176 A 1128          LDB     SDPT,X      GET DF PTR                                     00 01073
002311 056006 A 1129          STA     6,B         DF B/S SHT SEQ=LF B/S REG SEQ                  00 01074
002312 001000 A 1130          JMP     SCMT      RETURN                                           00 01075
002313 002421 R
002314 005001 A 1131 SCM4     TZA                                                                00 01076
002315 025176 A 1132          LDB     SDPT,X      GET DF PTR                                     00 01077
002316 056004 A 1133          STA     4,B         DF SHT SEQ CNT = 0                             00 01078
002317 056002 A 1134          STA     2,B         DF DUM SEQ CNT = 0                             00 01079
002320 001000 A 1135          JMP     SCMT      RETURN                                           00 01080
002321 002421 R
002322 025174 A 1136 SCM1     LDB     SSPT,X    GET SF PTR                                       00 01081
002323 016004 A 1137          LDA     4,B         GET SF SHT SEQ CNT                             00 01082
002324 001010 A 1138          JAZ     SCM5      JUMP IF 0                                        00 01083
002325 002365 R
002326 025175 A 1139          LDB     SLPT,X      GET LF PTR                                     00 01084
002327 146003 A 1140          SUB     3,B         MINUS LF REG SEQ CNT                           00 01085
002330 001010 A 1141          JAZ     SCM6      SF SHT SEQ CNT LESS THAN OR =                    00 01086
002331 002404 R
002332 001004 A 1142          JAN     SCM6        LF REG SEQ CNT                                 00 01087
002333 002404 R
002334 016003 A 1143          LDA     3,B         GET LF REG SEQ CNT                             00 01088
002335 025176 A 1144          LDB     SDPT,X      GET DF PTR                                     00 01089
002336 056003 A 1145          STA     3,B         DF REG SEQ CNT = LF REG SEQ CNT                00 01090
002337 025174 A 1146          LDB     SSPT,X      GET SF PTR                                     00 01091
002340 016004 A 1147          LDA     4,B         GET SF SHT SEQ CNT                             00 01092
002341 025175 A 1148          LDB     SLPT,X      GET LF PTR                                     00 01093
002342 146003 A 1149          SUB     3,B         MINUS LF REG SEQ CNT                           00 01094
002343 025176 A 1150          LDB     SDPT,X      GET DF PTR                                     00 01095
002344 056004 A 1151          STA     4,B         DF SHT SEQ CNT=SF SHT SEQ CNT-LF REG SEQ C     00 01096
002345 005001 A 1152          TZA                                                                00 01097
002346 056002 A 1153          STA     2,B         DF DUM SEQ CNT = 0                             00 01098
002347 025174 A 1154          LDB     SSPT,X      GET SF PTR                                     00 01099
002350 016006 A 1155          LDA     6,B         GET SF B/S SHT SEQ                             00 01100
002351 025175 A 1156          LDB     SLPT,X      GET LF PTR                                     00 01101
002352 126005 A 1157          ADD     5,B         PLUS LF B/S REG SEQ                            00 01102
002353 025176 A 1158          LDB     SDPT,X      GET DF PTR                                     00 01103
002354 056005 A 1159          STA     5,B         DF B/S REG SEQ=SF B/S SHT SEQ+LF B/S REG S     00 01104
002355 025174 A 1160          LDB     SSPT,X      GET SF PTR                                     00 01105
002356 016006 A 1161          LDA     6,B         GET SF B/S SHT SEQ                             00 01106
002357 025175 A 1162          LDB     SLPT,X      GET LF PTR                                     00 01107
002360 126006 A 1163          ADD     6,B         PLUS LF B/S SHT SEQ                            00 01108
002361 025176 A 1164          LDB     SDPT,X      GET DF PTR                                     00 01109
002362 056006 A 1165          STA     6,B         DF B/S SHT SEQ=SF B/S SHT SEQ+LF B/S SHT S     00 01110
002363 001000 A 1166          JMP     SCMT      RETURN                                           00 01111
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002364 002421 R
002365 025174 A 1167 SCM5    LDB     SSPT,X     GET SF PTR                                          00 01112
002366 016002 A 1168         LDA     2,B          SET SF DUM SEQ CNT                                00 01113
002367 001010 A 1169         JAZ     SCMA         JUMP IF NO DUMMYS                               E.1********
002370 002453 R
002371 025176 A 1170         LDB     SOPT,X       GET OF PTR                                        00 01114
002372 056003 A 1171         STA     3,B          OF REG SEQ CNT=SF DUM SEQ CNT                     00 01115
002373 005001 A 1172         TZA                                                                    00 01116
002374 056004 A 1173         STA     4,B          OF SHT SEQ CNT = 0                                00 01117
002375 056002 A 1174         STA     2,B          OF DUM SEQ CNT = 0                                00 01118
002376 025175 A 1175         LDB     SLPT,X       GET LF PTR                                        00 01119
002377 016005 A 1176         LDA     5,B          GET LF B/S REG SEQ                                00 01120
002400 025176 A 1177         LDB     SOPT,X       GET OF PTR                                        00 01121
002401 056005 A 1178         STA     5,B          OF B/S REG SEQ=LF B/S REG SEQ                     00 01122
002402 001000 A 1179         JMP     SCMT       RETURN                                              00 01123
002403 002421 R
002404 025174 A 1180 SCM6    LDB     SSPT,X     GET SF PTR                                          00 01124
002405 016004 A 1181         LDA     4,B          GET SF SHT SEQ CNT                                00 01125
002406 025176 A 1182         LDB     SOPT,X       GET OF PTR                                        00 01126
002407 056003 A 1183         STA     3,B          OF REG SEQ CNT=SF SHT SEQ CNT                     00 01127
002410 005001 A 1184         TZA                                                                    00 01128
002411 056004 A 1185         STA     4,B          OF SHT SEQ CNT = 0                                00 01129
002412 056002 A 1186         STA     2,B          OF DUM SEQ CNT = 0                                00 01130
002413 025174 A 1187         LDB     SSPT,X       GET SF PTR                                        00 01131
002414 016006 A 1188         LDA     6,B          GET SF B/S SHT SEQ                                00 01132
002415 025175 A 1189         LDB     SLPT,X       GET LF PTR                                        00 01133
002416 126005 A 1190         ADD     5,B          PLUS LF B/S REG SEQ CNT                           00 01134
002417 025176 A 1191         LDB     SOPT,X       GET OF PTR                                        00 01135
002420 056005 A 1192         STA     5,B          OF B/S REG SEQ=SF B/S SHT SEQ+LF B/S REG S        00 01136
002421 025175 A 1193 SCMT    LDB     SLPT,X     GET LF PTR                                          00 01137
002422 016003 A 1194         LDA     3,B        GET REG SEQ CNT LONG FILE                           00 01138
002423 126004 A 1195         ADD     4,B        PLUS SHT SEQ CNT                                    00 01139
002424 025174 A 1196         LDB     SSPT,X                                                         00 01140
002425 126003 A 1197         ADD     3,B        PLUS REG SEQ CNT SHT FILE                           00 01141
002426 126004 A 1198         ADD     4,B        PLUS SHT SEQ CNT                                    00 01142
002427 055033 A 1199         STA     TSEQ,X     STORE AS TOTAL SEQ CNT                              00 01143
002430 025176 A 1200         LDB     SOPT,X     GET OUTPUT FILE PTR                                 00 01144
002431 016003 A 1201         LDA     3,B        GET SHORT SEQ CNT                                   00 01145
002432 126004 A 1202         ADD     4,B        PLUS REG SEQ CNT                                    00 01146
002433 056001 A 1203         STA     1,B        MAKE IT THE OUTPUT TOTAL SEQ CNT                    00 01147
002434 025176 A 1204         LDB     SOPT,X       GET OF PTR                                        00 01148
002435 016003 A 1205         LDA     3,B          GET OF REG SEQ CNT                                00 01149
002436 001010 A 1206         JAZ     SCM7       JUMP IF 0                                           00 01150
002437 002445 R
002440 016004 A 1207 SCM9    LDA     4,B        GET OF SHT SEQ                                      00 01151
002441 001010 A 1208         JAZ     SCM8       JUMP IF 0                                           00 01152
002442 002450 R
002443 001000 A 1209         JMP*    SCMP         RETURN                                            00 01153
002444 102176 R
002445 056005 A 1210 SCM7    STA     5,B        OF B/S REG SEQ = 0                                  00 01154
002446 001000 A 1211         JMP     SCM9                                                           00 01155
002447 002440 R
002450 056006 A 1212 SCM8    STA     6,B        OF B/S SHT SEQ = 0                                  00 01156
002451 001000 A 1213         JMP*    SCMP         RETURN                                            00 01157
002452 102176 R
               1214 SCMA     WRITE   SE04,5,0,1                                                   E.1*********
002453 006505 A
002454 000404 A
002455 100000 A
002456 010405 A
002457 002465 R
002460 000000 A
002461 000000 A
               1215          EXIT                                                                 E.1********
002462 006505 A
002463 000406 A
002464 000200 A
               1216 SE04     DCB     3,ST04,0                                                     E.1*********
002465 000003 A
002466 002470 R
002467 000000 A
002470 120240 A 1217 ST04     DATA    '  ST04'                                                     E.1********
002471 151724 A
002472 130264 A
               1218          EJEC                                                                   00 01158
               1219 **********************************************************************       00 01159
               1220 *                                                                              00 01160
               1221 * SRTC - SORT CONTROL TABLES                                                   00 01161
               1222 *                                                                              00 01162
               1223 *       SRTC CONTAINS POINTERS, WORK AREAS AND                                 00 01163
               1224 *       FILE MACROS AND CONTROL BLOCKS                                         00 01164
               1225 *                                                                              00 01165
               1226 **********************************************************************       00 01166
               1227          NAME    IFCA,OFCA,S1CA,S2CA,S3CA                                      00 01167
               1228          NAME    IFCB,OFCB,S1CB,S2CB,S3CB                                      00 01168
               1229          NAME    XSF1,XSF2,XSF3                                                00 01169
               1230          NAME    S1CLS,S2CLS,IFCLS,OFCLS                                       00 01170
               1231          NAME    IFRD                                                          00 01171
               1232          NAME    CLR5,WRT5,LU5,LU5R                                            00 01172
               1233          NAME    TLFC,CTLS                                                     00 01173
      002473 R 1234 SRTC     EQU     *            START OF SORT CONTROL TABLE                      00 01174
002473 000000 A 1235          DATA    0       INPUT RECORD COUNTER          INPT SET BY ASMB      00 01175
002474 000000 A 1236          DATA    0       ACCEPTED RECORD COUNTER       ACCP SET BY ASMB      00 01176
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002475 000000 A 1237          DATA   0          INSERTED RECORD COUNTER          INST SET BY ASMB    00 01177
002476 000000 A 1238          DATA   0          DELETED RECORD COUNTER           DLTD SET BY ASMB    00 01178
002477 000000 A 1239          DATA   0          OUTPUT RECORD COUNTER            ORCT SET BY ASMB    00 01179
002500 000000 A 1240          DATA   0          INPUT RECORD LENGTH IN BYTES     INRL SET BY INIT    00 01180
002501 000000 A 1241          DATA   0          OUTPUT RECORD LENGTH IN BYTES    OTRL SET BY INIT    00 01181
002502 000000 A 1242          DATA   0          MERGE RECORD LENGTH IN BYTES     SLGH SET BY INIT    00 01182
002503 000000 A 1243          DATA   0          MERGE BLOCK LENGTH IN WORDS      SBLK SET BY INIT    00 01183
002504 000000 A 1244          DATA   0          OUTPUT RECORD LENGTH IN WORDS    FSOB SET BY INIT    00 01184
002505 000000 A 1245          DATA   0          TOTAL RECS OUTPUT BY SORT PHS    SOUT SET BY ASMB    00 01185
002506 000000 A 1246          DATA   0          SORT SEQUENCE PASS COUNT         SPCT SET BY ASMB    00 01186
002507 000000 A 1247          DATA   0          SORT PASS COUNT PER MERGE BLK    SPWT SET BY INIT    00 01187
002510 000000 A 1248          DATA   0          SORT PHASE INPUT BUFFER PTR      INBF SET BY INIT    00 01188
002511 000000 A 1249          DATA   0          SORT PHASE OUTPUT BUFFER PTR     OUBF SET BY INIT    00 01189
002512 000000 A 1250 MBFC     DATA   0          INDIRECT PTR TO CURRENT REC      CMBF SET BY ASMB    00 01190
002513 000000 A 1251          DATA   0          PTR TO START OF SORT AREA        SBEG SET BY INIT    00 01191
002514 000000 A 1252          DATA   0          PTR TO LAST WORD OF SORT AREA    SEND SET BY INIT    00 01192
002515 000000 A 1253          DATA   0          CURRENT AVAIL AREA IN SORT AR    SCUR SET BY INIT    00 01193
002516 000000 A 1254          DATA   0          NUMBER OF ENTRIES IN SORT AR     SNUM SET BY INIT    00 01194
002517 000000 A 1255          DATA   0          MERGE RECORD LENGTH IN WORDS     MFLN SET BY INIT    00 01195
002520 000000 A 1256          DATA   0          PTR TO SORT COMPARE REC1         SWK1 SET BY ASMB    00 01196
002521 000000 A 1257          DATA   0          PTR TO SORT COMPARE REC2         SWK2 SET BY ASMB    00 01197
002522 000000 A 1258          DATA   0          SORT CONTROL FIELD COUNTER       SWK3 SET BY ASMB    00 01198
002523 000000 A 1259          DATA   0          NUMBER OF CONTROL FIELDS         NCTL SET BY INIT    00 01199
002524 000000 A 1260          DATA   0          PTR TO SORT AREA END + 1         SND1 SET BY INIT    00 01200
002525 002720 R 1261          DATA   (XSF1)     SORT PHASE OUTPUT FILE PTR       SFPT SET BY ASMB    00 01201
002526 000000 A 1262          DATA   0          MERGE PHASE TOTAL SEQ CTR        STOT SET BY ASMB    00 01202
002527 000000 A 1263          DATA   0          FIBONACCI NUMBER                 SFIB SET BY ASMB    00 01203
002530 000000 A 1264          DATA   0          N-1ST TERM OF FIBONACCI SERIES   STM1 SET BY ASMB    00 01204
002531 000000 A 1265          DATA   0          N-2ND TERM OF SERIES             STM2 SET BY ASMB    00 01205
002532 000000 A 1266          DATA   0          RECORD NUMBER FOR LAST SI RD     IPRC SET BY ASMB    00 01206
002533 002543 R 1267          DATA   (TLFC)     PTR TO CTL FLD MOVE PARAMS       CTLI SET BY ASMB    00 01207
002534 000000 A 1268          DATA   0                                           CTLP SET BY ASMB    00 01208
002535 000000 A 1269          DATA   0          LOOP COUNTER FOR CTL FLDS        LCNT SET BY ASMB    00 01209
002536 000000 A 1270          DATA   0          NUMBER OF CONTROL FIELDS         CTLC SET BY INIT    00 01210
002537 002512 R 1271          DATA   (MBFC)     INDIRECT PTR TO CMBF             CKEY SET BY ASMB    00 01211
002540 000000 A 1272          DATA   0          WORK AREA FOR KEY SORT           CKE1 SET BY ASMB    00 01212
002541 002542 R 1273          DATA   (RBLK)     PTR TO READ REC NUMBER           CKE2 SET BY ASMB    00 01213
002542 000000 A 1274 RBLK     DATA   0          READ RECORD NUMBER               CKE3 SET BY ASMB    00 01214
002543 000000 A 1275 TLFC     DATA   0               CTL FLD 1 TGT WD DISP       CTLF SET BY INIT    00 01215
002544 000000 A 1276          DATA   0               CTL FLD 1 TGT BYTE NUM           SET BY INIT    00 01216
002545 000000 A 1277          DATA   0               CTL FLD 1 SRC WD DISP            SET BY INIT    00 01217
002546 000000 A 1278          DATA   0               CTL FLD 1 SRC BYTE NUM           SET BY INIT    00 01218
002547 000000 A 1279          DATA   0               CTL FLD 1 NUM OF BYTES           SET BY INIT    00 01219
002550 000000 A 1280          DATA   0,0,0,0,0  POSSIBLE CTL FLD 2                   SET BY INIT    00 01220
002551 000000 A
002552 000000 A
002553 000000 A
002554 000000 A
002555 000000 A 1221          DATA   0,0,0,0,0  POSSIBLE CTL FLD 3                   SET BY INIT    00 01221
002556 000000 A
002557 000000 A
002560 000000 A
002561 000000 A
002562 000000 A 1282          DATA   0,0,0,0,0  POSSIBLE CTL FLD 4                   SET BY INIT    00 01222
002563 000000 A
002564 000000 A
002565 000000 A
002566 000000 A
002567 000000 A 1283          DATA   0,0,0,0,0  POSSIBLE CTL FLD 5                   SET BY INIT    00 01223
002570 000000 A
002571 000000 A
002572 000000 A
002573 000000 A
002574 000000 A 1284          DATA   0,0,0,0,0  POSSIBLE CTL FLD 6                   SET BY INIT    00 01224
002575 000000 A
002576 000000 A
002577 000000 A
002600 000000 A
002601 000000 A 1285          DATA   0,0,0,0,0  MOVE PARAMS FOR REC/KEY             SET BY INIT    00 01225
002602 000000 A
002603 000000 A
002604 000000 A
002605 000000 A
                1286 *                                                                               00 01226
                1287 *            CONTROL FIELD MOVE PARAMETERS                                      00 01227
                1288 *            ARE INITIALIZED AS A VARIABLE                                      00 01228
                1289 *            LENGTH LIST                                                        00 01229
                1290 *                                                                               00 01230
002606 002607 R 1291          DATA   (CTPS) PTR TO CTL FLD COMPARE PTRS   SCPT SET BY ASMB    00 01231
002607 002660 R 1292 CTPS     DATA   (CTLS+7*5) PTR TO CTL FLD 6 CMP PARM SCTP SET BY ASMB    00 01232
002610 002651 R 1293          DATA   (CTLS+7*4) PTR TO CTL FLD 5 CMP PARM      SET BY ASMB    00 01233
002611 002642 R 1294          DATA   (CTLS+7*3)     PTR TO CTL FLD 4 CMP PARM                F **********
002612 002633 R 1295          DATA   (CTLS+7*2) PTR TO CTL FLD 3 CMP PARM      SET BY ASMB    00 01235
002613 002624 R 1296          DATA   (CTLS+7*1) PTR TO CTL FLD 2 CMP PARM      SET BY ASMB    00 01236
002614 002615 R 1297          DATA   (CTLS+7*0) PTR TO CTL FLD 1 CMP PARM      SET BY ASMB    00 01237
002615 000000 A 1298 CTLS     DATA   0          CTL FLD1 TGT WD DISP IN MRG R SCTL SET BY INIT    00 01238
002616 000000 A 1299          DATA   0          CTL FLD1 TGT BT NUM  IN MRG R    SET BY INIT    00 01239
002617 000000 A 1300          DATA   0          CTL FLD1 SRC WD DISP IN MRG R    SET BY INIT    00 01240
002620 000000 A 1301          DATA   0          CTL FLD1 SRC BT NUM  IN MRG R    SET BY INIT    00 01241
002621 000000 A 1302          DATA   0          CTL FLD1 NUMBER OF BYTES         SET BY INIT    00 01242
002622 000000 A 1303          DATA   0          CTL FLD1 SRO IND, 0=ASC,-1=DE    SET BY INIT    00 01243
002623 000000 A 1304          DATA   0          CTL FLD1 RESULT CODE             SET BY INIT    00 01244
002624 000000 A 1305          DATA   0,0,0,0,0,0,0  CTL FLD 8                    SET BY INIT    00 01245
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002625 000000 A
002626 000000 A
002627 000000 A
002630 000000 A
002631 000000 A
002632 000000 A
002633 000000 A 1306          DATA    0,0,0,0,0,0,0  CTL FLD 3                    SET BY INIT     00 01246
002634 000000 A
002635 000000 A
002636 000000 A
002637 000000 A
002640 000000 A
002641 000000 A
002642 000000 A 1307          DATA    0,0,0,0,0,0,0  CTL FLD 4                    SET BY INIT     00 01247
002643 000000 A
002644 000000 A
002645 000000 A
002646 000000 A
002647 000000 A
002650 000000 A
002651 000000 A 1308          DATA    0,0,0,0,0,0,0  CTL FLD 5                    SET BY INIT     00 01248
002652 000000 A
002653 000000 A
002654 000000 A
002655 000000 A
002656 000000 A
002657 000000 A
002660 000000 A 1309          DATA    0,0,0,0,0,0,0  CTL FLD 6                    SET BY INIT     00 01249
002661 000000 A
002662 000000 A
002663 000000 A
002664 000000 A
002665 000000 A
002666 000000 A
002667 002742 R 1310 SPTS     DATA    (XSF3) PTR TO SORT WORK FILE 3        SSPT  SET BY ASMB     00 01250
002670 002720 R 1311 LPTS     DATA    (XSF1) PTR TO SORT WORK FILE 1        SLPT  SET BY ASMB     00 01251
002671 002731 R 1312 OPTS     DATA    (XSF2) PTR TO SORT WORK FILE 2        SOPT  SET BY ASMB     00 01252
002672 000000 A 1313 FASS     DATA    0      PTR TO CUR REC IN SF I/O AREA  SFAS  SET BY INIT     00 01253
002673 000000 A 1314          DATA    0      PTR TO START OF SF I/O AREA           SET BY INIT     00 01254
002674 000000 A 1315          DATA    0      PTR TO END-1 OF SF I/O AREA           SET BY INIT     00 01255
002675 000000 A 1316 FALS     DATA    0,0,0  SAME AS ABOVE FOR LONG FILE    SFAL  SET BY INIT     00 01256
002676 000000 A
002677 000000 A
002700 000000 A 1317 FAOS     DATA    0,0,0  SAME AS ABOVE FOR OUTPUT FILE SFAO  SET BY INIT     00 01257
002701 000000 A
002702 000000 A
002703 002672 R 1318          DATA    (FASS) PTR TO SF AREA PTRS            SASP  SET BY ASMB     00 01258
002704 002675 R 1319          DATA    (FALS) PTR TO LF AREA PTRS            SALP  SET BY ASMB     00 01259
002705 002700 R 1320          DATA    (FAOS) PTR TO OF AREA PTRS            SAOP  SET BY ASMB     00 01260
002706 000000 A 1321          DATA    0      PTR TO START OF CUR OUTPUT AR  OCAB  SET BY INIT     00 01261
002707 000000 A 1322          DATA    0      PTR TO END OF CUR OUTPUT AREA  OCAS  SET BY INIT     00 01262
002710 000000 A 1323          DATA    0      PTR TO ACTIVE AREA PTR         SFAC  SET BY ASMB     00 01263
002711 000000 A 1324          DATA    0      PTR TO ACTIVE AREA PTR         SFFC  SET BY ASMB     00 01264
002712 003377 R 1325          DATA    (LU5)  LU5 DCB                        DCB5  SET BY ASMB     00 01265
002713 000000 A 1326          DATA    0      SNCB IF WORKN SAME AS OUTPUT   FSIB  SET BY INIT     00 01266
002714 003324 R 1327          DATA    (FCBI) PTR TO SORT INPUT FCB          DSI   SET BY ASMB     00 01267
002715 000000 A 1328          DATA    0      SORT INPUT LOGICAL UNIT NUM    DILU  SET BY INIT     00 01268
002716 003217 R 1329          DATA    (OFCB) PTR TO OUTPUT FILE I/O MACROS  FSOI  SET BY ASMB     00 01269
002717 003147 R 1330          DATA    (IFCB) PTR TO INPUT FILE I/O MACROS   SIOI  SET BY ASMB     00 01270
                1331 *        WORK FILE SEQUENCE CONTROL                                          00 01271
                1332 *             WORD 0  PTR TO I/O MACROS FOR THIS WORKFILE                    00 01272
                1333 *                  1  SEQUENCE COUNT                                        00 01273
                1334 *                  2  DUMMY COUNT                                           00 01274
                1335 *                  3  REGULAR SEQUENCE COUNT                                00 01275
                1336 *                  4  SHORT SEQUENCE COUNT                                  00 01276
                1337 *                  5  BLOCK COUNT PER REGULAR SEQUENCE                      00 01277
                1338 *                  6  BLOCK COUNT PER SHORT SEQUENCE                        00 01278
                1339 *                  7  BIT 0 = WRITE SWITCH                                  00 01279
                1340 *                     BIT 1 = DUMMY SWITCH                                  00 01280
                1341 *                     BIT 2 = END OF SEQUENCE SWITCH                        00 01281
                1342 *                  8  BLOCK COUNT                                          00 01282
002720 002757 R 1343 XSF1     DATA    (S1CB),0,0,0,0,0,0,0,0 PTR TO S1 MAC S1ID SET BY INIT     00 01283
002721 000000 A
002722 000000 A
002723 000000 A
002724 000000 A
002725 000000 A
002726 000000 A
002727 000000 A
002730 000000 A
002731 003027 R 1344 XSF2     DATA    (S2CB),0,0,0,0,0,0,0,0 PTR TO S2 MAC S2ID SET BY INIT     00 01284
002732 000000 A
002733 000000 A
002734 000000 A
002735 000000 A
002736 000000 A
002737 000000 A
002740 000000 A
002741 000000 A
002742 003077 R 1345 XSF3     DATA    (S3CB),0,0,0,0,0,0,0,0 PTR TO S3 MAC S3ID SET BY INIT     00 01285
002743 000000 A
002744 000000 A
002745 000000 A
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002746 000000 A
002747 000000 A
002750 000000 A
002751 000000 A
002752 000000 A
                    1346 *                                                                                  00 01286
                    1347 *       SYSTEM SWITCH                                                              00 01287
                    1348 *                 BIT 0- ON, ACCEPT INPUT                                          00 01288
                    1349 *                 BIT 1- ON, ACCEPT OUTPUT                                         00 01289
                    1350 *                 BIT 2 ON, USER EXIT                                              00 01290
                    1351 *                 BIT 3 ON, END OF FILE-SORT IN                                    00 01291
                    1352 *                 BIT 4 ON, KEYWORD SORT                                           00 01292
                    1353 *                 BIT 5 ON, END OF SORT PHASE                                      00 01293
                    1354 *                 BIT 6 ON, FINAL MERGE                                            00 01294
                    1355 *                 BIT 7 ON, FEOF ON SF                                             00 01295
                    1356 *                 BIT 8 ON, USER OUTEXIT                                           00 01296
                    1357 *                 BIT 9 ON, SKIP FINAL MERGE                                 F     ********
002753 000000 A     1358         DATA   0       SYSTEM SWITCH                  SWCH SET BY ASMB             00 01297
002754 000000 A     1359         DATA   0       LINE PRINTER OUTPUT FILE SW    LPSW SET BY INIT             00 01298
002755 000000 A     1360         DATA   0       MERGE PHASE OUTEXIT BUFFER     MBUF SET BY INIT             00 01299
                    1361 *                                                                                  00 01300
                    1362 *   I/O MACROS FOR INPUT, OUTPUT AND 3 WORKFILES                                   00 01301
                    1363 *                                                                                  00 01302
                    1364 *       SINI FILLS IN LOGICAL UNIT NUMBERS                                         00 01303
                    1365 *       SINI CALLS S1CA,S2CA,S3CA,IFCA,OFCA TO OPEN ALL 5 FILES                    00 01304
                    1366 *       SRT1 CALLS IFRD TO READ INPUT FILE SEQUENTIALLY                            00 01305
                    1367 *                 SORTFILE1 AND 2 WRITE MACROS                                     00 01306
                    1368 *                 S1CLS AND S2CLS TO CLOSE SORTFILES 1 AND 2                       00 01307
                    1369 *       MERG CALLS IFCA,S1CA,S2CA,S3CA TO OPEN INPUT AND WORKS                     00 01308
                    1370 *                 IFRD TO READ INPUT DIRECTLY (TAGSORT)                            00 01309
                    1371 *                 OUTPUT, SORTFILE1,2 AND 3 WRITE MACROS                           00 01310
                    1372 *                 CLOSE MACROS FOR ALL 5 FILES                                     00 01311
                    1373 *                                                                                  00 01312
002756 000000 A     1374 S1CA    DATA   0       I/O MACROS FOR SORT WORK 1                                   00 01313
                    1375 S1CB    OPEN   FCB1,0,0,0                                                          00 01314
002757 006505 A
002760 000404 A
002761 100000 A
002762 003000 A
002763 003266 R
002764 000000 A
002765 000000 A
002766 001000 A     1376         JMP*   *-8                                                                00 01315
002767 102756 R
002770 000000 A     1377         DATA   0                                                                   00 01316
                    1378         READ   FCB1,0,0,1                                                          00 01317
002771 006505 A
002772 000404 A
002773 100000 A
002774 010000 A
002775 003266 R
002776 000000 A
002777 000000 A
003000 001000 A     1379         JMP*   *-8                                                                00 01318
003001 102770 R
003002 000000 A     1380         DATA   0                                                                   00 01319
                    1381         WRITE  FCB1,0,0,1                                                          00 01320
003003 006505 A
003004 000404 A
003005 100000 A
003006 010400 A
003007 003266 R
003010 000000 A
003011 000000 A
003012 001000 A     1382         JMP*   *-8                                                                00 01321
003013 103002 R
003014 000000 A     1383 S1CLS   DATA   0                                                                   00 01322
                    1384         CLOSE  FCB1,0,0,1                                                          00 01323
003015 006505 A
003016 000404 A
003017 100000 A
003020 013400 A
003021 003266 R
003022 000000 A
003023 000000 A
003024 001000 A     1385         JMP*   *-8                                                                00 01324
003025 103014 R
003026 000000 A     1386 S2CA    DATA   0       I/O MACROS FOR SORT WORK FILE 2                              00 01325
                    1387 S2CB    OPEN   FCB2,0,0,0                                                          00 01326
003027 006505 A
003030 000404 A
003031 100000 A
003032 003000 A
003033 003266 R
003034 000000 A
003035 000000 A
003036 001000 A     1388         JMP*   *-8                                                                00 01327
003037 103026 R
003040 000000 A     1389         DATA   0                                                                   00 01328
                    1390         READ   FCB2,0,0,1                                                          00 01329
003041 006505 A
003042 000404 A
003043 100000 A
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003044 010000 A
003045 003300 R
003046 000000 A
003047 000000 A
003050 001000 A 1391          JMP*    *-8                                          00 01330
003051 103040 R
003052 000000 A 1392          DATA    0                                            00 01331
                1393          WRITE   FCB2,0,0,1                                   00 01332
003053 006505 A
003054 000404 A
003055 100000 A
003056 010400 A
003057 003300 R
003060 000000 A
003061 000000 A
003062 001000 A 1394          JMP*    *-8                                          00 01333
003063 103052 R
003064 000000 A 1395 S2CLS    DATA    0       CLOSE WITH FILE MARK                 00 01334
                1396          CLOSE   FCB2,0,0,1                                   00 01335
003065 006505 A
003066 000404 A
003067 100000 A
003070 013400 A
003071 003300 R
003072 000000 A
003073 000000 A
003074 001000 A 1397          JMP*    *-8                                          00 01336
003075 103064 R
003076 000000 A 1398 S3CA     DATA    0       I/O MACROS FOR SORT WORK FILE 3      00 01337
                1399 S3CB     OPEN    FCB3,0,0,0                                   00 01338
003077 006505 A
003100 000404 A
003101 100000 A
003102 003000 A
003103 003312 R
003104 000000 A
003105 000000 A
003106 001000 A 1400          JMP*    *-8                                          00 01339
003107 103076 R
003110 000000 A 1401          DATA    0                                            00 01340
                1402          READ    FCB3,0,0,1                                   00 01341
003111 006505 A
003112 000404 A
003113 100000 A
003114 010000 A
003115 003312 R
003116 000000 A
003117 000000 A
003120 001000 A 1403          JMP*    *-8                                          00 01342
003121 103110 R
003122 000000 A 1404          DATA    0                                            00 01343
                1405          WRITE   FCB3,0,0,1                                   00 01344
003123 006505 A
003124 000404 A
003125 100000 A
003126 010400 A
003127 003312 R
003130 000000 A
003131 000000 A
003132 001000 A 1406          JMP*    *-8                                          00 01345
003133 103122 R
003134 000000 A 1407          DATA    0                                            00 01346
                1408          CLOSE   FCB3,0,0,1                                   00 01347
003135 006505 A
003136 000404 A
003137 100000 A
003140 013400 A
003141 003312 R
003142 000000 A
003143 000000 A
003144 001000 A 1409          JMP*    *-8                                          00 01348
003145 103134 R
003146 000000 A 1410 IFCA     DATA    0       I/O MACROS FOR SORT INPUT            00 01349
                1411 IFCB     OPEN    FCBI,0,0,1      OPEN WITHOUT REWINDING      *00 01350
003147 006505 A
003150 000404 A
003151 100000 A
003152 013000 A
003153 003324 R
003154 000000 A
003155 000000 A
003156 001000 A 1412          JMP*    *-8                                          00 01351
003157 103146 R
003160 000000 A 1413 IFRD     DATA    0                                            00 01352
                1414          READ    FCBI,0,0,1                                   00 01353
003161 006505 A
003162 000404 A
003163 100000 A
003164 010000 A
003165 003324 R
003166 000000 A
003167 000000 A
003170 001000 A 1415          JMP*    *-8                                          00 01354
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003171 103160 R
003172 000000 A 1416          DATA    0                                                    00 01355
                1417          WRITE   FCBI,0,0,1                                         00 01356
003173 006505 A
003174 000404 A
003175 100000 A
003176 010400 A
003177 003324 R
003200 000000 A
003201 000000 A
003202 001000 A 1418          JMP*    *-8                                                  00 01357
003203 103172 R
003204 000000 A 1419 IFCLS    DATA    0                                                    00 01358
                1420          CLOSE   FCBI,0,0,0    CLOSE WITHOUT FILE MARK               *00 01359
003205 006505 A
003206 000404 A
003207 100000 A
003210 003400 A
003211 003324 R
003212 000000 A
003213 000000 A
003214 001000 A 1421          JMP*    *-8                                                  00 01360
003215 103204 R
003216 000000 A 1422 OFCA     DATA    0      SORT OUTPUT FILE I/O MACROS                   00 01361
                1423 OFCB     OPEN    FCBO,0,0,1     OPEN WITHOUT REWINDING                *00 01362
003217 006505 A
003220 000404 A
003221 100000 A
003222 013000 A
003223 003336 R
003224 000000 A
003225 000000 A
003226 001000 A 1424          JMP*    *-8                                                  00 01363
003227 103216 R
003230 000000 A 1425          DATA    0                                                    00 01364
                1426          READ    FCBO,0,0,1                                           00 01365
003231 006505 A
003232 000404 A
003233 100000 A
003234 010000 A
003235 003336 R
003236 000000 A
003237 000000 A
003240 001000 A 1427          JMP*    *-8                                                  00 01366
003241 103230 R
003242 000000 A 1428          DATA    0                                                    00 01367
                1429          WRITE   FCBO,0,0,1                                           00 01368
003243 006505 A
003244 000404 A
003245 100000 A
003246 010400 A
003247 003336 R
003250 000000 A
003251 000000 A
003252 001000 A 1430          JMP*    *-8                                                  00 01369
003253 103242 R
003254 000000 A 1431 OFCLS    DATA    0      CLOSE WITH FILE MARK                          00 01370
                1432          CLOSE   FCBO,0,0,1                                           00 01371
003255 006505 A
003256 000404 A
003257 100000 A
003260 013400 A
003261 003336 R
003262 000000 A
003263 000000 A
003264 001000 A 1433          JMP*    *-8                                                  00 01372
003265 103254 R
                1434 FCB1     FCB     0,0,1,,'  ',' ',' '   FILE CONTROL BLK SORT WORK FILE 100 01373
003266 000000 A
003267 000000 A
003270 000400 A
003271 000000 A
003272 000000 A
003273 000000 A
003274 000000 A
003275 120240 A
003276 120240 A
003277 120240 A
                1435 FCB2     FCB     0,0,1,,'  ',' ',' '   FILE CONTROL BLK SORT WORK FILE 200 01374
003300 000000 A
003301 000000 A
003302 000400 A
003303 000000 A
003304 000000 A
003305 000000 A
003306 000000 A
003307 120240 A
003310 120240 A
003311 120240 A
                1436 FCB3     FCB     0,0,1,,'  ',' ',' '   FILE CONTROL BLK SORT WORK FILE 300 01375
003312 000000 A
003313 000000 A
003314 000400 A
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003315 000000 A
003316 000000 A
003317 000000 A
003320 000000 A
003321 120240 A
003322 120240 A
003323 120240 A
                1437 FCBI   FCB     0,0,1,,'  ',' ',' ',' '   FILE CONTROL BLK SORT INPUT FILE 00 01376
003324 000000 A
003325 000000 A
003326 000400 A
003327 000000 A
003330 000000 A
003331 000000 A
003332 000000 A
003333 120240 A
003334 120240 A
003335 120240 A
                1438 FCBO   FCB     0,0,1,,'  ',' ',' ',' '   FILE CONTROL BLK SORT OUTPUT FILE00 01377
003336 000000 A
003337 000000 A
003340 000400 A
003341 000000 A
003342 000000 A
003343 000000 A
003344 000000 A
003345 120240 A
003346 120240 A
003347 120240 A
003350 000000 A 1439 CLR5   ENTR                    MOVE BLANKS TO LIST OUTPUT BUFFER          00 01378
003351 006010 A 1440        LDAI    ' '                                                        00 01379
003352 120240 A
003353 054026 A 1441        STA     LU5B                                                       00 01380
003354 002000 A 1442        CALL    MOVE,LU5B+1,0,LU5B,0,78                                    00 01381
003355 004042 R
003356 003403 R
003357 000000 A
003360 003402 R
003361 000000 A
003362 000116 A
003363 001000 A 1443        JMP*    CLR5                                                       00 01382
003364 103350 R
003365 000000 A 1444 WRT5   ENTR                    WRITE LIST OUTPUT                          00 01383
                1445        WRITE   LU5,5,0,1                                                  00 01384
003366 006505 A
003367 000404 A
003370 100000 A
003371 010405 A
003372 003377 R
003373 000000 A
003374 000000 A
003375 001000 A 1446        JMP*    WRT5                                                       00 01385
003376 103365 R
                1447 LU5    DCB     40,LU5B,0   DCB FOR LIST OUTPUT                          00 01386
003377 000050 A
003400 003402 R
003401 000000 A
003402          1448 LU5B   BSS     40                                                         00 01387
                1449        EJEC                                                               00 01388
                1450 ********************************************************************** 00 01389
                1451 *                                                                        00 01390
                1452 *  COMP - VARIABLE-LENGTH COMPARE                                        00 01391
                1453 *                                                                        00 01392
                1454 *  COMP IS AN ALGEBRAIC COMPARE ROUTINE.                                 00 01393
                1455 *  IT COMPARES THE TWO STRINGS BY SUBTRACTING THEM                       00 01394
                1456 *  ONE WORD AT A TIME.                                                   00 01395
                1457 *                                                                        00 01396
                1458 *  IF THE NUMBER OF BYTES IS ODD, THE LAST BYTES ARE COMPARED            00 01397
                1459 *  ALGEBRAICALLY (SHIFTED LEFT AND SUBTRACTED), NOT ABSOLUTELY.         00 01398
                1460 *                                                                        00 01399
                1461 *  CALLING SEQUENCE                                                      00 01400
                1462 *                      CALL  COMP,1,2,3,4,5,6,7                          00 01401
                1463 *                                                                        00 01402
                1464 *                       1. TARGET FIELD WORD ADDRESS                     00 01403
                1465 *                       2. TARGET FIELD BYTE NUMBER (0 OR 1)             00 01404
                1466 *                       3. SOURCE FIELD WORD ADDRESS                     00 01405
                1467 *                       4. SOURCE FIELD BYTE NUMBER (0 OR 1)             00 01406
                1468 *                       5. NUMBER OF BYTES TO BE COMPARED                00 01407
                1469 *                       6. SEQUENCE INDICATOR,0-ASCENDING,-1-DESCEND     00 01408
                1470 *                       7. RESULT  0 - TGT EQ SRC                        00 01409
                1471 *                                 +1 - TGT GT SRC                        00 01410
                1472 *                                 -1 - TGT LT SRC                        00 01411
                1473 *                                                                        00 01412
                1474 *  EXIT PARAMETERS:  PARAMETERS 2, 4 AND 6 ARE UNCHANGED                 00 01413
                1475 *                    PARAMETERS 1, 3 AND 5 ARE CHANGED                   00 01414
                1476 *                                                                        00 01415
                1477 *  CALLED BY SINI,SRT1,MERG                                              00 01416
                1478 *                                                                        00 01417
                1479 ********************************************************************** 00 01418
000000 A        1480 TW     EQU     0           DISPL TO TARGET WORD PTR                      00 01419
000001 A        1481 TB     EQU     1           DISPL TO TARGET WORD BYTE NUMBER              00 01420
000002 A        1482 SW     EQU     2           DISPL TO SOURCE WORD PTR                      00 01421
000003 A        1483 SB     EQU     3           DISPL TO SOURCE WORD BYTE NUMBER              00 01422
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        000004 A 1484 LGH     EQU     4               DISPL TO LENGTH OF MOVE                          00 01423
003452  000000 A 1485 COMP    ENTR                                                                     00 01424
003453  006037 A 1486         LDXE    *-1             GET PARAM LST PTR IN X REG                       00 01425
003454  003452 R
003455  015004 A 1487         LDA     LGH,X           GET NUMBER OF BYTES                              00 01426
003456  001010 A 1488         JAZ     CRTE            RETURN EQUAL IF LGH IS ZERO                      00 01427
003457  003740 R
003460  015001 A 1489         LDA     TB,X            GET TARGET BYTE NUMBER                           00 01428
003461  004241 A 1490         LRLA    1               TIMES 2                                          00 01429
003462  125003 A 1491         ADD     SB,X            ADD SOURCE BYTE NUMBER                           00 01430
003463  004241 A 1492         LRLA    1               TIMES 2                                          00 01431
003464  006120 A 1493         ADDI    CJP2            PLUS START OF JUMP TABLE                         00 01432
003465  003471 R
003466  054001 A 1494         STA     CJP1+1          STORE IN JMP INSTRUCTION                         00 01433
003467  001000 A 1495 CJP1    JMP     CJP2            GO TO JUMP TABLE                                 00 01434
003470  003471 R
003471  001000 A 1496 CJP2    JMP     C0S0A             TARGET BYTE 0, SOURCE BYTE 0                 F  ********
003472  003762 R
003473  001000 A 1497         JMP     C0S1A             TARGET BYTE 0, SOURCE BYTE 1                 F  ********
003474  003776 R
003475  001000 A 1498         JMP     C1S0A             TARGET BYTE 1, SOURCE BYTE 0                 F  ********
003476  004007 R
003477  001000 A 1499         JMP     C1S1A             TARGET BYTE 1, SOURCE BYTE 1                 F  ********
003500  004024 R
003501  015004 A 1500 C0S0    LDA     LGH,X             GET BYTES FOR COMPARE                          00 01439
003502  005311 A 1501 C002    DAR                     MINUS 1                                          00 01440
003503  001010 A 1502         JAZ     C001              GO PROCESS LAST BYTE                           00 01441
003504  003530 R
003505  005311 A 1503         DAR                     MINUS 1 MORE                                     00 01442
003506  055004 A 1504         STA     LGH,X             SAVE REMAINING CNT                           00 01443
003507  006015 A 1505         LDAE*   TW,X            GET TARGET WD                                  00 01444
003510  100000 A
003511  006145 A 1506         SUBE*   SW,X              MINUS SOURCE WD                              00 01445
003512  100002 A
003513  001010 A 1507         JAZ     *+6                                                            00 01446
003514  003521 R
003515  001002 A 1508         JAP     CRTG              RETURN FOR TGT HI                            00 01447
003516  003743 R
003517  001004 A 1509         JAN     CRTL              RETURN FOR TGT LESS                          00 01448
003520  003746 R
003521  015004 A 1510         LDA     LGH,X             GET REMAINING LGH                            00 01449
003522  001010 A 1511         JAZ     CRTE              RETURN EQUAL IF THATS ALL                    00 01450
003523  003740 R
003524  045002 A 1512         INR     SW,X              INCR SRC WD                                  00 01451
003525  045000 A 1513         INR     TW,X              INCR TGT WD                                  00 01452
003526  001000 A 1514         JMP     C002              GO TEST SOME MORE                            00 01453
003527  003502 R
003530  006015 A 1515 C001    LDAE*   SW,X             GET SRC WD                                     00 01454
003531  100002 A
003532  150462 A 1516 C003    ANA     LHW               CLEAR BYTE 1                                 00 01455
003533  054225 A 1517         STA     CSAVE             SAVE IT                                      00 01456
003534  006015 A 1518         LDAE*   TW,X              GET TGT WD                                   00 01457
003535  100000 A
003536  150462 A 1519         ANA     LHW               CLEAR BYTE 1                                 00 01458
003537  144221 A 1520         SUB     CSAVE             MINUS SRC BYTE                               00 01459
003540  001010 A 1521         JAZ     CRTE              EQUAL RETURN                                 00 01460
003541  003740 R
003542  001002 A 1522         JAP     CRTG              GREATER RETURN                               00 01461
003543  003743 R
003544  001000 A 1523         JMP     CRTL              LESS RETURN                                  00 01462
003545  003746 R
003546  015004 A 1524 C0S1    LDA     LGH,X             GET LENGTH OF COMP                           00 01463
003547  005311 A 1525 C012    DAR                     MINUS 1                                          00 01464
003550  001010 A 1526         JAZ     C011              GO TEST LAST BYTE                            00 01465
003551  003602 R
003552  005311 A 1527         DAR                     MINUS 1 MORE                                     00 01466
003553  055004 A 1528         STA     LGH,X             SAVE REMAINING COUNT                         00 01467
003554  006015 A 1529         LDAE*   SW,X             GET SRC WD                                     00 01468
003555  100002 A
003556  045002 A 1530         INR     SW,X              INCR SRC WD PTR                              00 01469
003557  006025 A 1531         LDBE*   SW,X             GET SRC WD + 1                                 00 01470
003560  100002 A
003561  004450 A 1532         LLRL    8                 PUT TWO SRC BYTES IN A REG                   00 01471
003562  005211 A 1533         CPA                     COMPLEMENT                                       00 01472
003563  005111 A 1534         IAR                                                                      00 01473
003564  006125 A 1535         ADDE*   TW,X               PLUS TGT WD                                  00 01474
003565  100000 A
003566  001010 A 1536         JAZ     *+6               IF EQUAL, CONTINUE TEST                      00 01475
003567  003574 R
003570  001002 A 1537         JAP     CRTG              GREATER RETURN                               00 01476
003571  003740 R
003572  001000 A 1538         JMP     CRTL              LESS RETURN                                  00 01477
003573  003746 R
003574  015004 A 1539         LDA     LGH,X             GET REMAINING BYTES                          00 01478
003575  001010 A 1540         JAZ     CRTE              RETURN EQUAL IF TEST COMPLETE                00 01479
003576  003740 R
003577  045000 A 1541         INR     TW,X              INCREMENT TGT WD PTR                         00 01480
003600  001000 A 1542         JMP     C012              GO TEST SOME MORE                            00 01481
003601  003547 R
003602  006015 A 1543 C011    LDAE*   SW,X             GET SRC WD                                     00 01482
003603  100002 A
003604  004250 A 1544         LRLA    8                 PUT SRC BYTE IN LEFT HALF                    00 01483
003605  001000 A 1545         JMP     C003              CONTINUE                                     00 01484
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003606 003532 R
003607 015004 A 1546 C1S0   LDA     LGH,X       GET NUMBER OF BYTES                    00 01485
003610 005311 A 1547 C102   DAR               MINUS 1                                00 01486
003611 001010 A 1548        JAZ     C101        GO TEST LAST BYTE                      00 01487
003612 003641 R
003613 005311 A 1549        DAR               MINUS 1 MORE                           00 01488
003614 055004 A 1550        STA     LGH,X       SAVE COUNT                             00 01489
003615 006015 A 1551        LDAE*   TW,X        GET TGT WD                             00 01490
003616 100000 A
003617 045000 A 1552        INR     TW,X        INCR TGT WD PTR                        00 01491
003620 006025 A 1553        LDBE*   TW,X        GET TGT WD + 1                         00 01492
003621 100000 A
003622 004450 A 1554        LLRL    8           PUT 2 TGT BYTES IN A REG               00 01493
003623 006145 A 1555        SUBE*   SW,X        SUB SRC WD                             00 01494
003624 100002 A
003625 001010 A 1556        JAZ     *+6         CONTINUE TEST IF EQUAL                 00 01495
003626 003633 R
003627 001002 A 1557        JAP     CRTG        GREATER RETURN                         00 01496
003630 003743 R
003631 001000 A 1558        JMP     CRTL        LESS RETURN                            00 01497
003632 003746 R
003633 015004 A 1559        LDA     LGH,X       GET BYTES REMAINING                    00 01498
003634 001010 A 1560        JAZ     CRTE        EQUAL RETURN IF FINISHED               00 01499
003635 003740 R
003636 045002 A 1561        INR     SW,X        INCR SRC WD PTR                        00 01500
003637 001000 A 1562        JMP     C102        GO TEST SOME MORE                      00 01501
003640 003610 R
003641 055004 A 1563 C101   STA     LGH,X       SAVE ZERO CNT                          00 01502
003642 006015 A 1564        LDAE*   SW,X        GET SRC WD                             00 01503
003643 100002 A
003644 150462 A 1565        ANA     LHW         CLEAR LO ORDER                         00 01504
003645 054113 A 1566        STA     CSAVE       SAVE SRC                               00 01505
003646 006015 A 1567        LDAE*   TW,X        GET TGT WD                             00 01506
003647 100000 A
003650 004250 A 1568        LRLA    8           PUT BYTE IN HI ORDER A                 00 01507
003651 150462 A 1569        ANA     LHW         CLEAR LO ORDER                         00 01508
003652 144106 A 1570        SUB     CSAVE       MINUS SRC BYTE                         00 01509
003653 001010 A 1571        JAZ     CRTE        EQUAL RETURN                           00 01510
003654 003740 R
003655 001002 A 1572        JAP     CRTG        GREATER RETURN                         00 01511
003656 003743 R
003657 001000 A 1573        JMP     CRTL        LESS RETURN                            00 01512
003660 003746 R
003661 015004 A 1574 C1S1   LDA     LGH,X       GET NUMBER OF BYTES                    00 01513
003662 005311 A 1575 C112   DAR               MINUS 1                                00 01514
003663 001010 A 1576        JAZ     C111        GO TEST LAST BYTE                      00 01515
003664 003720 R
003665 005311 A 1577        DAR               MINUS 1 MORE                           00 01516
003666 055004 A 1578        STA     LGH,X       SAVE COUNT                             00 01517
003667 006015 A 1579        LDAE*   SW,X        GET SRC WD                             00 01518
003670 100002 A
003671 045002 A 1580        INR     SW,X        INCR SRC WD PTR                        00 01519
003672 006025 A 1581        LDBE*   SW,X        GET SRC WD + 1                         00 01520
003673 100002 A
003674 004450 A 1582        LLRL    8           PUT 2 SRC BYTES IN A REG               00 01521
003675 054063 A 1583        STA     CSAVE       SAVE SRC WD                            00 01522
003676 006015 A 1584        LDAE*   TW,X        GET TGT WD                             00 01523
003677 100000 A
003700 045000 A 1585        INR     TW,X        INCR TGT WD PTR                        00 01524
003701 006025 A 1586        LDBE*   TW,X        GET TGT WD + 1                         00 01525
003702 100000 A
003703 004450 A 1587        LLRL    8           PUT 2 TGT BYTES IN A REG               00 01526
003704 144054 A 1588        SUB     CSAVE       MINUS SRC WD                           00 01527
003705 001010 A 1589        JAZ     *+6         CONTINUE IF EQUAL                      00 01528
003706 003713 R
003707 001002 A 1590        JAP     CRTG        GREATER RETURN                         00 01529
003710 003743 R
003711 001000 A 1591        JMP     CRTL        LESS RETURN                            00 01530
003712 003746 R
003713 015004 A 1592        LDA     LGH,X       GET COUNT REMAINING                    00 01531
003714 001010 A 1593        JAZ     CRTE        EQUAL RETURN IF FINISHED               00 01532
003715 003740 R
003716 001000 A 1594        JMP     C112        GO TEST SOME MORE                      00 01533
003717 003662 R
003720 006015 A 1595 C111   LDAE*   SW,X      GET SRC WD                             00 01534
003721 100002 A
003722 004250 A 1596        LRLA    8           PUT LAST BYTE IN HI ORDER A REG        00 01535
003723 150462 A 1597        ANA     LHW         CLEAR LO ORDER                         00 01536
003724 054034 A 1598        STA     CSAVE       SAVE IT                                00 01537
003725 006015 A 1599        LDAE*   TW,X      GET TGT WD                             00 01538
003726 100000 A
003727 004250 A 1600        LRLA    8           PUT LAST BYTE IN HI ORDER A REG        00 01539
003730 150462 A 1601        ANA     LHW         CLEAR LO ORDER                         00 01540
003731 144027 A 1602        SUB     CSAVE       MINUS SRC BYTE                         00 01541
003732 001010 A 1603        JAZ     CRTE        EQUAL RETURN                           00 01542
003733 003740 R
003734 001002 A 1604        JAP     CRTG        GREATER RETURN                         00 01543
003735 003743 R
003736 001000 A 1605        JMP     CRTL        LESS RETURN                            00 01544
003737 003746 R
003740 005001 A 1606 CRTE   TZA                                                        00 01545
003741 001000 A 1607        JMP     CRTN                                               00 01546
003742 003751 R
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003743 005101 A 1608 CRTG   INCR   1          +1                                    00 01547
003744 001000 A 1609        JMP    CRTN                                             00 01548
003745 003751 R
003746 005301 A 1610 CRTL   DECR   1          -1                                    00 01549
003747 001000 A 1611        JMP    CRTN                                             00 01550
003750 003751 R
003751 055006 A 1612 CRTN   STA    6,X        SET RETURN CODE                       00 01551
003752 006017 A 1613        LDAE   COMP       COMPUTE                               00 01552
003753 003452 R
003754 120467 A 1614        ADD    SEVEN                                           00 01553
003755 006057 A 1615        STAE   COMP                                            00 01554
003756 003452 R
003757 001000 A 1616        JMP*   COMP       RETURN                                00 01555
003760 103452 R
003761 000000 A 1617 CSAVE  DATA   0                                               00 01556
               1618 *       ALGEBRAIC COMPARE                                   F  ********
003762 006015 A 1619 COSOA  LDAE*  TW,X          GET TARGET WORD                   F  ********
003763 100000 A
003764 006135 A 1620        ERAE*  SW,X          EOR SOURCE WORD                   F  ********
003765 100002 A
003766 001002 A 1621        JAP    COSO         SAME SIGN                         F  ********
003767 003501 R
003770 006015 A 1622 TWSIN  LDAE*  TW,X          GET TARGET WORD AGAIN             F  ********
003771 100000 A
003772 001002 A 1623        JAP    CRTL                                           F  ********
003773 003746 R
003774 001000 A 1624        JMP    CRTG                                           F  ********
003775 003743 R
003776 006015 A 1625 COS1A  LDAE*  SW,X          GET SOURCE WORD                   F  ********
003777 100002 A
004000 004250 A 1626        LRLA   8            RIGHT BYTE                        F  ********
004001 006135 A 1627        ERAE*  TW,X         EOR TARGET WORD                   F  ********
004002 100000 A
004003 001002 A 1628        JAP    COS1         SAME SIGN                         F  ********
004004 003546 R
004005 001000 A 1629        JMP    TWSIN                                          F  ********
004006 003770 R
004007 006015 A 1630 C1S0A  LDAE*  TW,X          GET TARGET WORD                   F  ********
004010 100000 A
004011 004250 A 1631        LRLA   8            RIGHT BYTE                        F  ********
004012 006135 A 1632        ERAE*  SW,X         EOR SOURCE WORD                   F  ********
004013 100002 A
004014 001002 A 1633        JAP    C1S0         SAME SIGN                         F  ********
004015 003607 R
004016 006015 A 1634        LDAE*  SW,X         GET SOURCE WORD                   F  ********
004017 100002 A
004020 001002 A 1635        JAP    CRTG                                           F  ********
004021 003743 R
004022 001000 A 1636        JMP    CRTL                                           F  ********
004023 003746 R
004024 006015 A 1637 C1S1A  LDAE*  TW,X          GET TARGET WORD                   F  ********
004025 100000 A
004026 006135 A 1638        ERAE*  SW,X         EOR SOURCE WORD                   F  ********
004027 100002 A
004030 004250 A 1639        LRLA   8            RIGHT BYTES                       F  ********
004031 001002 A 1640        JAP    C1S1         SAME SIGN                         F  ********
004032 003661 R
004033 006015 A 1641        LDAE*  TW,X         GET TARGET WORD                   F  ********
004034 100000 A
004035 004250 A 1642        LRLA   8            RIGHT BYTE                        F  ********
004036 001002 A 1643        JAP    CRTL                                           F  ********
004037 003746 R
004040 001000 A 1644        JMP    CRTG                                           F  ********
004041 003743 R
               1645        EJEC                                                   00 01557
               1646 ********************************************************************** 00 01558
               1647 *                                                                00 01559
               1648 * MOVE - VARIABLE-LENGTH MOVE                                    00 01560
               1649 *                                                                00 01561
               1650 *       CALLING SEQUENCE   CALL,MOVE,1,2,3,4,5                   00 01562
               1651 *                                                                00 01563
               1652 *                          1. TARGET FIELD WORD ADDRESS          00 01564
               1653 *                          2. TARGET FIELD BYTE NUMBER (0 OR 1)  00 01565
               1654 *                          3. SOURCE FIELD WORD ADDRESS          00 01566
               1655 *                          4. SOURCE FIELD BYTE NUMBER (0 OR 1)  00 01567
               1656 *                          5. NUMBER OF BYTES TO BE MOVED        00 01568
               1657 *                                                                00 01569
               1658 *       CALLED BY   SINI, SRT1, MERG                             00 01570
               1659 *                                                                00 01571
               1660 *       CALL PARAMETER VALUES ARE UNCHANGED BY MOVE              00 01572
               1661 *                                                                00 01573
               1662 ********************************************************************** 00 01574
000000 A 1663 TW     EQU    0              DISPL TO TARGET WORD PTR                  00 01575
000001 A 1664 TB     EQU    1              DISPL TO TARGET WORD BYTE NUMBER          00 01576
000002 A 1665 SW     EQU    2              DISPL TO SOURCE WORD PTR                  00 01577
000003 A 1666 SB     EQU    3              DISPL TO SOURCE WORD BYTE NUMBER          00 01578
000004 A 1667 LGH    EQU    4              DISPL TO LENGTH OF MOVE                   00 01579
004042 000000 A 1668 MOVE   ENTR                                                   00 01580
004043 006027 A 1669        LDBE   *-1           GET PARAMETER LIST PTR            00 01581
004044 004042 R
004045 036004 A 1670        LDX    LGH,B         PUT BYTE COUNT IN X REG           00 01582
004046 001040 A 1671        JNZ    MRTN          RETURN IF LENGTH IS ZERO          00 01583
004047 004174 R
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004050 016000 A 1672         LDA     TW,B                                    00 01584
004051 054133 A 1673         STA     MVTW    GET TGT WD PTR                  00 01585
004052 016002 A 1674         LDA     SW,B                                    00 01586
004053 054130 A 1675         STA     MVSW    GET SRC WD PTR                  00 01587
004054 016001 A 1676         LDA     TB,B                                    00 01588
004055 026003 A 1677         LDB     SB,B                                    00 01589
004056 001010 A 1678         JAZ     *+6                                     00 01590
004057 004064 R
004060 001020 A 1679         JBZ     T1S0    TARGET BYTE 1 - SOURCE BYTE 0   00 01591
004061 004146 R
004062 001000 A 1680         JMP     T1S1    TARGET BYTE 1 - SOURCE BYTE 1   00 01592
004063 004161 R
004064 001026 A 1681         JBNZ    T0S1    TARGET BYTE 0 - SOURCE BYTE 1   00 01593
004065 004120 R
004066 005344 A 1682 T0S0    DXR             BYTE COUNT MINUS 1              00 01594
004067 001040 A 1683         JXZ     T001    GO PROCESS LAST BYTE            00 01595
004070 004104 R
004071 005344 A 1684         DXR             MINUS 1 MORE                    00 01596
004072 006017 A 1685         LDAE*   MVSW    GET SOURCE WORD                 00 01597
004073 104204 R
004074 006057 A 1686 T004    STAE*   MVTW    STORE IN TARGET WORD            00 01598
004075 104205 R
004076 001040 A 1687         JXZ     MRTN    RETURN IF BYTE COUNT ZERO       00 01599
004077 004174 R
004100 044103 A 1688         INR     MVSW    INCREMENT SOURCE AND            00 01600
004101 044103 A 1689         INR     MVTW    TARGET INDIRECT PTRS            00 01601
004102 001000 A 1690         JMP     T0S0    GO MOVE SOME MORE               00 01602
004103 004066 R
004104 006017 A 1691 T001    LDAE*   MVSW    GET SOURCE WORD                 00 01603
004105 104204 R
004106 150462 A 1692 T003    ANA     LHW     LEFT BYTE                       00 01604
004107 054073 A 1693         STA     MSAVE   SAVE MODIFIED SOURCE            00 01605
004110 006017 A 1694         LDAE*   MVTW    GET TARGET WORD                 00 01606
004111 104205 R
004112 150463 A 1695         ANA     RHW     RIGHT BYTE                      00 01607
004113 114067 A 1696         ORA     MSAVE   OR TOGETHER                     00 01608
004114 006057 A 1697         STAE*   MVTW    STORE IN TARGET WORD            00 01609
004115 104205 R
004116 001000 A 1698         JMP     MRTN    RETURN                          00 01610
004117 004174 R
004120 005344 A 1699 T0S1    DXR             BYTE COUNT MINUS 1              00 01611
004121 001040 A 1700         JXZ     T011    GO PROCESS LAST BYTE            00 01612
004122 004141 R
004123 005344 A 1701         DXR             MINUS 1 MORE                    00 01613
004124 006017 A 1702         LDAE*   MVSW    GET SOURCE WORD                 00 01614
004125 104204 R
004126 044055 A 1703         INR     MVSW    INCREMENT SRC WD PTR            00 01615
004127 006027 A 1704         LDBE*   MVSW    GET SOURCE WORD PLUS 1          00 01616
004130 104204 R
004131 004450 A 1705         LLRL    8       LONG LEFT SHIFT 8 BITS          00 01617
004132 006057 A 1706 T013    STAE*   MVTW    STORE IN TARGET FIELD           00 01618
004133 104205 R
004134 001040 A 1707         JXZ     MRTN    RETURN IF BYTE COUNT ZERO       00 01619
004135 004174 R
004136 044046 A 1708         INR     MVTW    INCREMENT TGT WD PTR            00 01620
004137 001000 A 1709         JMP     T0S1    GO MOVE SOME MORE               00 01621
004140 004120 R
004141 006017 A 1710 T011    LDAE*   MVSW    GET SOURCE WORD                 00 01622
004142 104204 R
004143 004250 A 1711         LRLA    8       SHIFT LEFT 8 BITS               00 01623
004144 001000 A 1712         JMP     T003                                    00 01624
004145 004106 R
004146 005344 A 1713 T1S0    DXR             BYTE COUNT MINUS 1              00 01625
004147 006017 A 1714         LDAE*   MVSW    GET SOURCE WORD                 00 01626
004150 104204 R
004151 004350 A 1715         LSRA    8       SHIFT RIGHT 8 BITS              00 01627
004152 054030 A 1716         STA     MSAVE   SAVE MODIFIED SOURCE            00 01628
004153 006017 A 1717         LDAE*   MVTW    GET TARGET WORD                 00 01629
004154 104205 R
004155 150462 A 1718         ANA     LHW     LEFT BYTE                       00 01630
004156 114024 A 1719         ORA     MSAVE   OR TOGETHER                     00 01631
004157 001000 A 1720         JMP     T013    GO TO T0S1 ROUTINE              00 01632
004160 004132 R
004161 005344 A 1721 T1S1    DXR             BYTE COUNT MINUS 1              00 01633
004162 006017 A 1722         LDAE*   MVSW    GET SOURCE WORD                 00 01634
004163 104204 R
004164 150463 A 1723         ANA     RHW     RIGHT BYTE                      00 01635
004165 054015 A 1724         STA     MSAVE   SAVE MODIFIED SOURCE            00 01636
004166 006017 A 1725         LDAE*   MVTW    GET TARGET WORD                 00 01637
004167 104205 R
004170 150462 A 1726         ANA     LHW     LEFT BYTE                       00 01638
004171 114011 A 1727         ORA     MSAVE   OR TOGETHER                     00 01639
004172 001000 A 1728         JMP     T004    GO TO T0S0 ROUTINE              00 01640
004173 004074 R
004174 006017 A 1729 MRTN    LDAE    MOVE                                    00 01641
004175 004042 R
004176 120465 A 1730         ADD     FIVE                                    00 01642
004177 006057 A 1731         STAE    MOVE                                    00 01643
004200 004042 R
004201 001000 A 1732         JMP*    MOVE    RETURN                          00 01644
004202 104042 R
004203         1733 MSAVE    BSS     1                                       00 01645
004204         1734 MVSW     BSS     1                                       00 01646
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004205           1735 MVTW   BSS     1                                                    00 01647
                 1736        EJEC                                                         00 01648
                 1737 ********************************************************************** 00 01649
                 1738 *                                                                    00 01650
                 1739 *  BTOA - BINARY TO ASCII CONVERSION ROUTINE                         00 01651
                 1740 *                                                                    00 01652
                 1741 *      BTOA CONVERTS A BINARY WORD TO ITS                            00 01653
                 1742 *      5-CHARACTER ASCII DECIMAL EQUIVALENT                          00 01654
                 1743 *                                                                    00 01655
                 1744 *      CALLING SEQUENCE   CALL BTOA,BINARYWORD                       00 01656
                 1745 *                                                                    00 01657
                 1746 *      EXIT CONDITIONS   B REG CONTAINS ADDRESS OF THE               00 01658
                 1747 *                        LEFT-ADJUSTED ASCII NUMBER                  00 01659
                 1748 *                                                                    00 01660
                 1749 *      CALLED BY   SINI, SRT1, MERG                                  00 01661
                 1750 *                                                                    00 01662
                 1751 ********************************************************************** 00 01663
004206 000000 A  1752 BTOA   ENTR                                                         00 01664
004207 006027 A  1753        LDBE*   BTOA       GET BINARY WORD IN B REG                   00 01665
004210 104206 R
004211 005001 A  1754        TZA                PUT 0 IN A REG                             00 01666
004212 170471 A  1755        DIV     TEN          DIVIDE BY 10                             00 01667
004213 114037 A  1756        ORA     R260         INSERT ASCII ZONE                        00 01668
004214 004250 A  1757        LRLA    8              SHIFT LEFT 8 BITS                      00 01669
004215 054034 A  1758        STA     RSLT+2                                                00 01670
004216 005001 A  1759        TZA                PUT 0 IN A REG                             00 01671
004217 170471 A  1760        DIV     TEN                                                   00 01672
004220 114032 A  1761        ORA     R260                                                  00 01673
004221 054027 A  1762        STA     RSLT+1                                                00 01674
004222 005001 A  1763        TZA                                                           00 01675
004223 170471 A  1764        DIV     TEN                                                   00 01676
004224 114026 A  1765        ORA     R260                                                  00 01677
004225 004250 A  1766        LRLA    8                                                     00 01678
004226 114022 A  1767        ORA     RSLT+1                                                00 01679
004227 054021 A  1768        STA     RSLT+1                                                00 01680
004230 005001 A  1769        TZA                                                           00 01681
004231 170471 A  1770        DIV     TEN                                                   00 01682
004232 114020 A  1771        ORA     R260                                                  00 01683
004233 054014 A  1772        STA     RSLT                                                  00 01684
004234 005001 A  1773        TZA                                                           00 01685
004235 170471 A  1774        DIV     TEN                                                   00 01686
004236 114014 A  1775        ORA     R260                                                  00 01687
004237 004250 A  1776        LRLA    8                                                     00 01688
004240 114007 A  1777        ORA     RSLT                                                  00 01689
004241 054006 A  1778        STA     RSLT                                                  00 01690
004242 006020 A  1779        LDBI    RSLT                                                  00 01691
004243 004250 R
004244 006047 A  1780        INRE    BTOA                                                  00 01692
004245 004206 R
004246 001000 A  1781        JMP*    BTOA                                                  00 01693
004247 104206 R
004250 000000 A  1782 RSLT   DATA    0,0,0                                                 00 01694
004251 000000 A
004252 000000 A
004253 000260 A  1783 R260   DATA    0260                                                  00 01695
                 1784 ********************************************************************** 00 01696
                 1785 *                                                                    00 01697
                 1786 * XIT1 - DUMMY USER INEXIT ROUTINE                                  00 01698
                 1787 *                                                                    00 01699
                 1788 *      CALLING SEQUENCE:  CALL XIT1,INBUFFER,OUTBUFFER,FLAG          00 01700
                 1789 *                         WHERE  INBUFFER IS THE ADDRESS OF THE INPUT REC 00 01701
                 1790 *                                OUTBUFFER IS THE ADDRESS OF THE BUFFER TO 00 01702
                 1791 *                                WHICH AN INSERTED RECORD MUST BE MOVED BY XIT1 00 01703
                 1792 *                                FLAG IS SET BY SORT BEFORE CALLING XIT1:  00 01704
                 1793 *                                    -1 IF INPUT EOF JUST OCCURED          00 01705
                 1794 *                                    +1 OTHERWISE                          00 01706
                 1795 *                                FLAG IS SET BY XIT1                       00 01707
                 1796 *                                    BIT 0 = 1  ACCEPT INPUT RECORD        00 01708
                 1797 *                                          = 0  DELETE INPUT RECORD        00 01709
                 1798 *                                    BIT 1 = 1  INSERT RECORD IN OUTBUFFER 00 01710
                 1799 *                                               BEFORE INPUT RECORD AND    00 01711
                 1800 *                                               CALL XIT1 AGAIN WITH SAME  00 01712
                 1801 *                                               INPUT RECORD               00 01713
                 1802 *                                          = 0  IGNORE RECORD IN OUTBUFFER 00 01714
                 1803 *                                                                          00 01715
                 1804 *      THIS DUMMY USER INEXIT ROUTINE DOES THE FOLLOWING:                  00 01716
                 1805 *        1.  IF NO USER INEXIT ROUTINE IS LOADED WITH SORT,                00 01717
                 1806 *            THEN THE DUMMY SATISFIES THE EXTERNAL REFERENCE.              00 01718
                 1807 *        2.  IF INEXIT=YES IS SPECIFIED ON A CONTROL STATEMENT,            00 01719
                 1808 *            BUT NO USER INEXIT ROUTINE IS LOADED WITH SORT,               00 01720
                 1809 *            THEN THE DUMMY IS ACTUALLY CALLED FOR EACH INPUT              00 01721
                 1810 *            RECORD.  BY DEFAULT, THE DUMMY ACCEPTS EACH INPUT.            00 01722
                 1811 *                                                                          00 01723
                 1812 *      CALLED BY SRT1 FOR EVERY INPUT RECORD IF INEXIT=YES AND             00 01724
                 1813 *      NO OTHER XIT1 IS IN FRONT OF IT IN THE SAME LOAD MODULE.            00 01725
                 1814 *                                                                          00 01726
                 1815 ********************************************************************** 00 01727
004254 000000 A  1816 XIT1   ENTR                                                         00 01728
004255 006017 A  1817        LDAE    XIT1                                                 00 01729
004256 004254 R
004257 120464 A  1818        ADD     THREE                                                00 01730
004260 006057 A  1819        STAE    XIT1                                                 00 01731
004261 004254 R
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004262 001000 A 1820          JMP*     XIT1                                    00 01732
004263 104254 R
       000000 R 1821          END      SORT                                    00 01733
ENTRY NAMES
004206 R BTOA    003350 R CLR5    003452 R COMP    002615 R CTLS
003146 R IFCA    003147 R IFCB    003204 R IFCLS   003160 R IFRD
003377 R LU5     003402 R LU5B    004042 R MOVE    003216 R OFCA
003217 R OFCB    003254 R OFCLS   002756 R S1CA    002757 R S1CB
003014 R S1CLS   003026 R S2CA    003027 R S2CB    003064 R S2CLS
003076 R S3CA    003077 R S3CB    002473 R SRTC    002543 R TLFC
003365 R WRT5    004254 R XIT1    002720 R XSF1    002731 R XSF2
002742 R XSF3
EXTERNAL NAMES
000001 E SINI    000003 E SRT1    000000 E V$EXEC 000000 E V$IOC
000000 E V$IOST 001475 E XIT2
SYMBOLS
000001 A ACCP    000002 A B       000441 A BR0     000442 A BR1
000460 A BR15    000444 A BR3     000450 A BR7     000451 A BR8
000440 A BS15    000424 A BS3     000426 A BS5     000427 A BS6
000430 A BS7     004206 R BTOA    003530 R C001    003502 R C002
003532 R C003    003602 R C011    003547 R C012    003501 R COS0
003762 R COS0A   003546 R COS1    003776 R COS1A   003641 R C101
003610 R C102    003720 R C111    003662 R C112    003607 R C1S0
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003471 R CJP2    000045 A CKE1    000046 A CKE2    000047 A CKE3
000044 A CKEY    003350 R CLR5    000017 A CMBF    003452 R COMP
003740 R CRTE    003743 R CRTG    003746 R CRTL    003751 R CRTN
003761 R CSAVE   000043 A CTLC    000050 A CTLF    000040 A CTLI
000041 A CTLP    002615 R CTLS    002607 R CTPS    001776 R CWC
000217 A DCB5    000222 A DILU    000003 A DLTD    000221 A DSI
000424 A EIGHT   002675 R FALS    002700 R FAOS    002672 R FASS
003266 R FCB1    003300 R FCB2    003312 R FCB3    003324 R FCBI
003336 R FCBO    000465 A FIVE    001762 R FMOM    001772 R FMOM1
000423 A FOUR    000220 A FSIO    000011 A FSOB    000223 A FSOI
003146 R IFCA    003147 R IFCB    003204 R IFCLS   003160 R IFRD
000015 A INBF    000000 A INPT    000005 A INRL    000002 A INST
000037 A IPRC    000042 A LCNT    000004 A LGH     000462 A LHW
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001666 R MC5     001661 R MC6     001655 R MC7     001652 R MC8
001563 R MCMP    002042 R MER1    002065 R MER2    002070 R MER3
002040 R MER6    000011 R MERG    000024 A MFLH    000036 R MG0
000054 R MG1     000302 R MG10    000207 R MG11A   000203 R MG11B
000304 R MG12    000322 R MG14    000346 R MG15    000331 R MG16
000335 R MG17    000232 R MG2     000225 R MG3     000065 R MG4
000113 R MG5     000267 R MG6     000142 R MG7A    000134 R MG7B
000140 R MG7C    000271 R MG8     000156 R MG9     000527 R MGM2
000554 R MGM3    000507 R MGN0    000571 R MGN1    000602 R MGN2
000632 R MGN3    000633 R MGN4    000502 R MGND    000634 R MGS1
000662 R MGS2    001725 R MIER    002033 R MMEF    002030 R MMEG
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001035 R MR12    001210 R MR13    001047 R MR14    001042 R MR16
001056 R MR17    001065 R MR18    001066 R MR19    001120 R MR2
000354 R MR20    001146 R MR21    001016 R MR22    001230 R MR23
001231 R MR24    001250 R MR25    001240 R MR26    001241 R MR27
001312 R MR28    001262 R MR29    001135 R MR2A    000733 R MR3
001263 R MR30    001323 R MR31    001317 R MR32    001423 R MR33
001003 R MR34    001010 R MR35    001450 R MR36    001161 R MR4
000737 R MR5     000421 R MR50    000446 R MR51    000754 R MR6
000743 R MR7     000760 R MR8     001326 R MR9     001344 R MR9A
001346 R MR9B    001360 R MR9C    002167 R MRER    002154 R MRER7
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000020 A SBCC    000010 A SBLK    002302 R SCM1    002264 R SCM2
002276 R SCM3    002314 R SCM4    002365 R SCM5    002404 R SCM6
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000175 A SLPT    000031 A SNDI    000023 A SNUM    000176 A SOPT
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002470 R ST04    000035 A STM1    000036 A STM2    000033 A STOI
000002 A SW      000260 A SWCH    000025 A SWK1    000026 A SWK2
000027 A SWK3    004104 R T001    004106 R T003    004074 R T004
004141 R T011    004132 R T013    004066 R T0S0    004120 R T0S1
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000000 E V$IOST  003365 R WRT5    000001 A X       004254 R XIT1
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000420 A ZERO
  0 ERRORS ASSEMBLY COMPLETE
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                277   278   280   286   287   290   294   302   304
                307   314   315   317   320   322   324   326   329
                331   334   337   339   342   344   346   348   352
                355   359   363   365   367   369   371   372   374
                375   380   381   382   385   386   396   397   398
                400   401   402   409   416   422   483   486   489
                492   505   523   525   526   529   531   534   537
                542   545   553   556   558   560   563   566   568
                570   571   573   576   578   580   582   587   589
                591   593   596   598   600   611   612   614   620
                621   633   639   640   652   654   657   659   682
                683   690   691   694   703   715   717   722   726
                728   740   743   824   825   828   830   833   835
                837   839   877   879   895   903   954   980   994
                997  1000  1012  1065  1068  1071  1073  1075  1077
               1079  1081  1083  1085  1087  1089  1091  1093  1096
               1098  1100  1102  1104  1106  1109  1111  1113  1115
               1117  1120  1123  1125  1127  1129  1133  1134  1137
               1140  1143  1145  1147  1149  1151  1153  1155  1157
               1159  1161  1163  1165  1168  1171  1173  1174  1176
               1178  1181  1183  1185  1186  1188  1190  1192  1194
               1195  1197  1198  1201  1202  1203  1205  1207  1210
               1212  1670  1672  1674  1676  1677
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 145  BR1       319   328   581   752   788
 146  BR3       185
 147  BR7       394
 148  BR8       190
 143  BS15      692
 139  BS3       796
 141  BS6       298
 142  BS7       584   602
1752  BTDA      151   437   446   459  1753  1780  1781
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1501  C002     1514
1516  C003     1545
1543  C011     1526
1525  C012     1542
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1619  C0S0A    1496
1524  C0S1     1628
1625  C0S1A    1497
1563  C101     1548
1547  C102     1562
1595  C111     1576
1575  C112     1594
1546  C1S0     1633
1630  C1S0A    1498
1574  C1S1     1640
1637  C1S1A    1499
1495  CJP1     1494
1496  CJP2     1493  1495
1439  CLR5      440  1232  1443
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1606  CRTE     1488  1511  1521  1540  1560  1571  1593  1603
1608  CRTG     1508  1522  1537  1557  1572  1590  1604  1624  1635
               1644
1610  CRTL     1509  1523  1538  1558  1573  1591  1605  1623  1636
               1643
1612  CRTN     1607  1609  1611
1617  CSAVE    1517  1520  1566  1570  1583  1588  1598  1602
   73 CTLC      709   734
   72 CTLI      707   713   728
1098  CTLS     1283  1292  1293  1294  1295  1296  1297
1292  CTPS     1291
 922  CWC       896   901   902   909   915
  41  DLTB      197   775   782
  99  DSI       875   885
 135  EIGHT     455
1316  FALS     1319
1317  FAOS     1320
1318  FASS     1318
1434  FCB1     1375  1378  1381  1384
1435  FCB2     1387  1390  1393  1396
1436  FCB3     1399  1402  1405  1408
1437  FCBI      189   191  1327  1411  1414  1417  1420
1438  FCBO      779   786   894   993  1423  1426  1429  1432
 132  FIVE      711   736  1730
 914  FMOM      430   918
 919  FMOM1     916
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  48   FSOB      305    513    724
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1411   IFCB     1228   1330
1419   IFCLS     188    432   1230
1413   IFRD      880    881   1231
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1484   LGH      1487   1500   1504   1510   1524   1528   1539   1546   1550
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1002   LSAVE     995    999
1447   LU5      1232   1325   1445
1448   LU5B      441    467   1232   1441   1442   1442   1447
 942   MA1       941
 943   MA2       939    951   1007
 946   MA3       965
 963   MAEF      943    943
 950   MAER      943    943
1250   MBFC     1271
 108   MBUF      759    778
 315   MC1       844
 841   MC3       827    829    832    834    836    838    840    843    847
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 847   MC4       845
 856   MC5       846
 853   MC6       848    858
 851   MC7       855
 849   MC8       818    857
 811   MCMP      494    850    851    852    854
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 961   MER2      958
 962   MER3      949    957    961
 955   MER6      886   1013
 180   MERG      156    469
   0   MERGE       1
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 207   MG1       201    427
 328   MG10      285
 281   MG11A     283
 276   MG11B     270
 330   MG12      275    284
 341   MG14      335
 357   MG15      350
 347   MG16      361
 350   MG17      345
 293   MG2       210
 289   MG3       212
 213   MG4       292    296    311    318
 233   MG5       383    387    390
 319   MG6       236
 253   MG7A      252    255    261
 247   MG7B      241
 252   MG7C      262    389
 321   MG8       246    256
 260   MG9       327    388
 439   MGM2      438
 448   MGM3      447
 431   MGN0      920
 454   MGN1      466
 461   MGN2      454    456    460
 470   MGN3      451    462    463
 471   MGN4      453    465
 428   MGND      208    407    773
 472   MGS1      439    441
 473   MGS2      448    461    467
 884   MIER      881    881    881    881
 948   MMEG      626   1008
 893   MOMT      874
 907   MOMT1     904
 900   MOMTA     897
 905   MOMTX     910
1668   MOVE      151    439    441    448    461    467    511    664    731
                 957   1442   1729   1731   1732
 733   MPAD      698    704
 562   MR1       484
 610   MR11      521    666
 534   MR12      532
 623   MR13      533    625
 542   MR14      535
 538   MR16      546
 547   MR17      541    543
 552   MR18      549
 553   MR19      551
 575   MR2       487
 362   MR20      554
 595   MR21      564
 522   MR22      622    776    795
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639   MR27      643
678   MR28      645
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586   MR2A      579
488   MR3       575   594
652   MR30      650
685   MR31      680
682   MR32      686
734   MR33      688
513   MR34      756
517   MR35      515
750   MR36      732
605   MR4       490   497
491   MR5       574
391   MR50      323   332   349   356   378   604   701   744   746
408   MR51      405
498   MR6       493
494   MR7       496
502   MR8       609
687   MR9       503   684
698   MR9A      693
700   MR9B      705
707   MR9C      696
1009  MRER      1004  1004
1006  MRER7     1004  1004
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511   MRM1      506   508
664   MRM2      653   660
731   MRM3      716   718   720   723   729   730
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1004  MRO2      986   1001  1006  1009
998   MRO3      984
977   MROB      617   790   907   1005
935   MRRA      253   281   623   945   946   947   964
871   MRRI      749   878   882   883   898   905   906   917
1729  MRTN      1671  1687  1698  1707
1733  MSAVE     1693  1696  1716  1719  1724  1727
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                1722
1735  MVTW      1673  1686  1689  1694  1697  1706  1708  1717  1725
63    NCTL      813   822
94    OCAE      308   520
796   OEOF      406
777   OEX1      772
784   OEX2      774
790   OEX3      780   781   783
1422  OFCA      1227
1423  OFCB      1228  1329
1431  OFCLS     919   959   1230
128   ONE       555   565   592
44    OTRL      719
757   OXIT      754   793   794
758   OXTO      799
766   OXT1      758   760   762   767
1783  R260      1756  1761  1765  1771  1775
119   RA0       187   405   908
120   RA1       406   430   554   616   754   874
1274  RBLK      1273
138   RHW       1695  1723
1782  RSLT      1758  1762  1767  1768  1772  1777  1778  1779
1374  S1CA      181   1227
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1383  S1CLS     1230
1386  S2CA      182   1227
1387  S2CB      1228  1344
1395  S2CLS     1230
1398  S3CA      1227
1399  S3CB      1228  1345
91    SALP      257   605   636   642   647   651   679   685
92    SAOP      303   619   658   721
90    SASP      285   498   638   649   681
1483  SB        1491  1677
46    SBLK      661
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1095  SCM2      1069  1070
1119  SCM3      1107
1131  SCM4      1121
1167  SCM5      1138
1180  SCM6      1141  1142
1210  SCM7      1206
1212  SCM8      1208
1207  SCM9      1211
1214  SCMA      1169
1062  SCMP      218   1209  1213
1193  SCMT      1094  1118  1130  1135  1166  1179
81    SCPT      819
1216  SE04      1214
134   SEVEN     955   1614
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87	SFAS	279	831							
96	SFFC	234	263	501	528	548	557	608	627	937
0	SINI	152	154							
133	SIX	821								
45	SLGH	509								
85	SLPT	203	204	214	215	229	233	237	289	312
		321	333	341	347	351	362	370	384	399
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		1139	1148	1156	1162	1175	1189	1193		
86	SOPT	202	205	213	217	221	293	392	408	421
		610	979	1072	1078	1086	1092	1097	1103	1108
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153	SORT	1821								
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84	SSPT	216	218	225	260	266	299	330	336	343
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		562	597	632	1064	1074	1082	1088	1095	1099
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		1187	1196							
1217	ST04	1216								
1482	SW	1506	1512	1515	1529	1530	1531	1543	1555	1561
		1564	1579	1580	1581	1595	1620	1625	1632	1634
		1638	1674							
106	SWCH	184	186	297	300	377	393	395	404	429
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		797	873	987						
62	SWK3	814	815	817	820					
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1692	T003	1712								
1686	T004	1728								
1710	T011	1700								
1706	T013	1720								
1682	TOS0	1690								
1699	TOS1	1681	1709							
1713	T1S0	1679								
1721	T1S1	1680								
1481	TB	1489	1676							
136	TEN	938	1755	1760	1764	1770	1774			
130	THREE	452	768	1318						
1275	TLFC	1233	1267							
67	TSEQ	199	207	309	376	403	538	540	1199	
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		1641	1672							
129	TWO	316	325	338	757					
1622	TWSIN	1629								
1444	WRT5	442	468	1232	1446					
112	X	184	186	195	196	197	199	202	203	204
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		225	229	233	234	237	250	257	260	263
		266	279	285	289	291	293	295	297	299
		300	301	303	305	308	309	312	321	330
		333	336	341	343	347	351	353	362	366
		370	373	376	377	379	384	392	393	395
		399	403	404	408	415	421	429	434	435
		444	457	482	485	488	491	498	499	500
		501	502	504	507	509	513	514	516	518
		519	520	522	524	528	538	540	547	548
		550	552	557	562	567	583	585	590	595
		597	599	601	603	605	606	607	608	610
		613	615	619	627	628	630	632	635	636
		638	642	644	646	647	649	651	656	658
		661	678	679	681	685	687	689	699	707
		709	713	719	721	724	727	734	738	741
		751	753	755	759	761	763	765	770	771
		775	777	778	782	784	785	787	789	792
		797	813	814	815	817	819	820	822	826
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		991	1064	1067	1072	1074	1076	1078	1080	1084
		1086	1088	1090	1092	1095	1097	1099	1101	1103
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		1182	1187	1189	1191	1193	1196	1199	1200	1204
		1487	1489	1491	1500	1504	1505	1506	1510	1512
		1513	1515	1518	1524	1528	1529	1530	1531	1535
		1539	1541	1543	1546	1550	1551	1552	1553	1555
		1559	1561	1563	1564	1567	1574	1578	1579	1580
		1581	1584	1585	1586	1592	1595	1599	1612	1619
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		1641								

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1816   XIT1     151   1817   1819   1820
   0   XIT2     152    766
1343   XSF1    1229   1261   1311
1344   XSF2    1229   1312
1345   XSF3    1229   1310
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                    1          TITLE   SORT                                                                  00 00001
                    2 ********************************************************************************     00 00002
                    3 *                                                                                    00 00003
                    4 * VORTEX OPERATING SYSTEM SORT UTILITY - PART 2                                       00 00004
                    5 *                                                                                    00 00005
                    6 ********************************************************************************     00 00006
                    7 *                                                                                    00 00007
                    8 *  NO LITERALS OR INDIRECT POINTERS MAY BE GENERATED                                 00 00008
                    9 *                                                                                    00 00009
                   10 *  SORT MUST BE ASSEMBLED IN TWO PARTS                                               00 00010
                   11 *  BECAUSE OF USER EXIT EXTERNAL REFERENCES                                          00 00011
                   12 *                                                                                    00 00012
                   13 ********************************************************************************     00 00013
                   14 * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *      00 00014
                   15 * THE FOLLOWING EQUATES REPRESENT DISPLACEMENTS IN THE SORT CONTROL *                00 00015
                   16 * TABLE. FUNCTIONS OF THE VARIOUS CELLS ARE COMMENTED IN THE SORT   *                00 00016
                   17 * TABLE GENERATION CODE. INDEX FOR THE TABLE IS SYMBOL SRTC         *                00 00017
                   18 * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *      00 00018
000000 A           19 INPT    EQU      0                                                                   00 00019
000001 A           20 ACCP    EQU      1                                                                   00 00020
000002 A           21 INST    EQU      2                                                                   00 00021
000003 A           22 DLTD    EQU      3                                                                   00 00022
000004 A           23 DRCT    EQU      4                                                                   00 00023
000005 A           24 INRL    EQU      5                                                                   00 00024
000006 A           25 DTRL    EQU      6                                                                   00 00025
000007 A           26 SLGH    EQU      7                                                                   00 00026
000010 A           27 SBLK    EQU      8                                                                   00 00027
000010 A           28 MBLH    EQU      8                                                                   00 00028
000011 A           29 FSDB    EQU      9                                                                   00 00029
000012 A           30 SOUT    EQU      10                                                                  00 00030
000013 A           31 SPCT    EQU      11                                                                  00 00031
000014 A           32 SPWT    EQU      12                                                                  00 00032
000015 A           33 INBF    EQU      13                                                                  00 00033
000016 A           34 OUBF    EQU      14                                                                  00 00034
000017 A           35 CMBF    EQU      15                                                                  00 00035
000020 A           36 SBEG    EQU      16                                                                  00 00036
000021 A           37 SEND    EQU      17                                                                  00 00037
000022 A           38 SCUR    EQU      18                                                                  00 00038
000023 A           39 SNUM    EQU      19                                                                  00 00039
000024 A           40 MFLH    EQU      20                                                                  00 00040
000025 A           41 SWK1    EQU      21                                                                  00 00041
000026 A           42 SWK2    EQU      22                                                                  00 00042
000027 A           43 SWK3    EQU      23                                                                  00 00043
000030 A           44 NCTL    EQU      24                                                                  00 00044
000031 A           45 SND1    EQU      25                                                                  00 00045
000032 A           46 SFPT    EQU      26                                                                  00 00046
000033 A           47 STOT    EQU      27                                                                  00 00047
000033 A           48 TSEQ    EQU      27                                                                  00 00048
000034 A           49 SFIB    EQU      28                                                                  00 00049
000035 A           50 STM1    EQU      29                                                                  00 00050
000036 A           51 STM2    EQU      30                                                                  00 00051
000037 A           52 IPRC    EQU      31                                                                  00 00052
000040 A           53 CTLI    EQU      32                                                                  00 00053
000041 A           54 CTLP    EQU      33                                                                  00 00054
000042 A           55 LCNT    EQU      34                                                                  00 00055
000043 A           56 CTLC    EQU      35                                                                  00 00056
000044 A           57 CKEY    EQU      36                                                                  00 00057
000045 A           58 CKE1    EQU      37                                                                  00 00058
000046 A           59 CKE2    EQU      38                                                                  00 00059
000047 A           60 CKE3    EQU      39                                                                  00 00060
000050 A           61 CTLF    EQU      40                                                                  00 00061
000113 A           62 SCPT    EQU      75                                                                  00 00062
000114 A           63 SCTP    EQU      76                                                                  00 00063
000122 A           64 SCTL    EQU      82                                                                  00 00064
000174 A           65 SSPT    EQU      124                                                                 00 00065
000175 A           66 SLPT    EQU      125                                                                 00 00066
000176 A           67 SOPT    EQU      126                                                                 00 00067
000177 A           68 SFAS    EQU      127                                                                 00 00068
000202 A           69 SFAL    EQU      130                                                                 00 00069
000205 A           70 SFAD    EQU      133                                                                 00 00070
000210 A           71 SASP    EQU      136                                                                 00 00071
000211 A           72 SALP    EQU      137                                                                 00 00072
000212 A           73 SAOP    EQU      138                                                                 00 00073
000213 A           74 DCAB    EQU      139                                                                 00 00074
000214 A           75 DCAE    EQU      140                                                                 00 00075
000215 A           76 SFAC    EQU      141                                                                 00 00076
000216 A           77 SFFC    EQU      142                                                                 00 00077
000217 A           78 DCB5    EQU      143                                                                 00 00078
000220 A           79 FSIO    EQU      144                                                                 00 00079
000221 A           80 DSI     EQU      145                                                                 00 00080
000222 A           81 D1LU    EQU      146                                                                 00 00081
000223 A           82 FSOI    EQU      147                                                                 00 00082
000224 A           83 SIOI    EQU      148                                                                 00 00083
000225 A           84 S1IO    EQU      149                                                                 00 00084
000236 A           85 S2IO    EQU      158                                                                 00 00085
000247 A           86 S3IO    EQU      167                                                                 00 00086
000260 A           87 SWCH    EQU      176                                                                 00 00087
000261 A           88 LPSW    EQU      177                                                                 00 00088
000262 A           89 MBUF    EQU      178                                                                 00 00089
                   90 * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *      00 00090
                   91 * END OF SORT CONTROL TABLE DISPLACEMENT EQUATES  *                                  00 00091
                   92 * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *      00 00092
000001 A           93 X       EQU      1                                                                   00 00093
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000002 A    94 B       EQU     2                                                                    00 00094
000002 A    95 SI      EQU     2                                                                    00 00095
000005 A    96 LO      EQU     5                                                                    00 00096
            97 ********************************************************************************   00 00097
            98 *                                                                                    00 00098
            99 ****     BIT TEST BIT DESIGNATION                                            ****    00 00099
           100 *                                                                                    00 00100
           101 ********************************************************************************   00 00101
000040 A   102 RA0     EQU     040          BT JUMPS WHEN A REGISTER IS 0                          00 00102
000000 A   103 RA1     EQU     000          BT JUMPS WHEN A REGISTER IS 1                          00 00103
000060 A   104 RB0     EQU     060          BT JUMPS WHEN B REGISTER IS 0                          00 00104
000020 A   105 RB1     EQU     020          BT JUMPS WHEN B REGISTER IS 1                          00 00105
           106 ********************************************************************************   00 00106
           107 *                                                                                    00 00107
           108 ****     MASK TABLE DESCRIPTION                                              ****    00 00108
           109 *                                                                                    00 00109
           110 ********************************************************************************   00 00110
000420 A   111 MT      SET     0420                                                                 00 00111
000420 A   112 ZERO    EQU     MT           ZERO WORD                                               00 00112
000423 A   113 BS2     EQU     MT+3            BIT MASK CONTENTS 000004                             00 00113
000424 A   114 BS3     EQU     MT+4                              000010  BIT SET  3                 00 00114
000425 A   115 BS4     EQU     MT+5                              000020                             00 00115
000431 A   116 BS8     EQU     MT+9                              000400                             00 00116
000435 A   117 BS12    EQU     MT+13                             010000                             00 00117
000440 A   118 BS15    EQU     MT+16                           0100000  BIT SET 15                  00 00118
000441 A   119 BR0     EQU     MT+17        BIT MASK CONTENTS  0177776                             00 00119
000445 A   120 BR4     EQU     MT+21                           0177757                             00 00120
000455 A   121 BR12    EQU     MT+29                           0167777                             00 00121
000460 A   122 BR15    EQU     MT+32                             0077777  BIT RESET 15             00 00122
000461 A   123 NEG     EQU     MT+33                         0177777  ALL ONES                     00 00123
000421 A   124 ONE     EQU     MT+1         CONTAINS NUMBER  1                                     00 00124
000422 A   125 TWO     EQU     MT+2         CONTAINS NUMBER  2                                     00 00125
000464 A   126 THREE   EQU     MT+36        CONTAINS NUMBER  3                                     00 00126
000423 A   127 FOUR    EQU     MT+3         CONTAINS NUMBER  4                                     00 00127
000465 A   128 FIVE    EQU     MT+37        CONTAINS NUMBER  5                                     00 00128
000466 A   129 SIX     EQU     MT+38        CONTAINS NUMBER  6                                     00 00129
000467 A   130 SEVEN   EQU     MT+39        CONTAINS NUMBER  7                                     00 00130
000424 A   131 EIGHT   EQU     MT+4         CONTAINS NUMBER  8                                     00 00131
000471 A   132 TEN     EQU     MT+41        CONTAINS NUMBER 10                                     00 00132
           133         NAME    XIT2,SRT1,SINI                                                     00 00133
           134         EXT     SRTC,COMP,MOVE,BTOA,XIT1                                           00 00134
           135         EXT     IFCA,OFCA,S1CA,S2CA,S3CA                                           00 00135
           136         EXT     IFCB,OFCB,S1CB,S2CB,S3CB                                           00 00136
           137         EXT     XSF1,XSF2                                                          00 00137
           138         EXT     S1CLS,S2CLS                                                        00 00138
           139         EXT     IFRD                                                               00 00139
           140         EXT     CLR5,LU5,LU5B                                                      00 00140
           141         EXT     TLFC,CTLS                                                          00 00141
           142         EXT     GOFCB                                                         E.1  ********
           143         EXT     SIFCB                                                         E.1  ********
           144         EXT     WRT5                                                          F    ********
           145 ********************************************************************************   00 00142
           146 *                                                                                    00 00143
           147 * XIT2 - DUMMY USER OUTEXIT ROUTINE                                                 00 00144
           148 *                                                                                    00 00145
           149 *       CALLING SEQUENCE:  CALL XIT2,INBUFFER,OUTBUFFER,FLAG                         00 00146
           150 *       WHERE INBUFFER IS THE ADDRESS OF THE BUFFER TO                               00 00147
           151 *             WHICH AN INSERTED RECORD MUST BE MOVED BY XIT2                         00 00148
           152 *             OUTBUFFER IS THE ADDRESS OF THE SORTED OUTPUT                          00 00149
           153 *             RECORD                                                                 00 00150
           154 *             FLAG IS SET BY SORT BEFORE CALLING XIT2:                               00 00151
           155 *                  -1 IF OUTPUT EOF JUST OCCURRED                                    00 00152
           156 *                  +2 OTHERWISE                                                      00 00153
           157 *             FLAG IS SET BY XIT2                                                    00 00154
           158 *                  BIT 0 = 1  INSERT RECORD IN INBUFFER                              00 00155
           159 *                             BEFORE OUTPUT RECORD AND                               00 00156
           160 *                             CALL XIT2 AGAIN WITH SAME                              00 00157
           161 *                             OUTPUT RECORD                                          00 00158
           162 *                        = 0  IGNORE RECORD IN INBUFFER                              00 00159
           163 *                  BIT 1 = 1  ACCEPT OUTPUT RECORD                                   00 00160
           164 *                        = 0  DELETE OUTPUT RECORD                                   00 00161
           165 *                                                                                    00 00162
           166 *       THIS DUMMY USER OUTEXIT ROUTINE, LIKE THE DUMMY INEXIT,                      00 00163
           167 *         1.  SATISFIES THE EXTERNAL REFERENCE                                       00 00164
           168 *         2.  ACCEPTS ALL OUTPUT RECORDS IF OUTEXIT=YES AND NO                       00 00165
           169 *             OTHER XIT2 IS LOADED WITH SORT                                         00 00166
           170 *                                                                                    00 00167
           171 *       CALL BY MERG FOR EVERY SORTED OUTPUT RECORD BEFORE IT IS                     00 00168
           172 *       WRITTEN TO THE FINAL OUTPUT FILE, IF OUTEXIT=YES AND                         00 00169
           173 *       NO OTHER XIT2 IS IN FRONT OF IT IN THE SAME LOAD MODULE.                     00 00170
           174 *                                                                                    00 00171
           175 ********************************************************************************   00 00172
000000 000000 A   176 XIT2    ENTR                                                                 00 00173
000001 006017 A   177         LDAE    XIT2                                                         00 00174
000002 000000 R
000003 120464 A   178         ADD     THREE                                                        00 00175
000004 006057 A   179         STAE    XIT2                                                         00 00176
000005 000000 R
000006 001000 A   180         JMP*    XIT2                                                         00 00177
000007 100000 R
           181         EJEC                                                                       00 00178
           182 ********************************************************************************   00 00179
           183 *                                                                                    00 00180
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                    184 *  MERGE PHASE WORK AREAS START HERE                                    00 00181
                    185 *                                                                       00 00182
                    186 ***************************************************************       00 00183
                    187 ***************************************************************       00 00184
                    188 *                                                                       00 00185
                    189 * SORT PHASE ROUTINES                                                   00 00186
                    190 *                                                                       00 00187
                    191 * SRT1 - SORT PHASE PRIMARY CONTROL                                     00 00188
                    192 *                                                                       00 00189
                    193 ***************************************************************       00 00190
000010 000000 A     194 SRT1    ENTR                                                            00 00191
000011 002000 A     195         CALL    SRIO,0          GET NEXT INPUT RECORD                   00 00192
000012 001056 R
000013 000000 A
000014 006017 A     196         LDAE    *-1             PUT RETURN CODE IN THE A REGISTER       00 00193
000015 000013 R
000016 006030 A.    197         LDXI    SRTC            GET SORT CONTROL TABLE                  00 00194
000017 000000 E
000020 001010 A     198         JAZ     SR1             A REG 0 MEANS INPUT RECORD AVAILABLE    00 00195
000021 000027 R
000022 001002 A     199         JAP     EOF             A REG POSITIVE MEANS END OF FILE ON INPUT 00 00196
000023 000146 R
000024 015221 A     200         LDA     DSI,X           GET PTR TO SORT INPUT FCB               00 00197
000025 001000 A     201         JMP     ERR6            A REG NEGATIVE MEANS ERROR ON READ      00 00198
000026 000744 R
000027 045000 A     202 SR1     INR     INPT,X           ADD 1 TO INPUT RECORD COUNT            00 00199
000030 015260 A     203 SR2     LDA     SWCH,X           GET SWITCH IN A REG                    00 00200
000031 150441 A     204         ANA     BR0              TURN OFF ACCEPT INPUT SWITCH           00 00201
000032 055260 A     205         STA     SWCH,X           SAVE IT                                00 00202
000033 006402 A     206         BT      02,USER          GO TO USER RTN IF INPUT EXIT SWITCH ON 00 00203
000034 000064 R
000035 045001 A     207         INR     ACCP,X           ADD 1 TO ACCEPTED INPUT RECORD COUNT   00 00204
000036 025015 A     208         LDB     INBF,X           GET IN-BUFFER ADDRESS                  00 00205
000037 065017 A     209         STB     CMBF,X           MAKE IT THE CURRENT RECORD POINTER     00 00206
000040 015021 A     210 SR3     LDA     SEND,X          GET END OF SORT AREA ADDRESS            00 00207
000041 145022 A     211         SUB     SCUR,X          MINUS NEXT AVAILABLE RECORD LOCATION    00 00208
000042 001002 A     212         JAP     SR3A                                                    00 00209
000043 000050 R
000044 002004 A     213         JANM    SFBO            GO DETERMINE FILE FOR WRITING           00 00210
000045 001001 R
000046 002000 A     214         JMPM    SSEQ            JUMP MINUS TO WRITE OUT THE COMPLETED SEQUENCE00 00211
000047 001114 R
000050 002000 A     215 SR3A    JMPM    SMOV            GO MOVE THE RECORD TO THE SORT AREA     00 00212
000051 000573 R
000052 015022 A     216         LDA     SCUR,X          GET SORT AREA CURRENT PTR               00 00213
000053 125024 A     217         ADD     MFLH,X          INCREMENT BY INTERMEDIATE SORT RECORD SIZE 00 00214
000054 055022 A     218         STA     SCUR,X           SAVE IT                                00 00215
000055 015260 A     219         LDA     SWCH,X           GET SWITCH IN A REG                    00 00216
000056 006403 A     220         BT      03,USER          IF INPUT EOF SW IS ON, CK FOR INSERTS  00 00217
000057 000064 R
000060 006400 A     221         BT      00,SR2           IF ACCEPT INPUT SWITCH IS ON GO CHECK EXIT 00 00218
000061 000030 R
000062 001000 A     222         JMP     SRT1+1           GO GET NEXT SORT INPUT RECORD          00 00219
000063 000011 R
000064 005101 A     223 USER    INCR    1                SET OPTION CODE                        00 00220
000065 054010 A     224         STA     USR1+4           DEFAULT TO 1 - ACCEPT INPUT            00 00221
000066 015015 A     225         LDA     INBF,X           GET SORT IN AREA PTR                   00 00222
000067 054004 A     226         STA     USR1+2          STORE IN CALL                           00 00223
000070 015016 A     227         LDA     OUBF,X           GET SORT IN OUTPUT BUFFER PTR          00 00224
000071 054003 A     228         STA     USR1+3                                                  00 00225
000072 002000 A     229 USR1    CALL    XIT1,0,0,0      CALL USER INPUT EXIT ROUTINE            00 00226
000073 000000 E
000074 000000 A
000075 000000 A
000076 000000 A
000077 006017 A     230         LDAE    USR1+4                                                  00 00227
000100 000076 R
000101 150464 A     231         ANA     THREE           SELECT BITS 0 AND 1 OF RETURN CODE      00 00228
000102 006057 A     232         STAE    USR1+4                                                  00 00229
000103 000076 R
000104 006030 A     233         LDXI    SRTC            PUT SORT TABLE AREA BACK IN INDEX       00 00230
000105 000017 E
000106 015260 A     234         LDA     SWCH,X          PUT SWITCH IN A REG                     00 00231
000107 006150 A     235         ANAI    0177774    P-1  TURN OFF ACCEPT INPUT/OUTPUT SWITCHES  00 00232
000110 177774 A
000111 006117 A     236         DRAE    USR1+4          SET EXIT RETURN CODE SWITCHES           00 00233
000112 000076 R
000113 055260 A     237         STA     SWCH,X          SAVE THE SWITCH                         00 00234
000114 006401 A     238         BT      01,UEX1         JUMP IF OUTPUT ACCEPTED (REC INSERTED)  00 00235
000115 000125 R
000116 006403 A     239         BT      03,SRDT         JUMP IF END OF FILE HAS BEEN REACHED    00 00236
000117 000162 R
000120 006400 A     240         BT      00,UEX2         JUMP IF INPUT RECORD ACCEPTED           00 00237
000121 000137 R
000122 045003 A     241         INR     DLTD,X          ADD 1 TO DELETED RECORD COUNT           00 00238
000123 001000 A     242         JMP     SRT1+1          GO GET NEXT INPUT RECORD                00 00239
000124 000011 R
000125 045002 A     243 UEX1    INR     INST,X          ADD 1 TO INSERTED RECORD COUNT          00 00240
000126 025016 A     244         LDB     OUBF,X          GET OUTPUT BUFFER ADDRESSS PTR          00 00241
000127 065017 A     245         STB     CMBF,X          MAKE IT THE CURRENT BUFFER ADDRESS PTR  00 00242
000130 006403 A     246         BT      03,SR3          IF EOF SWITCH IS ON-GO PUT RECORD IN SORT ARE00 00243
000131 000040 R
000132 006400 A     247         BT      00,SR3          IF INPUT ACCEPTED GO PUT OUT REC IN SORT AREA00 00244
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000133 000040 R
000134 043003 A   248          INR     DLTD,X    OTHERWISE, ADD 1 TO DELETED RECORD COUNT      00 00245
000135 001000 A   249          JMP     SR3       AND GO PUT OUT REC IN SORT AREA               00 00246
000136 000040 R
000137 043001 A   250 UEX2     INR     ACCP,X    ADD 1 TO ACCEPTED INPUT RECORD COUNT          00 00247
000140 025015 A   251          LDB     INBF,X    GET INPUT BUFFER ADDRESS POINTER              00 00248
000141 065017 A   252          STB     CMBF,X    MAKE IT CURRENT BUFFER ADDRESS PTR            00 00249
000142 150441 A   253          ANA     BR0       TURN OFF ACCEPT INPUT SWITCH                  00 00250
000143 055260 A   254          STA     SWCH,X    SAVE THE SWITCH                               00 00251
000144 001000 A   255          JMP     SR3       GO PUT THE INPUT RECORD INTO THE SORT AREA    00 00252
000145 000040 R
000146 006030 A   256 EOF      LDXI    SRTC      GET SORT TABLE AREA                           00 00253
000147 000105 E
000150 015260 A   257          LDA     SWCH,X    GET SWITCH                                    00 00254
000151 006402 A   258          BT      02,*+4    IF NO USER INEXIT GO END SORT PHASE           00 00255
000152 000155 R
000153 001000 A   259          JMP     SROT                                                    00 00256
000154 000162 R
000155 110424 A   260          ORA     BS3       TURN ON EOF SWITCH                            00 00257
000156 055260 A   261          STA     SWCH,X                                                  00 00258
000157 005001 A   262          TZA               INDICATE EOF TO USER BY ZERO OPTION CODE      00 00259
000160 001000 A   263          JMP     USER+1    GO TO USER ROUTINE                            00 00260
000161 000065 R
                  264 * SROT - SORT PHASE ROUTINE FOR EOF ON SORT INPUT                         00 00261
000162 006030 A   265 SROT     LDXI    SRTC      GET SORT CONTROL TABLE                        00 00262
000163 000147 E
000164 015022 A   266          LDA     SCUR,X    GET CURRENT SORT AREA PTR                     00 00263
000165 145020 A   267          SUB     SBEG,X    IS SORT AREA EMPTY                            00 00264
000166 001010 A   268          JAZ     EOF1      YES, NO PADDING NECESSARY                     00 00265
000167 000256 R
000170 015127 A   269          LDA     SCTL+5,X  GET SEQUENCE OF FIRST CONTROL FIELD           00 00266
000171 005302 A   270          DECR    2           INITIALIZE FOR HIGH VALUES                  E.1********
000172 064052 A   271          STB     SPAD                                                    00 00268
000173 001010 A   272          JAZ     EOF2A     GO INSERT PADDING                             00 00270
000174 000200 R
000175 005002 A   273          TZB               INITIALIZE FOR LOW VALUES                   F  ********
000176 064046 A   274          STB     SPAD                                                    00 00272
000177 020420 A   275          LDB     =FRO                                                    00 00273
000200 015031 A   276 EOF2A    LDA     SND1,X                                                  00 00274
000201 054044 A   277          STA     EOFF      SAVE END OF SORT AREA                         00 00275
000202 006010 A   278          LDAI    SRTC                                                    00 00276
000203 000163 E
000204 006120 A   279          ADDI    SCUR                                                    00 00277
000205 000022 A
000206 005014 A   280          TAX                                                             00 00278
000207 035000 A   281          LDX     0,X                                                     00 00279
000210 005041 A   282 EOF2     TXA               GET CURRENT SORT AREA PTR                     00 00280
000211 144034 A   283          SUB     EOFF      IS IT AT END OF SORT AREA                     00 00281
000212 001010 A   284          JAZ     EOF5      YES - DONE                                    00 00282
000213 000220 R
000214 065000 A   285          STB     0,X       STORE PAD VALUE                               00 00283
000215 005144 A   286          IXR                                                             00 00284
000216 001000 A   287          JMP     EOF2      CONTINUE INSERTING PADDING                    00 00285
000217 000210 R
000220 006030 A   288 EOF5     LDXI    SRTC                                                    00 00286
000221 000203 E
000222 015024 A   289          LDA     MFLH,X                                                  00 00287
000223 054023 A   290          STA     EOFR      SAVE MERGE RECORD LENGTH                      00 00289
000224 006010 A   291          LDAI    SRTC                                                    00 00289
000225 000221 E
000226 006120 A   292          ADDI    SCUR                                                    00 00290
000227 000022 A
000230 005014 A   293          TAX                                                             00 00291
000231 035000 A   294          LDX     0,X                                                     00 00292
000232 024012 A   295          LDB     SPAD      GET FIRST PAD WORD = 077777 OR 0100000        00 00293
000233 005041 A   296 EOF6     TXA               GET CURRENT SORT AREA PTR                     00 00294
000234 144011 A   297          SUB     EOFF      IS IT AT END OF SORT AREA                     00 00295
000235 001010 A   298          JAZ     EOF3      YES - DONE                                    00 00296
000236 000250 R
000237 065000 A   299          STB     0,X       STORE PAD VALUE                               00 00297
000240 005041 A   300          TXA                                                             00 00298
000241 124005 A   301          ADD     EOFR      BUMP TO NEXT MERGE REC                        00 00299
000242 005014 A   302          TAX                                                             00 00300
000243 001001 A   303          JMP     EOF6      LOOP                                          00 00301
000244 000233 R
000245 000000 A   304 SPAD     DATA    0                                                       00 00302
000246 000000 A   305 EOFF     DATA    0                                                       00 00303
000247 000000 A   306 EOFR     DATA    0                                                       00 00304
000250 002000 A   307 EOF3     JMPM    =FB0      DETERMINE SORT FILE FOR SEQUENCE              00 00305
000251 001001 R
000252 002000 A   308          JMPM    =SEQ        SORT AND WRITE LAST SEQUENCE              E.1********
000253 001114 R
000254 006030 A   309          LDXI    SRTC                                                    00 00306
000255 000223 E
000256 015020 A   310 EOF1     LDA     SBEG,X      PREPARE TO PAD ENTIRE BUFFER              E.1********
000257 055022 A   311          STA     SCUR,X                                                E.1********
000260 006020 A   312          LDBI    =SF1                                                  E.1********
000261 000000 E
000262 016001 A   313          LDA     1,B         SEQUENCES ON THE SHORT FILE               E.1********
000263 006020 A   314          LDBI    =SF2          PLUS                                    F  ********
000264 000000 E
000265 126001 A   315          ADD     1,B         SEQUENCES ON THE LONG FILE                F  ********
000266 145004 A   316          SUB     SFIB,X      MINUS SEQUENCES REQUIRED                  F  ********
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000267 001016 A  317        JANZ    SROT+6      ADD MORE SEQUENCES IF REQUIRED          E.1********
000270 000170 R
000271 015022 A  318        LDA     SCUR,X                                                00 00307
000272 005311 A  319        DAR                                                           00 00308
000273 055021 A  320        STA     SEND,X      RESET END OF SORT AREA                    00 00309
000274 025031 A  321        LDB     SND1,X                                                00 00310
000275 065022 A  322        STB     SCUR,X      RESET PTR TO SORT EXCHANGE AREA           00 00311
000276 015260 A  323        LDA     SWCH,X        GET SWITCH                              E.1********
000277 006110 A  324        ORAI    040         TURN ON END OF SORT PHASE SWITCH          00 00315
000300 000040 A
000301 055260 A  325        STA     SWCH,X        SAVE SWITCH                             00 00316
000302 006010 A  326        LDAI    XSF1                                                  00 00317
000303 000261 E
000304 055032 A  327        STA     SFPT,X                                                00 00318
000305 002000 A  328        CALL    SWRI,0      CHECK STATUS OF LAST SORTFILE1 WRITE      00 00319
000306 000671 R
000307 000000 A
000310 006030 A  329        LDXI    SRTC                                                  00 00320
000311 000255 E
000312 006010 A  330        LDAI    XSF2                                                  00 00321
000313 000264 E
000314 055032 A  331        STA     SFPT,X                                                00 00322
000315 002000 A  332        CALL    SWRI,0      CHECK STATUS OF LAST SORTFILE2 WRITE      00 00323
000316 000671 R
000317 000000 A
000320 002000 A  333        CALL    S1CLS       CLOSE SORTFILE1                           00 00324
000321 000000 E
000322 002000 A  334        CALL    S2CLS       CLOSE SORTFILE2                           00 00325
000323 000000 E
000324 006030 A  335        LDXI    SRTC                                                  00 00326
000325 000311 E
000326 015036 A  336        LDA     STM2,X      GET TERM-2 OF FIBONACCI SEQUENCE          00 00327
000327 001010 A  337        JAZ     EOF9        JUMP IF ONLY ONE SEQUENCE                 00 00328
000330 000342 R
000331 006020 A  338        LDBI    XSF1                                                  00 00329
000332 000303 E
000333 146001 A  339        SUB     1,B       MINUS THE SEQUENCES ON SF1                  00 00330
000334 056002 A  340        STA     2,B         STORE NUMBER OF DUMMIES FOR SF1           00 00331
000335 015035 A  341        LDA     STM1,X      GET  TERM-1                               00 00332
000336 006020 A  342        LDBI    XSF2                                                  00 00333
000337 000313 E
000340 146001 A  343        SUB     1,B         MINUS THE SEQUENCES ON SF2                00 00334
000341 056002 A  344        STA     2,B         STORE NUMBER OF DUMMIES FOR SF2           00 00335
000342 006020 A  345 EOF9   LDBI    XSF1                                                  00 00336
000343 000332 E
000344 016001 A  346        LDA     1,B                                                   00 00337
000345 056004 A  347        STA     4,B         SF1 SHORT FILE SEQ COUNT = SEQ COUNT      00 00338
000346 006020 A  348        LDBI    XSF2                                                  00 00339
000347 000337 E
000350 016001 A  349        LDA     1,B                                                   00 00340
000351 056003 A  350        STA     3,B                                                   00 00341
000352 025023 A  351        LDB     SNUM,X                                                00 00342
000353 005001 A  352        TZA                                                           00 00343
000354 175014 A  353        DIV     SPNT,X                                                00 00344
000355 005021 A  354        TBA                                                           00 00345
000356 006020 A  355        LDBI    XSF1                                                  00 00346
000357 000343 E
000360 056006 A  356        STA     6,B         SF1 BLKS/SHORT SEQ = BLKS/SORTAREA        00 00347
000361 006020 A  357        LDBI    XSF2                                                  00 00348
000362 000347 E
000363 056005 A  358        STA     5,B                                                   00 00349
000364 015001 A  359        LDA     ACCP,X      GET ACCEPTED RECORD COUNT                 00 00350
000365 125002 A  360        ADD     INST,X      PLUS INSERTED RECORD COUNT                00 00351
000366 055012 A  361        STA     SOUT,X      SAVE FOR MERGE TOTALS                     00 00352
000367 054002 A  362        STA     *+3         SAVE AS PARAMETER                         00 00353
000370 002000 A  363        CALL    BTOA,0      CONVERT TO ASCII                          00 00354
000371 000000 E
000372 000000 A
000373 064004 A  364        STB     EOM1+4      SAVE AS SOURCE WORD                       00 00355
000374 002000 A  365 EOM1   CALL    MOVE,MSG1+22,0,0,0,5  MOVE COUNT TO MESSAGE           00 00356
000375 000000 E
000376 000531 R
000377 000000 A
000400 000000 A
000401 000000 A
000402 000005 A
000403 002000 A  366        CALL    CLR5        CLEAR THE LIST OUTPUT BUFFER              00 00357
000404 000000 E
000405 002000 A  367        CALL    MOVE,LU5B,0,MSG1,0,50  MOVE MSG1 TO BUFFER            00 00358
000406 000375 E
000407 000000 E
000410 000000 A
000411 000503 R
000412 000000 A
000413 000062 A
                 368        WRITE   LU5,5,0,1   WRITE MESSAGE 1                         00 00359
000414 006505 A
000415 000404 A
000416 100000 A
000417 810403 A
000420 000000 E
000421 000000 A
000422 000000 A
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000423 006010 A   369          LDAI    SRTC                                          00 00360
000424 000325 E
000425 006120 A   370          ADDI    INPT                                          00 00361
000426 000000 A
000427 005014 A   371          TAX                 GET PTR TO FIRST TOTAL            00 00362
000430 054050 A   372          STA     EOS1                                          00 00363
000431 120423 A   373          ADD     FOUR        4 TOTALS                          00 00364
000432 054047 A   374          STA     EOS5                                          00 00365
000433 014012 A   375 EOF4     LDA     EOM3+2                                        00 00366
000434 120424 A   376          ADD     EIGHT       BUMP MOVE TGT TO NEXT TOTAL       00 00367
000435 054010 A   377          STA     EOM3+2                                        00 00368
000436 015000 A   378          LDA     0,X         GET BINARY TOTAL                  00 00369
000437 054002 A   379          STA     *+3                                           00 00370
000440 002000 A   380          CALL    BTOA,0      CONVERT TO ASCII                  00 00371
000441 000371 E
000442 000000 A
000443 064004 A   381          STB     EOM3+4                                        00 00372
000444 002000 A   382 EOM3     CALL    MOVE,MSG2-4,0,0,0,5  MOVE TO MSG2             00 00373
000445 000406 E
000446 000530 R
000447 000000 A
000450 000000 A
000451 000000 A
000452 000005 A
000453 044025 A   383          INR     EOS1        BUMP PTR TO TOTAL                 00 00374
000454 034024 A   384          LDX     EOS1                                          00 00375
000455 005041 A   385          TXA                                                   00 00376
000456 144023 A   386          SUB     EOS5                                          00 00377
000457 001004 A   387          JAN     EOF4        IF NOT DONE - GO MOVE NEXT TOTAL  00 00378
000460 000433 R
000461 002000 A   388          CALL    MOVE,LU5B,0,MSG2,0,62  MOVE MSG2 TO BUFFER    00 00379
000462 000445 E
000463 000407 E
000464 000000 A
000465 000534 R
000466 000000 A
000467 000076 A
               389          WRITE   LU5,5,0,1   WRITE MESSAGE 2                     00 00380
000470 006505 A
000471 000404 A
000472 100000 A
000473 010405 A
000474 000420 E
000475 000000 A
000476 000000 A
000477 001000 A   390          JMP*    SRT1        RETURN                            00 00381
000500 100010 R
000501 000000 A   391 EOS1     DATA    0                                             00 00382
000502 000000 A   392 EOS5     DATA    0                                             00 00383
000503 120240 A   393 MSG1     DATA    '  SORT PHASE COMPLETE, TOTAL MERGE RECORDS= XXXXX '  00 00384
000504 151717 A
000505 151324 A
000506 120320 A
000507 144301 A
000510 151705 A
000511 120303 A
000512 147715 A
000513 150314 A
000514 142724 A
000515 142654 A
000516 120324 A
000517 147724 A
000520 140714 A
000521 120315 A
000522 142722 A
000523 143705 A
000524 120322 A
000525 142703 A
000526 147722 A
000527 142323 A
000530 136640 A
000531 154330 A
000532 154330 A
000533 154240 A
000534 120240 A   394 MSG2     DATA    '  INPUT=XXXXX  ACCEPTED=XXXXX '              00 00385
000535 144716 A
000536 150325 A
000537 152275 A
000540 154330 A
000541 154330 A
000542 154240 A
000543 120301 A
000544 141703 A
000545 142720 A
000546 152305 A
000547 142275 A
000550 154330 A
000551 154330 A
000552 154240 A
000553 120311 A   395          DATA    ' INSERTED=XXXXX  DELETED= XXXXX '           00 00386
000554 147323 A
000555 142702 A
000556 152305 A
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000557 142275 A
000560 154330 A
000561 154330 A
000562 154240 A
000563 120304 A
000564 142714 A
000565 142724 A
000566 142704 A
000567 136640 A
000570 154330 A
000571 154330 A
000572 154240 A
                396          EJEC                                                                  00 00387
                397 ********************************************************************************** 00 00388
                398 *                                                                                00 00389
                399 * SMOV - SORT PHASE ROUTINE TO BUILD WORK RECORD IN SORT AREA                    00 00390
                400 *                                                                                00 00391
                401 *       SMOV BUILDS THE FOLLOWING WORK RECORD FROM THE INPUT RECORD:            00 00392
                402 *           CONCATENATED SORT CONTROL FIELDS FOLLOWED BY                       00 00393
                403 *           INPUT RELATIVE REC NO (TAG SORT)  OR ENTIRE INPUT RECORD           00 00394
                404 *                                                                              00 00395
                405 *       CALLING SEQUENCE:   CALL SMOV                                          00 00396
                406 *       CALLED BY:          SRT1                                               00 00397
                407 *       CALLS:              MOVE                                               00 00398
                408 *                                                                              00 00399
                409 ********************************************************************************** 00 00400
000573 000000 A 410 SMOV    ENTR                                                                   00 00401
000574 006030 A 411         LDXI    SRTC        GET SORT TABLE AREA                                00 00402
000575 000424 E
000576 015043 A 412         LDA     CTLC,X      GET NUMBER OF CONTROL FIELDS                       00 00403
000577 055042 A 413         STA     LCNT,X      STORE IN LOOP CONTROL COUNTER                      00 00404
000600 015040 A 414         LDA     CTLI,X      GET PTR TO CONTROL FIELD TABLE                     00 00405
000601 055041 A 415         STA     CTLP,X      STORE AS CONTROL FIELD TABLE PTR                   00 00406
000602 015044 A 416         LDA     CKEY,X                                                         00 00407
000603 055045 A 417         STA     CKE1,X                                                         00 00408
000604 006015 A 418 SM01    LDAE*   CTLP,X    GET TARGET WD DISPLACEMENT                         00 00409
000605 100041 A
000606 125022 A 419         ADD     SCUR,X      PLUS CURRENT SORT AREA PTR                         00 00410
000607 054025 A 420         STA     MP1+2       STORE IN MOVE PARAMETER                            00 00411
000610 045041 A 421         INR     CTLP,X      INCR CONTROL WORD PTR BY 1                         00 00412
000611 006015 A 422         LDAE*   CTLP,X    GET TARGET BYTE DISPLACEMENT                       00 00413
000612 100041 A
000613 054022 A 423         STA     MP1+3       STORE IN MOVE PARAMETER                            00 00414
000614 045041 A 424         INR     CTLP,X      INCR CONTROL WORD PTR BY 1                         00 00415
000615 006015 A 425         LDAE*   CTLP,X    GET SOURCE WORD DISPLACEMENT                       00 00416
000616 100041 A
000617 006125 A 426         ADDE*   CKE1,X    PLUS START OF SOURCE REC OR REL BLK                00 00417
000620 100045 A
000621 054013 A 427         STA     MP1+4       STORE IN MOVE PARAMETER                            00 00418
000622 045041 A 428         INR     CTLP,X      INCR CONTROL WORD PTR BY 1                         00 00419
000623 006015 A 429         LDAE*   CTLP,X    GET SOURCE BYTE DISPLACEMENT                       00 00420
000624 100041 A
000625 054012 A 430         STA     MP1+5       STORE IN MOVE PARAMETER                            00 00421
000626 045041 A 431         INR     CTLP,X                                                         00 00422
000627 006015 A 432         LDAE*   CTLP,X    GET NUMBER OF BYTES                                00 00423
000630 100041 A
000631 054007 A 433         STA     MP1+6       STORE IN MOVE PARAMETER                            00 00424
000632 045041 A 434         INR     CTLP,X      INCR CONTROL WORD PTR                              00 00425
000633 002000 A 435 MP1     CALL    MOVE,1,2,3,4,5    MOVE A CONTROL FIELD                         00 00426
000634 000462 E
000635 000001 A
000636 000002 A
000637 000003 A
000640 000004 A
000641 000005 A
000642 006030 A 436         LDXI    SRTC        GET SORT TABLE AREA                                00 00427
000643 000575 E
000644 015042 A 437         LDA     LCNT,X      GET CONTROL FIELD COUNT                            00 00428
000645 001010 A 438         JAZ     SM02        THATS ALL                                          00 00429
000646 000667 R
000647 005311 A 439         DAR               MINUS 1                                            00 00430
000650 055042 A 440         STA     LCNT,X      SAVE IT                                            00 00431
000651 001016 A 441         JANZ    SM01        GO PROCESS NEXT CONTROL FIELD                      00 00432
000652 000604 R
000653 015260 A 442         LDA     SWCH,X      GET SWITCH                                         00 00433
000654 006404 A 443         BT      04,KEYW     ITS A KEYWORD SORT                                 00 00434
000655 000660 R
000656 001000 A 444         JMP     SM01        GET RECORD                                         00 00435
000657 000604 R
000660 006010 A 445 KEYW    LDAI    SRTC          GET SORT TABLE POINTER                           00 00436
000661 000643 E
000662 006120 A 446         ADDI    CKE2          ADD DISPL. TO REL RCD PNTR                       00 00437
000663 000046 A
000664 055045 A 447         STA     CKE1,X      STORE IN SOURCE PTR CELL                           00 00438
000665 001000 A 448         JMP     SM01        MOVE REL REC NUMBER                                00 00439
000666 000604 R
000667 001000 A 449 SM02    RETU*   SMOV      RETURN TO CALLING PROG                               00 00440
000670 100573 R
                450          EJEC                                                                  00 00441
                451 ********************************************************************************** 00 00442
                452 *                                                                                00 00443
                453 * SWRI - SORT PHASE SEQUENCE WRITE ROUTINE                                       00 00444
                454 *                                                                                00 00445
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                    455 *       SWRI CHECKS THE STATUS OF THE CURRENT OUTPUT FILE                    00 00446
                    456 *       AND IF IT IS ERROR, EOF OR EOD, ABORTS THE JOB                       00 00447
                    457 *       IF THE END-OF-SORT-PHASE SWITCH IS OFF,                              00 00448
                    458 *       SWRI WRITES THE CURRENT OUTPUT FILE FROM THE SPECIFIED BUFFER        00 00449
                    459 *                                                                            00 00450
                    460 *       CALLING SEQUENCE:  CALL SWRI,OUTPUTBUFFERADDRESS                     00 00451
                    461 *       CALLED BY:         SRT1,SSEQ                                         00 00452
                    462 *       CALLS:             MOVE, SRTC I/O ROUTINES                           00 00453
                    463 ********************************************************************************00 00454
000671 000000 A     464 SWRI    ENTR                                                                 00 00455
000672 006030 A     465         LDXI    SRTC         GET SORT CONTROL TABLE                          00 00456
000673 000661 E
000674 006015 A     466         LDAE*   SFPT,X       GET CURRENT OUTPUT FILE PTR                     00 00457
000675 100032 A
000676 006120 A     467         ADDI    20                                                           00 00458
000677 000024 A
000700 005012 A     468         TAB                                                                  00 00459
000701 054002 A     469         STA     *+3          STORE IN STAT MACRO                             00 00460
                    470         STAT    0,SWER,SWER7,SWER7,SWER                                      00 00461
000702 006505 A
000703 000373 A
000704 000000 A
000705 000735 R
000706 000732 R
000707 000732 R
000710 000735 R
000711 006000 A     471         LDXI    SRTC                                                         00 00462
000712 000673 E
000713 015260 A     472         LDA     SWCH,X                                                       00 00463
000714 006405 A     473         BT      05,SWRT          IF END OF SORT PHASE  RETURN                00 00464
000715 000726 R
000716 006017 A     474         LDAE*   SWRI        GET OUTPUT BUFFER ADDRESS                        00 00465
000717 100671 R
000720 036004 A     475         LDX     4,B          GET THE FCB ADDRESS                             00 00466
000721 055001 A     476         STA     1,X          STORE BUFFER ADDRESS IN FCB                     00 00467
000722 005322 A     477         DAP                                                                  00 00468
000723 064001 A     478         STD     *+2          STORE IN JUMP                                   00 00469
000724 002000 A     479         JMPM    0            ISSUE THE WRITE                                 00 00470
000725 000000 A
000726 006047 A     480 SWRT    INRE    SWRI         COMPUTE RETURN                                  00 00471
000727 000671 R
000730 001000 A     481         JMP*    SWRI         RETURN                                          00 00472
000731 100671 R
000732 006010 A     482 SWER7   LDAI    '07'                                                         00 00473
000733 130267 A
000734 054037 A     483         STA     ERR06+2      CHANGE ERR MSG TO ST07 FOR WRITE PAST EOF       00 00474
000735 006000 A     484 SWER    LDXI    SRTC                                                         00 00475
000736 000712 E
000737 006013 A     485         LDAE*   SFPT,X       GET PTR TO I/O MACROS                           00 00476
000740 100032 A
000741 120423 A     486         ADD     FOUR                                                         00 00477
000742 005012 A     487         TAB                                                                  00 00478
000743 016000 A     488         LDA     0,B          GET PTR TO FCB                                  00 00479
                    489 *       WITH PTR TO FCB IN A REG                                             00 00480
000744 120467 A     490 ERR6    ADD     SEVEN                                                        00 00481
000745 054004 A     491         STA     ERRMV+4      STORE AS SOURCE                                 00 00482
000746 002000 A     492 ERRMV   CALL    MOVE,ERR06+4,0,0,0,6  MOVE FILENAME TO ERROR MSG             00 00483
000747 000634 E
000750 000776 R
000751 000000 A
000752 000000 A
000753 000000 A
000754 000006 A
                    493         WRITE   ERRMSG,5,0,1 WRITE ERROR MSG                                 00 00484
000755 006505 A
000756 000404 A
000757 100000 A
000760 010405 A
000761 000767 R
000762 000000 A
000763 000000 A
                    494         EXIT                 END THE SORT                                    00 00485
000764 006505 A
000765 000405 A
000766 000200 A
                    495 ERRMSG  DCB     7,ERR06,0                                                    00 00486
000767 000007 A
000770 000772 R
000771 000000 A
000772 120240 A     496 ERR06   DATA    '  ST06,      '                                              00 00487
000773 151721 A
000774 130266 A
000775 126240 A
000776 120240 A
000777 120240 A
001000 120240 A
                    497         EJEC                                                                 00 00488
                    498 ********************************************************************************00 00489
                    499 *                                                                            00 00490
                    500 * SFB0 - SORT PHASE SEQUENCE COMPUTATION ROUTINE                             00 00491
                    501 *                                                                            00 00492
                    502 *       SFB0 COMPUTES WHICH OF THE TWO SORT WORK FILES IS TO BE THE          00 00493
                    503 *       NEXT OUTPUT FILE FOR A SORTED SEQUENCE AND KEEPS A RUNNING           00 00494
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                    504 *       TOTAL OF THE NUMBER OF SEQUENCES                                        00 00495
                    505 *                                                                               00 00496
                    506 *       A FIBONACCI SEQUENCE IS USED TO SELECT THE FILE.                        00 00497
                    507 *       THE SEQUENCE IS INITIALIZED TO                                          00 00498
                    508 *           TERM-2 = 0                                                          00 00499
                    509 *           TERM-1 = 1                                                          00 00500
                    510 *           TERM   = 1                                                          00 00501
                    511 *       WORKFILE1 IS THE FIRST FILE SELECTED.                                   00 00502
                    512 *       TERM IS THE TOTAL COUNT OF SORTED BLOCKS (SEQUENCES)                    00 00503
                    513 *       WRITTEN TO WORKFILES BEFORE THE NEXT TERM IS COMPUTED BY                00 00504
                    514 *           TERM-2 = TERM-1                                                     00 00505
                    515 *           TERM-1 = TERM                                                       00 00506
                    516 *           TERM   = TERM-1 + TERM-2                                            00 00507
                    517 *       TERM-2 IS THE TOTAL COUNT OF SEQUENCES WRITTEN TO WORKFILE1             00 00508
                    518 *       BEFORE WORKFILE2 IS SELECTED.                                           00 00509
                    519 *                                                                               00 00510
                    520 *       CALLING SEQUENCE:  CALL SFB0                                            00 00511
                    521 *       CALLED BY:         SRT1                                                 00 00512
                    522 *                                                                               00 00513
                    523 ************************************************************************       00 00514
001001 000000 A     524 SFB0    ENTR                                                                    00 00515
001002 006030 A     525         LDXI    SRTC        GET SORT CONTROL TABLE                              00 00516
001003 000736 E
001004 015033 A     526         LDA     STOT,X      GET TOTAL NUMBER OF SEQUENCES WRITTEN               00 00517
001005 001010 A     527         JAZ     SFB1        IF 0, INITIALIZE                                    00 00518
001006 001026 R
001007 045033 A     528         INR     STOT,X      INCREMENT TOTAL SEQUENCE COUNT                      00 00519
001010 015033 A     529 SFB3    LDA     STOT,X      GET NEW COUNT                                       00 00520
001011 145034 A     530         SUB     SFIB,X      MINUS FIBONACCI NUMBER                              00 00521
001012 001010 A     531         JAZ     SFB2        IF ZERO OR NEGATIVE                                 00 00522
001013 001036 R
001014 001004 A     532         JAN     SFB2          FIBONACCI NUMBER IS OK                            00 00523
001015 001036 R
001016 015035 A     533         LDA     STM1,X      MOVE TERM -1 TO                                     00 00524
001017 055036 A     534         STA     STM2,X        TERM-2                                            00 00525
001020 015034 A     535         LDA     SFIB,X      MOVE FIBONACCI NUMBER                               00 00526
001021 055035 A     536         STA     STM1,X        TO TERM-1                                         00 00527
001022 125036 A     537         ADD     STM2,X      COMPUTE NEW FIBONACCI                               00 00528
001023 055034 A     538         STA     SFIB,X        NUMBER                                            00 00529
001024 001000 A     539         JMP     SFB3                                                            00 00530
001025 001010 R
001026 005101 A     540 SFB1    INCR    1           MAKE FIBONACCI                                      00 00531
001027 055034 A     541         STA     SFIB,X        NUMBER A 1                                        00 00532
001030 055035 A     542         STA     STM1,X      MAKE TERM-1 A 1                                     00 00533
001031 005001 A     543         TZA                                                                     00 00534
001032 055036 A     544         STA     STM2,X      MAKE TERM-2 A 0                                     00 00535
001033 045033 A     545         INR     STOT,X      ADD 1 TO TOTAL SEQUENCE COUNT                       00 00536
001034 001000 A     546         JMP     SFB4        INITIALIZE TO WRITE SEQ TO SF1                      00 00537
001035 001042 R
001036 015226 A     547 SFB2    LDA     S1ID+1,X    GET SEQUENCE COUNT FOR SF1                          00 00538
001037 145036 A     548         SUB     STM2,X      MINUS TERM-2                                        00 00539
001040 001002 A     549         JAP     SFB5        IF SEQ CNT SF1 GE TERM-2, SET UP WRITE SF2          00 00540
001041 001050 R
001042 006020 A     550 SFB4    LDBI    XSF1        GET PTR FOR SF1                                     00 00541
001043 000357 E
001044 065032 A     551         STB     SFPT,X      MAKE IT NEXT WRITE FILE                             00 00542
001045 046001 A     552         INR     1,B         INCR SEQUENCE COUNT FOR SF1                         00 00543
001046 001000 A     553         JMP*    SFB0          RETURN                                            00 00544
001047 101001 R
001050 006020 A     554 SFB5    LDBI    XSF2        GET PTR FOR SF2                                     00 00545
001051 000362 E
001052 065032 A     555         STB     SFPT,X      MAKE IT NEXT WRITE FILE                             00 00546
001053 046001 A     556         INR     1,B         INCR SEQUENCE COUNT FOR SF2                         00 00547
001054 001000 A     557         JMP*    SFB0        RETURN                                              00 00548
001055 101001 R
                    558         EJEC                                                                    00 00549
                    559 ************************************************************************       00 00550
                    560 *                                                                               00 00551
                    561 * SRI0 - SORT PHASE INPUT FILE READ ROUTINE                                     00 00552
                    562 *                                                                               00 00553
                    563 *       CALLING SEQUENCE:  CALL SRI0,RETURNCODE                                 00 00554
                    564 *           WHERE RETURNCODE = -1 I/O ERROR                                     00 00555
                    565 *                               0 NORMAL RETURN                                 00 00556
                    566 *                              +1 EOF                                           00 00557
                    567 *       CALLED BY:         SRT1                                                 00 00558
                    568 *       CALLS:             SRTC I/O MACROS                                      00 00559
                    569 *                                                                               00 00560
                    570 ************************************************************************       00 00561
001056 000000 A     571 SRI0    ENTR                                                                    00 00562
001057 002000 A     572         CALL    IFRD        READ SORT INPUT                                     00 00563
001060 000000 E
001061 006010 A     573         LDAI    IFRD                                                            00 00564
001062 001060 E
001063 005111 A     574         IAR                                                                     00 00565
001064 054002 A     575         STA     *+3                                                             00 00566
                    576         STAT    0,SRI2,SRI3,SRI3,SRI2                                           00 00567
001065 006505 A
001066 000373 A
001067 000000 A
001070 001106 R
001071 001111 R
001072 001111 R
001073 001106 R
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001074 006030 A  577          LDXI    SRTC                                                    00 00568
001075 001003 E
001076 045047 A  578          INR     CKE3,X      INCREMENT INPUT RECORD NUMBER               00 00569
001077 005001 A  579          TZA                 NORMAL RETURNCODE = 0                       00 00570
001100 006057 A  580 SRI1     STAE*   SRI0                                                    00 00571
001101 101056 R
001102 006047 A  581          INRE    SRI0                                                    00 00572
001103 001056 R
001104 001000 A  582          JMP*    SRI0        RETURN                                      00 00573
001105 101056 R
001106 005301 A  583 SRI2     DECR    1           ERROR RETURNCODE = -1                       00 00574
001107 001000 A  584          JMP     SRI1                                                    00 00575
001110 001100 R
001111 005101 A  585 SRI3     INCR    1           EOF RETURNCODE = +1                         00 00576
001112 001000 A  586          JMP     SRI1                                                    00 00577
001113 001100 R
                 587          EJEC                                                            00 00578
                 588 ********************************************************************    00 00579
                 589 *                                                                       00 00580
                 590 * SSEQ - SORT PHASE SEQUENCE SORT ROUTINE                               00 00581
                 591 *                                                                       00 00582
                 592 *      SSEQ PUTS THE RECORDS IN THE SORT WORK AREA IN ORDER            00 00583
                 593 *      AND WRITES THE SORTED SEQUENCE (ONE OR MORE BLOCKS)             00 00584
                 594 *                                                                       00 00585
                 595 *      SSEQ IS A STRAIGHT SELECTION SORT - SEARCH FOR LOWEST RECORD    00 00586
                 596 *      AND EXCHANGE IT WITH THE FIRST RECORD IN THE SORTAREA,          00 00587
                 597 *      REPEAT, SELECTING THE RECORD WITH THE NEXT LOWEST KEY EACH TIME 00 00588
                 598 *      UNTIL THE ENTIRE SORTAREA IS SORTED.                            00 00589
                 599 *      WHEN ONE BLOCK OF RECORDS HAS BEEN SORTED, WRITE IT             00 00590
                 600 *      AND CONTINUE SORTING.                                           00 00591
                 601 *      WHEN ONLY ONE RECORD IS LEFT TO SORT, WRITE THE LAST BLOCK      00 00592
                 602 *      AND RETURN.                                                     00 00593
                 603 *                                                                       00 00594
                 604 *      SSEQ REQUIRES N(N-1)/2 KEY COMPARISONS AND AT MOST N-1          00 00595
                 605 *      RECORD EXCHANGES TO SORT N RECORDS.                             00 00596
                 606 *                                                                       00 00597
                 607 *      CALLING SEQUENCE:  CALL SSEQ                                    00 00598
                 608 *      CALLED BY:         SRT1                                         00 00599
                 609 *      CALLS:             COMP, MOVE, SWRI                             00 00600
                 610 *                                                                       00 00601
                 611 ********************************************************************    00 00602
001114 000000 A  612 SSEQ     ENTR                                                            00 00603
001115 006030 A  613          LDXI    SRTC        GET SORT CONTROL TABLE                      00 00604
001116 001075 E
001117 005001 A  614          TZA                                                             00 00605
001120 055013 A  615          STA     SPCT,X                                                  00 00606
001121 015020 A  616          LDA     SBEG,X      GET START OF SORT AREA                      00 00607
001122 054243 A  617          STA     SSBF        SAVE AS BUFFER PTR                          00 00608
001123 145024 A  618          SUB     MFLH,X      MINUS SORT RECORD LENGTH                    00 00609
001124 055025 A  619          STA     SWK1,X      STORE IN SORT WORK 1                        00 00610
001125 015025 A  620 SS1      LDA     SWK1,X      GET SORT WORK 1                             00 00611
001126 125024 A  621          ADD     MFLH,X                                                  00 00612
001127 055025 A  622          STA     SWK1,X                                                  00 00613
001130 054234 A  623          STA     SSLO        SAVE SORT WORK 1 AS LOW RECORD              00 00614
001131 125024 A  624          ADD     MFLH,X      PLUS SORT RECORD LENGTH                     00 00615
001132 055026 A  625          STA     SWK2,X      STORE IN SORT WORK 2                        00 00616
001133 145021 A  626          SUB     SEND,X      SEE IF SWK2 IS GT SORT END                  00 00617
001134 001002 A  627          JOP     SS10        IF SO, SORT IS COMPLETE                     00 00618
001135 001352 R
001136 015030 A  628 SS2      LDA     NCTL,X      GET NUMBER OF CONTROL FIELDS IN A           00 00619
001137 055027 A  629          STA     SWK3,X      SAVE IN SORT WORK 3                         00 00620
001140 015027 A  630 SS3      LDA     SWK3,X      GET NUMBER OF CONTROL FIELDS                00 00621
001141 005311 A  631          DAR                 MINUS 1                                     00 00622
001142 055027 A  632          STA     SWK3,X        SAVE SORT LOOP CONTROL FIELD CONTROL      00 00623
001143 001004 A  633          JAN     SS6           CONTROL FIELDS EQUAL, CONTINUE            00 00624
001144 001230 R
001145 015113 A  634          LDA     SCPT,X        GET SORT CONTRO FLD TABLE PTR             00 00625
001146 125027 A  635          ADD     SWK3,X        ADD CTL FIELD COUNTER                     00 00626
001147 120466 A  636          ADD     SIX                                                     00 00627
001150 145030 A  637          SUB     NCTL,X                                                  00 00628
001151 005012 A  638          TAB                 PUT PARAM LIST PTR IN B REG                 00 00629
001152 026000 A  639          LDB     0,B                                                     00 00630
001153 016000 A  640          LDA     0,2           GET TARGET WD DISPLACEMENT                00 00631
001154 124210 A  641          ADD     SSLO                                                    00 00632
001155 054017 A  642          STA     SS4+2                                                   00 00633
001156 016001 A  643          LDA     1,B           GET TARGET BYTE DISPLACEMENT              00 00634
001157 054016 A  644          STA     SS4+3                                                   00 00635
001160 016002 A  645          LDA     2,B           GET SOURCE WD DISPLACEMENT                00 00636
001161 125026 A  646          ADD     SWK2,X                                                  00 00637
001162 054014 A  647          STA     SS4+4                                                   00 00638
001163 016003 A  648          LDA     3,B           GET SOURCE BYTE DISPLACEMENT              00 00639
001164 054013 A  649          STA     SS4+5                                                   00 00640
001165 016004 A  650          LDA     4,B           GET NUMBER OF BYTES                       00 00641
001166 054012 A  651          STA     SS4+6                                                   00 00642
001167 016005 A  652          LDA     5,B           GET RESULT INDICATOR                      00 00643
001170 054011 A  653          STA     SS4+7                                                   00 00644
001171 016006 A  654          LDA     6,B                                                     00 00645
001172 054010 A  655          STA     SS4+8                                                   00 00646
001173 002000 A  656 SS4      CALL    COMP,1,2,3,4,5,6,7 COMPARE THE CONTROL FIELDS           00 00647
001174 000000 E
001175 000001 A
001176 000002 A
001177 000003 A
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001200 000004 A
001201 000005 A
001202 000006 A
001203 000007 A
001204 006030 A  657          LDXI    SRTC          GET SORT CONTROL TABLE                          00 00648
001205 001116 E
001206 006017 A  658          LDAE    SS4+8                                                         00 00649
001207 001203 R
001210 001010 A  659          JAZ     SS3           JUMP IF EQUAL                                   00 00650
001211 001140 R
001212 001004 A  660          JAN     SS5           JUMP IF SWK1 LT SWK2                            00 00651
001213 001222 R
001214 006017 A  661          LDAE    SS4+7         SWK1 GT SWK2 - GET SEQUENCE INDICATOR           00 00652
001215 001202 R
001216 001010 A  662          JAZ     SS11          ASCENDING SEQUENCE, EXCHANGE                    00 00653
001217 001240 R
001220 001000 A  663          JMP     SS6           DESCENDING SEQUENCE, OK                         00 00654
001221 001230 R
001222 006017 A  664 SS5      LDAE    SS4+7         SWK1 LT SWK2 - GET SEQUENCE INDICATOR           00 00655
001223 001202 R
001224 001010 A  665          JAZ     SS6           IF ASCENDING SEQUENCE, NO EXCHANGE NECESSARY    00 00656
001225 001230 R
001226 001000 A  666          JMP     SS11            EXCHANGE REQUIRED                           E.1********
001227 001240 R
001230 015026 A  667 SS6      LDA     SWK2,X        GET SWK2 LOCATION                               00 00659
001231 125024 A  668          ADD     MFLH,X        ADD SORT RECORD LENGTH                          00 00660
001232 055026 A  669          STA     SWK2,X                                                        00 00661
001233 145021 A  670          SUB     SEND,X        MINUS END OF SORT AREA                          00 00662
001234 001002 A  671          JAP     SS13            YES, GET READY FOR NEXT PASS                E.1********
001235 001330 R
001236 001000 A  672          JMP     SS2           NO,CHECK FOR WRITE                              00 00664
001237 001136 R
001240 015031 A  673 SS11     LDA     SND1,X          GET RECORD WORK AREA                        E.1********
001241 054011 A  674          STA     SS7+2                                                         00 00669
001242 015025 A  675          LDA     SWK1,X        GET SOURCE RECORD                               00 00670
001243 054011 A  676          STA     SS7+4                                                         00 00671
001244 015007 A  677          LDA     SLGH,X        GET SORT RECORD SIZE                            00 00672
001245 054011 A  678          STA     SS7+6                                                         00 00673
001246 005001 A  679          TZA                                                                   00 00674
001247 054004 A  680          STA     SS7+3                                                         00 00675
001250 054005 A  681          STA     SS7+5                                                         00 00676
001251 002000 A  682 SS7      CALL    MOVE,1,0,3,0,5  MOVE SWK1 REC TO SAVE AREA                    00 00677
001252 000747 E
001253 000001 A
001254 000000 A
001255 000003 A
001256 000000 A
001257 000005 A
001260 006030 A  683          LDXI    SRTC          GET CONTROL TABLE                               00 00678
001261 001205 E
001262 015025 A  684          LDA     SWK1,X        GET TARGET RECORD                               00 00679
001263 054011 A  685          STA     SS8+2                                                         00 00680
001264 015026 A  686          LDA     SWK2,X          GET SOURCE RECORD                           E.1********
001265 054011 A  687          STA     SS8+4                                                         00 00682
001266 015007 A  688          LDA     SLGH,X        GET SORT RECORD LENGTH                          00 00683
001267 054011 A  689          STA     SS8+6                                                         00 00684
001270 005001 A  690          TZA                                                                   00 00685
001271 054004 A  691          STA     SS8+3                                                         00 00686
001272 054005 A  692          STA     SS8+5                                                         00 00687
001273 002000 A  693 SS8      CALL    MOVE,1,0,3,0,5  MOVE SSLO REC TO SWK1 REC AREA                00 00688
001274 001252 E
001275 000001 A
001276 000000 A
001277 000003 A
001300 000000 A
001301 000005 A
001302 006030 A  694          LDXI    SRTC          GET SORT CONTROL TABLE                          00 00689
001303 001261 E
001304 015026 A  695          LDA     SWK2,X          GET TARGET RECORD                           E.1********
001305 054011 A  696          STA     SS9+2                                                         00 00691
001306 015031 A  697          LDA     SND1,X        GET WORK AREA AS SOURCE                         00 00692
001307 054011 A  698          STA     SS9+4                                                         00 00693
001310 015007 A  699          LDA     SLGH,X        GET SORT RECORD LENGTH                          00 00694
001311 054011 A  700          STA     SS9+6                                                         00 00695
001312 005001 A  701          TZA                                                                   00 00696
001313 054004 A  702          STA     SS9+3                                                         00 00697
001314 054005 A  703          STA     SS9+5                                                         00 00698
001315 002000 A  704 SS9      CALL    MOVE,1,0,3,0,5  MOVE SWK1 RECORD TO SSLO RECORD AREA          00 00699
001316 001274 E
001317 000001 A
001320 000000 A
001321 000003 A
001322 000000 A
001323 000005 A
001324 006030 A  705          LDXI    SRTC          GET SORT CONTROL TABLE                          00 00700
001325 001303 E
001326 001000 A  706          JMP     SS6                                                         E.1********
001327 001230 R
001330 045013 A  707 SS13     INR     SPCT,X        INCR SORT PASS COUNT                            00 00701
001331 015013 A  708          LDA     SPCT,X        GET SORT PASS COUNT                             00 00702
001332 145014 A  709          SUB     SPWT,X        MINUS MERGE BLOCKING FACTOR                     00 00703
001333 001016 A  710          JANZ    SS1           IF NOT TIME TO WRITE, MAKE NEXT PASS            00 00704
001334 001125 R
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001335 003001 A  711          TZA                                                                  00 00705
001336 055013 A  712          STA     SPCT,X    ZERO SORT PASS COUNT                               00 00706
001337 014025 A  713          LDA     SSBF      GET BUFFER PTR                                     00 00707
001340 054004 A  714          STA     SS14+2    STORE BUFFER PTR IN CALL                           00 00708
001341 125010 A  715          ADD     SBLK,X                                                       00 00709
001342 054023 A  716          STA     SSBF      SAVE NEXT BUFFER PTR                               00 00710
001343 002000 A  717 SS14     CALL    SWRI,0    WRITE THE MERGE BLOCK                              00 00711
001344 000671 R
001345 000000 A
001346 006030 A  718          LDXI    SRTC                                                         00 00712
001347 001325 E
001350 001000 A  719          JMP     SS1                                                          00 00713
001351 001125 R
001352 014013 A  720 SS10     LDA     SSBF                                                         00 00714
001353 054002 A  721          STA     *+3                                                          00 00715
001354 002000 A  722          CALL    SWRI,0                                                       00 00716
001355 000671 R
001356 000000 A
001357 006030 A  723          LDXI    SRTC                                                         00 00717
001360 001347 E
001361 015020 A  724          LDA     SBEG,X                                                       00 00718
001362 055022 A  725          STA     SCUR,X                                                       00 00719
001363 001000 A  726          JMP*    SSEQ                                                         00 00720
001364 101114 R
001365 000000 A  727 SSLO     DATA    0         PTR TO LOW RECORD                                  00 00721
001366 000000 A  728 SSBF     DATA    0         PTR TO NEXT WRITE BUFFER                           00 00722
                 729          EJEC                                                                 00 00723
                 730 ********************************************************************************00 00724
                 731 *                                                                              00 00725
                 732 * SORT PHASE WORK AREA STARTS HERE                                             00 00726
                 733 *                                                                              00 00727
                 734 ********************************************************************************00 00728
                 735 *                                                                              00 00729
                 736 * INITIALIZATION PHASE ROUTINES                                                00 00730
                 737 *                                                                              00 00731
                 738 * SINI - INITIALIZATION PHASE PRIMARY CONTROL                                  00 00732
                 739 *                                                                              00 00733
                 740 ********************************************************************************00 00734
001367 000000 A  741 SINI     ENTR                                                                 00 00735
001370 002000 A  742          CALL    FORMOD    CHECK FOR FOREGROUND MODIFICATIONS           F     ********
001371 006113 R
                 743 DSCF     OPEN    SIFCB,SI,0,1                                           F     ********
001372 006505 A
001373 000404 A
001374 100000 A
001375 013002 A
001376 000000 E
001377 000000 A
001400 000000 A
001401 006017 A  744 SIN0     LDAE    SICB      RECORD LENGTH                                F     ********
001402 004740 R
001403 054007 A  745          STA     LINK+4                                                 E.1   ********
001404 006017 A  746          LDAE    SICB+1    BUFFER LOCATION                              E.1   ********
001405 004741 R
001406 054003 A  747          STA     LINK+3                                                 E.1   ********
                 748 LINK     IOLINK  SI,0,0                                                 E.1   ********
001407 006505 A
001410 000406 A
001411 001402 A
001412 000000 A
001413 000000 A
                 749 RSCR     READ    SIFCB,SI,0,1  READ A SORT CONTROL RECORD               E.1   ********
001414 006505 A
001415 000404 A
001416 100000 A
001417 010002 A
001420 001376 E
001421 000000 A
001422 000000 A
                 750          STAT    *-7,SRET1,SI2A,SI2A,SRET1                                    00 00737
001423 006505 A
001424 000373 A
001425 001414 R
001426 002566 R
001427 001547 R
001430 001547 R
001431 002566 R
001432 006030 A  751          LDXI    SICB                                                         00 00738
001433 004740 R
001434 025001 A  752          LDB     1,X                                                          00 00739
001435 005022 A  753          DBR                                                                  00 00740
001436 065001 A  754          STB     1,X       STORE BUFFER-1 PTR                                 00 00741
001437 006017 A  755          LDAE    PSCR+5      GET NUMBER OF WORDS READ                   E.1   ********
001440 001421 R
001441 005111 A  756          IAR                 PLUS 1                                           00 00743
001442 055000 A  757          STA     0,X                                                          00 00744
001443 016000 A  758          LDA     0,B       SAVE OLD WORD AT BUFFER-1                          00 00745
001444 006030 A  759          LDXI    ' '                                                          00 00746
001445 120240 A
001446 076000 A  760          STX     0,B       REPLACE WITH BLANKS                                00 00747
                 761          WRITE   SICB,LO,0,1 WRITE THE CONTROL RECORD ON LO                   00 00748
001447 006505 A
001450 000404 A
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001451 100000 A
001452 010405 A
001453 004740 R
001454 000000 A
001455 000000 A
                762          STAT    *-7,SRET1,SRET1,SRET1,SRET1                                  00 00749
001456 006505 A
001457 000373 A
001460 001447 R
001461 002566 R
001462 002566 R
001463 002566 R
001464 002566 R
001465 056000 A  763          STA     0,B          RESTORE BLANKED WORD                            00 00750
001466 006010 A  764          LDAI    40                                                           00 00751
001467 000050 A
001470 006057 A  765          STAE    SICB         RESTORE RECORD LENGTH                           00 00752
001471 004740 R
001472 006017 A  766          LDAE    SCWE         GET PREVIOUS CONTROL AREA END                   00 00753
001473 004705 R
001474 006127 A  767          ADDE    RSCR+5         PLUS NUMBER OF WORDS READ                     E.1********
001475 001421 R
001476 005111 A  768          IAR                  PLUS 1                                          00 00755
001477 006057 A  769          STAE    SICB+1       STORE PTR TO NEW INPUT AREA                     00 00756
001500 004741 R
001501 005311 A  770          DAR                  MINUS 1                                         00 00757
001502 006057 A  771          STAE    SCWE         STORE NEW CONTROL AREA END                      00 00758
001503 004705 R
001504 001000 A  772 SI0      JMP     SI1          FIRST TIME SWITCH                               00 00759
001505 001506 R
001506 006010 A  773 SI1      LDAI    SI2          GET BYPASS ADDRESS                              00 00760
001507 001533 R
001510 006057 A  774          STAE    SI0+1        STORE IN FIRST TIME SWITCH                      00 00761
001511 001505 R
001512 002000 A  775          CALL    SCAN,TB1     LOOK FOR SORT                                   00 00762
001513 002743 R
001514 005275 R
001515 001010 A  776          JAZ     SI3          SORT VERB FOUND                                 00 00763
001516 001523 R
001517 002000 A  777          CALL    SCER,ST01,TB1   PRINT ERROR MSG                              00 00764
001520 002635 R
001521 002727 R
001522 005275 R
001523 006017 A  778 SI3      LDAE    SCEW         SET START OF                                    00 00765
001524 004677 R
001525 006057 A  779          STAE    SCWS           SCAN TO NEXT                                  00 00766
001526 004701 R
001527 006017 A  780          LDAE    SCEB           BYTE AFTER                                    00 00767
001530 004700 R
001531 006057 A  781          STAE    SCBS           SORT VERB                                     00 00768
001532 004702 R
001533 002000 A  782 SI2      CALL    SCAN,TB2     LOOK FOR ENDSORT                                00 00769
001534 002743 R
001535 005303 R
001536 001010 A  783          JAZ     SI4          FOUND, YES                                      00 00770
001537 001555 R
001540 006047 A  784          INRE    SCW2         INCREMENT READ COUNT                            00 00771
001541 004710 R
001542 006017 A  785          LDAE    SCW2         TEST FOR                                        00 00772
001543 004710 R
001544 140465 A  786          SUB     FIVE         LIMIT OF 5 RECORDS                              00 00773
001545 001016 A  787          JANZ    SIN0           JUMP TO READ IF LIMIT NOT REACHED           F  ********
001546 001401 R
001547 002000 A  788 SI2A     CALL    SCER,ST01,TB2  PRINT ERROR MSG                               00 00775
001550 002635 R
001551 002727 R
001552 005303 R
001553 001000 A  789          JMP     SI4B         SCAN OTHER CONTROL STATEMENTS                   00 00776
001554 001565 R
001555 006017 A  790 SI4      LDAE    SCSW         SET NEW LIMITS                                  00 00777
001556 004675 R
001557 006057 A  791          STAE    SCWE           FOR END OF SCAN                               00 00778
001560 004705 R
001561 006017 A  792          LDAE    SCSB           AREA TO FIRST                                 00 00779
001562 004676 R
001563 006057 A  793          STAE    SCBE           BYTE OF ENDSORT VERB                          00 00780
001564 004706 R
001565 002000 A  794 SI4B     CALL    SCAN,TB3     INPUT                                           00 00781
001566 002743 R
001567 005311 R
001570 054165 A  795          STA     SI4A           SAVE RETURN CODE                              00 00782
001571 002000 A  796          CALL    ATOB,(C1),2    INPUT LUN                                     00 00783
001572 006012 R
001573 005550 R
001574 000002 A
001575 002000 A  797          CALL    ATOB,(C4),3    INPUT RECSIZE                                 00 00784
001576 006012 R
001577 003556 R
001600 000003 A
001601 024154 A  798          LDB     SI4A                                                         00 00785
001602 001030 A  799          JIF     030,*+6        JUMP IF NO ERRORS                             00 00786
001603 001610 R
001604 002000 A  800          CALL    SCER,ST01,(TB3) ERROR - INVALID OR MISSING PARAMETER         00 00787
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001605 002635 R
001606 002727 R
001607 005311 R
001610 002000 A   801         CALL    SCAN,TB4     OUTPUT                                  00 00788
001611 002743 R
001612 005317 R
001613 054142 A   802         STA     SI4A           SAVE RETURN CODE                      00 00789
001614 002000 A   803         CALL    ATOB,(C5),2    OUTPUT LUN                            00 00790
001615 006012 R
001616 005561 R
001617 000002 A
001620 002000 A   804         CALL    ATOB,(C8),3    OUTPUT RECSIZE                        00 00791
001621 006012 R
001622 005567 R
001623 000003 A
001624 024131 A   805         LDB     SI4A                                                 00 00792
001625 001030 A   806         JIF     030,*+6        JUMP IF NO ERRORS                     00 00793
001626 001633 R
001627 002000 A   807         CALL    SCER,ST01,(TB4) ERROR                                00 00794
001630 002635 R
001631 002727 R
001632 005317 R
001633 002000 A   808         CALL    SCAN,TB5     WORK1                                   00 00795
001634 002743 R
001635 005325 R
001636 054117 A   809         STA     SI4A                                                 00 00796
001637 002000 A   810         CALL    ATOB,(C9),2    WORK1 LUN                             00 00797
001640 006012 R
001641 005572 R
001642 000002 A
001643 006017 A   811         LDAE    C9                                                   00 00798
001644 005572 R
001645 002000 A   812         CALL    RMD          MUST BE RMD                             00 00799
001646 005725 R
001647 114106 A   813         DRA     SI4A                                                 00 00800
001650 001016 A   814         JANZ    SI4W1B       JUMP IF ERRORS                          00 00801
001651 001671 R
001652 006030 A   815         LDXI    ITB3                                                 00 00802
001653 005421 R
001654 002000 A   816         CALL    SI6          CHECK IF WORK1 SAME AS ANOTHER FILE     00 00803
001655 002140 R
001656 006404 A   817         BT      RA1+4,SI4W1B  ERR IF SAME AS INPUT                   00 00804
001657 001671 R
001660 006443 A   818         BT      RA0+3,SI4W2A  IF SAME AS OUTPUT                      00 00805
001661 001675 R
001662 006030 A   819         LDXI    SRTC                                                 00 00806
001663 001350 E
001664 006010 A   820         LDAI    SICB                                                 00 00807
001665 000000 E
001666 055220 A   821         STA     FSID,X         SAVE PTR                              00 00808
001667 001000 A   822         JMP     SI4W2A                                               00 00809
001670 001675 R
001671 002000 A   823 SI4W1B  CALL    SCER,ST01,TB5                                        00 00810
001672 002635 R
001673 002727 R
001674 005325 R
001675 002000 A   824 SI4W2A  CALL    SCAN,TB6     WORK2                                   00 00811
001676 002743 R
001677 005333 R
001700 054055 A   825         STA     SI4A                                                 00 00812
001701 002000 A   826         CALL    ATOB,(C12),2   WORK2 LUN                             00 00813
001702 006012 R
001703 005600 R
001704 000002 A
001705 006017 A   827         LDAE    C12                                                  00 00814
001706 005600 R
001707 002000 A   828         CALL    RMD          MUST BE RMD                             00 00815
001710 005725 R
001711 114044 A   829         DRA     SI4A                                                 00 00816
001712 001016 A   830         JANZ    SI4W2B       JUMP IF ERRORS                          00 00817
001713 001733 R
001714 006030 A   831         LDXI    ITB4                                                 00 00818
001715 005402 R
001716 002000 A   832         CALL    SI6                                                  00 00819
001717 002140 R
001720 006404 A   833         BT      RA1+4,SI4W2B  ERR IF WORK2 SAME AS INPUT             00 00820
001721 001733 R
001722 006402 A   834         BT      RA1+2,SI4W2B  ERR IF WORK2 SAME AS WORK1             00 00821
001723 001735 R
001724 006443 A   835         BT      RA0+3,SI4W3A  SAVE PTR IF SAME AS OUTPUT             00 00822
001725 001741 R
001726 006030 A   836         LDXI    SRTD                                                 00 00823
001727 001603 E
001730 006010 A   837         LDAI    S2CB                                                 00 00824
001731 000000 E
001732 055220 A   838         STA     FSID,X                                               00 00825
001733 001000 A   839         JMP     SI4W3A                                               00 00826
001734 001741 R
001735 002000 A   840 SI4W2B  CALL    SCER,ST01,TB6                                        00 00827
001736 002635 R
001737 002727 R
001740 005333 R
001741 002000 A   841 SI4W3A  CALL    SCAN,TB7     WORK3                                   00 00828
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001742 002743 R
001743 005341 R
001744 054011 A  842          STA     SI4A                                          00 00829
001745 002000 A  843          CALL    ATOB,(C15),2  WORK3 LUN                       00 00830
001746 006012 R
001747 005606 R
001750 000002 A
001751 006017 A  844          LDAE    C15                                           00 00831
001752 005606 R
001753 002000 A  845          CALL    RMD           MUST BE RMD                     00 00832
001754 005725 R
001755 006110 A  846          DRAI    *-*                                           00 00833
001756 000000 A
       001756 R  847 SI4A     EQU     *-1                                           00 00834
001757 001016 A  848          JANZ    SI4W3B        JUMP IF ERRORS                  00 00835
001760 002002 R
001761 006030 A  849          LDXI    ITB5                                          00 00836
001762 005443 R
001763 002000 A  850          CALL    SI6                                           00 00837
001764 002140 R
001765 006401 A  851          BT      RA1+1,SI4W3B  ERR IF WORK3 SAME AS WORK1      00 00838
001766 002002 R
001767 006402 A  852          BT      RA1+2,SI4W3B  ERR IF WORK3 SAME AS WORK2      00 00839
001770 002002 R
001771 006443 A  853          BT      RA0+3,SI4K    SAVE PTR IF SAME AS OUTPUT      00 00840
001772 002006 R
001773 006030 A  854          LDXI    SRTC                                          00 00841
001774 001727 E
001775 006010 A  855          LDAI    S3CB                                          00 00842
001776 000000 E
001777 055220 A  856          STA     FSID,X                                        00 00843
002000 001000 A  857          JMP     SI4K                                          00 00844
002001 002006 R
002002 002000 A  858 SI4W3B   CALL    SCER,ST01,TB7                                 00 00845
002003 002635 R
002004 002727 R
002005 005341 R
002006 002000 A  859 SI4K     CALL    SCAN,TB8      SORTKEY                         00 00846
002007 002743 R
002010 005347 R
002011 001010 A  860          JAZ     *+6                                           00 00847
002012 002017 R
002013 002000 A  861          CALL    SCER,ST01,(TB8) ERROR                         00 00848
002014 002635 R
002015 002727 R
002016 005347 R
002017 002000 A  862          CALL    ATOB,(C18),2  CTL FLD 1 START COLUMN          00 00849
002020 006012 R
002021 005614 R
002022 000002 A
002023 002000 A  863          CALL    ATOB,(C19),2  CTL FLD 1 END COLUMN            00 00850
002024 006012 R
002025 005616 R
002026 000002 A
002027 002000 A  864          CALL    ATOB,(C21),2  CTL FLD 2 START COLUMN          00 00851
002030 006012 R
002031 005621 R
002032 000002 A
002033 002000 A  865          CALL    ATOB,(C22),2  CTL FLD 2 END COLUMN            00 00852
002034 006012 R
002035 005623 R
002036 000002 A
002037 002000 A  866          CALL    ATOB,(C24),2  CTL FLD 3 START COLUMN          00 00853
002040 006012 R
002041 005626 R
002042 000002 A
002043 002000 A  867          CALL    ATOB,(C25),2  CTL FLD 3 END COLUMN            00 00854
002044 006012 R
002045 005630 R
002046 000002 A
002047 002000 A  868          CALL    ATOB,(C27),2  CTL FLD 4 START COLUMN          00 00855
002050 006012 R
002051 005633 R
002052 000002 A
002053 002000 A  869          CALL    ATOB,(C28),2  CTL FLD 4 END COLUMN            00 00856
002054 006012 R
002055 005635 R
002056 000002 A
002057 002000 A  870          CALL    ATOB,(C30),2  CTL FLD 5 START COLUMN          00 00857
002060 006012 R
002061 005640 R
002062 000002 A
002063 002000 A  871          CALL    ATOB,(C31),2  CTL FLD 5 END COLUMN            00 00858
002064 006012 R
002065 005642 R
002066 000002 A
002067 002000 A  872          CALL    ATOB,(C33),2  CTL FLD 6 START COLUMN          00 00859
002070 006012 R
002071 005645 R
002072 000002 A
002073 002000 A  873          CALL    ATOB,(C34),2  CTL FLD 6 END COLUMN            00 00860
002074 006012 R
002075 005647 R
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002076 000002 A
002077 002000 A  874          CALL    SCAN,(TB9)     INEXIT=YES  (OR NO. NO IS DEFAULT)          00 00861
002100 002743 R
002101 005355 R
002102 001010 A  875          JAZ     *+6                                                        00 00862
002103 002110 R
002104 002000 A  876          CALL    SCER,ST01,(TB9) ERROR                                      00 00863
002105 002635 R
002106 002727 R
002107 005355 R
002110 002000 A  877          CALL    SCAN,(TB10)                                                00 00864
002111 002743 R
002112 005363 R
002113 001010 A  878          JAZ     *+6             OUTEXIT=YES (OR NO. NO IS DEFAULT)         00 00865
002114 002121 R
002115 002000 A  879          CALL    SCER,ST01,(TB10) ERROR                                     00 00866
002116 002635 R
002117 002727 R
002120 005363 R
002121 006017 A  880          LDAE    C1              GETY INPUT LUN                             00 00867
002122 005550 R
002123 002000 A  881          CALL    RMD             INPUT ON RMD ?                             00 00868
002124 005725 R
002125 001016 A  882          JANZ    SI5               NO - KEYWORD SORT NOT POSSIBLE           00 00869
002126 002230 R
002127 006030 A  883          LDXI    ITB1          GET INPUT TABLE                              00 00870
002130 005371 R
002131 002000 A  884          CALL    SI6           IS TT SAME AS ANOTHER FILE                   00 00871
002132 002140 R
002133 150445 A  885          ANA     BR4                                                        00 00872
002134 001016 A  886          JANZ    SI5           YES - KEYWORD SORT NOT POSSIBLE              00 00873
002135 002230 R
002136 001000 A  887          JMP     SI7           NO  - THIS WILL BE A KEYWORD SORT            00 00874
002137 002223 R
                 888 *  SI6 - FILENAME COMPARE                                                   00 00875
                 889 *                                                                           00 00876
                 890 *  CALLING SEQUENCE                                                         00 00877
                 891 *      CALL    SI6                                                          00 00878
                 892 *      X REGISTER CONTAINS PTR TO FILE TABLE ITBN                           00 00879
                 893 *                                                                           00 00880
                 894 *  EXIT CONDITIONS                                                          00 00881
                 895 *      A REGISTER BIT 4 IS SET IF FILE IS SAME AS INPUT                     00 00882
                 896 *                     3                    OUTPUT                           00 00883
                 897 *                     2                    WORK1                            00 00884
                 898 *                     1                    WORK2                            00 00885
                 899 *                     0                    WORK3                            00 00886
002140 000000 A  900 SI6      ENTR                                                               00 00887
002141 005001 A  901          TZA                                                                00 00888
002142 054053 A  902          STA     SI6T                                                       00 00889
002143 006020 A  903          LDBI    TB3                                                        00 00890
002144 005311 R
002145 064051 A  904          STB     SI6B                                                       00 00891
002146 074051 A  905          STX     SI6X                                                       00 00892
002147 024047 A  906 SI6A     LDB     SI6B                                                       00 00893
002150 034047 A  907          LDX     SI6X          GET PTR TO GIVEN FILE TABLE                  00 00894
002151 026002 A  908          LDB     2,B           GET PTR TO COMPARE FILE TABLE                00 00895
002152 006015 A  909          LDAE*   0,X           GET GIVEN LUN                                00 00896
002153 100000 A
002154 006146 A  910          SUBE*   0,B        IS IT SAME AS ANOTHER FILE                      00 00897
002155 100000 A
002156 001016 A  911          JANZ    SI6A0         NO - CHECK NEXT FILE                         00 00898
002157 002201 R
002160 035003 A  912          LDX     3,X           GET PTR TO FILENAME                          00 00899
002161 026003 A  913          LDB     3,B           GET PTR TO FILENAME                          00 00900
002162 015000 A  914          LDA     0,X           GET FIRS WD OF INPUT FILE NAME               00 00901
002163 146000 A  915          SUB     0,B           MINUS FIRST WD OF TEST FILE NAME             00 00902
002164 001016 A  916          JANZ    SI6A0         NOT EQUAL - CHECK NEXT FILE                  00 00903
002165 002201 R
002166 015001 A  917          LDA     1,X           CHECK SECOND WD                              00 00904
002167 146001 A  918          SUB     1,B            OF FILENAME                                 00 00905
002170 001016 A  919          JANZ    SI6A0         NOT EQUAL - CHECK NEXT FILE                  00 00906
002171 002201 R
002172 015002 A  920          LDA     2,X           CHECK THIRD WORD OF                          00 00907
002173 146002 A  921          SUB     2,B             FILE NAME                                  00 00908
002174 001016 A  922          JANZ    SI6A0         NOT EQUAL - CHECK NEXT FILE                  00 00909
002175 002201 R
002176 005301 A  923          DECR    1                                                          00 00910
002177 001000 A  924          JMP     SI6A1                                                      00 00911
002200 002202 R
002201 005001 A  925 SI6A0    TZA                                                                00 00912
002202 024016 A  926 SI6A1    LDB     SI6T                                                       00 00913
002203 004441 A  927          LLRL    1             SET BIT IN RETURN CODE                       00 00914
002204 064014 A  928          STB     SI6T                                                       00 00915
002205 014011 A  929          LDA     SI6B                                                       00 00916
002206 120466 A  930          ADD     SIX                                                        00 00917
002207 054007 A  931          STA     SI6B                                                       00 00918
002210 144011 A  932          SUB     SI6D                                                       00 00919
002211 005311 A  933          DAR                                                                00 00920
002212 001004 A  934          JAN     SI6A          LOOP                                         00 00921
002213 002147 R
002214 014004 A  935          LDA     SI6T                                                       00 00922
002215 001000 A  936          JMP*    SI6           DONE - RETURN                                00 00923
002216 102140 R
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002217 000000 A  937 SI6B   DATA   0                                                    00 00924
002220 000000 A  938 SI6X   DATA   0                                                    00 00925
002221 000000 A  939 SI6T   DATA   0          RETURN CODE                               00 00926
002222 005341 R  940 SI6D   DATA   (TB7)      END                                       00 00927
002223 006030 A  941 SI7    LDXI   SRTC       GET SORT CONTROL TABLE                    00 00928
002224 001774 E
002225 015260 A  942        LDA    SWCH,X     GET SWITCH                                00 00929
002226 110425 A  943        ORA    BS4        TURN ON KEYWORD SORT SWITCH               00 00930
002227 055260 A  944        STA    SWCH,X     SAVE IT                                   00 00931
002230 006030 A  945 SI5    LDXI   SRTC         GET SORT CONTROL TABLE                F  ********
002231 002224 E
002232 015260 A  946        LDA    SWCH,X       GET SWITCH                          F  ********
002233 006451 A  947        BT     RA0+9,SI5A   MERGE OMIT OFF                      F  ********
002234 002237 R
002235 006444 A  948        BT     RA0+4,ST08E  MERGE OMIT, BUT NO TAG SORT         F  ********
002236 002627 R
002237 006027 A  949 SI5A   LDBE   ITB7           GET INEXIT                        F  ********
002240 005542 R
002241 016000 A  950        LDA    0,B        RESPONSE                                  00 00933
002242 006140 A  951        SUBI   'YE'       IS IT YES                                 00 00934
002243 154705 A
002244 001016 A  952        JANZ   SI8        NO                                        00 00935
002245 002254 R
002246 006030 A  953        LDXI   SRTC       GET SORT CONTROL TABLE                    00 00936
002247 002231 E
002250 015260 A  954        LDA    SWCH,X     GET SWITCH                                00 00937
002251 110423 A  955        ORA    BS2        TURN ON INEXIT SWITCH                     00 00938
002252 150445 A  956        ANA    BR4        TURN OFF KEYWORD SORT SWITCH              00 00939
002253 055260 A  957        STA    SWCH,X     SAVE IT                                   00 00940
002254 006027 A  958 SI8    LDBE   ITB8       GET OUTEXIT RESPONSE                      00 00941
002255 005545 R
002256 016000 A  959        LDA    0,B                                                  00 00942
002257 006140 A  960        SUBI   'YE'       IS IT YES                                 00 00943
002260 154705 A
002261 001016 A  961        JANZ   SI10       NO                                        00 00944
002262 002270 R
002263 006030 A  962        LDXI   SRTC       GET SORT CONTROL TABLE                    00 00945
002264 002247 E
002265 015260 A  963        LDA    SWCH,X     GET SWITCH                                00 00946
002266 110431 A  964        ORA    BS8        TURN ON OUTEXIT SWITCH                    00 00947
002267 055260 A  965        STA    SWCH,X     SAVE IT                                   00 00948
002270 002000 A  966 SI10   JMPM   SI50       GO INITIALIZE EVERYTHING                  00 00949
002271 004151 R
002272 006017 A  967        LDAE   SERROR    IF ERRORS IN CTL RECORDS                  00 00950
002273 002713 R
002274 001016 A  968        JANZ   SRET      SKIP FILE OPENS - ABORT JOB NOW           00 00951
002275 002563 R
002276 002000 A  969        CALL   SIFC,ITB1,CL1  PUT REC SIZE,FILENAME,KEY IN CALL    00 00952
002277 004020 R
002300 005371 R
002301 002376 R
002302 006030 A  970        LDXI   SRTC       GET SORT CTL TBL                          00 00953
002303 002264 E
002304 015015 A  971        LDA    INBF,X     GET SORT IN ADDRESS                       00 00954
002305 054075 A  972        STA    CL1+5      PUT IN CALL                               00 00955
002306 006017 A  973        LDAE   C5         GET OUTPUT LUN                            00 00956
002307 005561 R
002310 002000 A  974        CALL   LP         IS OUTPUT A LINE PRINTER                  00 00957
002311 005733 R
002312 001016 A  975        JANZ   SI11       NO - JUMP                                 00 00958
002313 002321 R
002314 006047 A  976        INRE   C8         INC OUT REC LENGTH FOR FCB ONLY            00 00959
002315 005567 R
002316 006030 A  977        LDXI   SRTC                                                 00 00960
002317 002303 E
002320 045261 A  978        INR    LPSW,X     TURN ON OUTPUT LP SWITCH                  00 00961
002321 002000 A  979 SI11   CALL   SIFC,ITB2,CL2  PUT RECSIZE, FILENAME, KEY IN CALL    00 00962
002322 004020 R
002323 005405 R
002324 002406 R
002325 006030 A  980        LDXI   SRTC         GET SORT CTL TABLE                    00 00963
002326 002317 E
002327 006017 A  981        LDAE   MBEG           GET START OF MERGE WORK AREA        E.1********
002330 005274 R
002331 054071 A  982        STA    CL3+5      STORE IN WORK1 CALL                       00 00965
002332 055177 A  983        STA    SFAS,X     STORE IN SF CURR AREA PTR                 00 00966
002333 055200 A  984        STA    SFAS+1,X   STORE IN SF BEG AREA PTR                  00 00967
002334 125010 A  985        ADD    SBLK,X     GET START OF SECOND MERGE AREA            00 00968
002335 055202 A  986        STA    SFAL,X     STORE IN SL CURR AREA PTR                 00 00969
002336 055203 A  987        STA    SFAL+1,X   STORE IN SL BEG AREA PTR                  00 00970
002337 054073 A  988        STA    CL4+5      STORE IN WORK2 CALL                       00 00971
002340 005311 A  989        DAR              MINUS 1                                   00 00972
002341 055201 A  990        STA    SFAS+2,X   STORE SF END AREA-1 PTR                   00 00973
002342 125010 A  991        ADD    SBLK,X     GET END OF 2ND MRG AREA                   00 00974
002343 055204 A  992        STA    SFAL+2,X   STORE IN SL END AREA-1 PTR                00 00975
002344 005111 A  993        IAR              PLUS 1                                    00 00976
002345 055205 A  994        STA    SFA0,X     STORE SO CURR AREA PTR                    00 00977
002346 055206 A  995        STA    SFA0+1,X   STORE SO BEG AREA PTR                     00 00978
002347 054043 A  996        STA    CL2+5      STORE IN OUTPUT FILE CALL                 00 00979
002350 054072 A  997        STA    CL5+5      STORE IN WORK3 CALL                       00 00980
002351 125010 A  998        ADD    SBLK,X     PLUS MRG BLK SIZE                         00 00981
002352 005311 A  999        DAR              MINUS 1                                   00 00982
002353 055207 A 1000        STA    SFA0+2,X   STORE IN SO END AREA-1 PTR                00 00983
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002354 002000 A 1001        CALL    SIFW,ITB3,CL3  PUT FILENAME,KEY IN CALL WORK1              00 00984
002355 004063 R
002356 005421 R
002357 002416 R
002360 002000 A 1002        CALL    SIFW,ITB4,CL4  PUT FILENAME,KEY IN CALL WORK2              00 00985
002361 004063 R
002362 005432 R
002363 002426 R
002364 002000 A 1003        CALL    SIFW,ITB5,CL5  PUT FILENAME,KEY IN CALL WORK3              00 00986
002365 004063 R
002366 005443 R
002367 002436 R
002370 006030 A 1004        LDXI    SRTC           GET SORT CTL TABLE                          00 00987
002371 002326 E
002372 015010 A 1005        LDA     MBLN,X           GET MRG REC LENGTH                        00 00988
002373 054026 A 1006        STA     CL3+4          STORE IN CALL                               00 00989
002374 054035 A 1007        STA     CL4+4          STORE IN CALL                               00 00990
002375 054044 A 1008        STA     CL5+4          STORE IN CALL                               00 00991
002376 002000 A 1009 CL1    CALL    SIWF,IFCB,0,0,0,0,0  I/O PTR,LU#,SIZE,AREA,KEY,FILENAME P00 00992
002377 004074 R
002400 000000 E
002401 000000 A
002402 000000 A
002403 000000 A
002404 000000 A
002405 000000 A
002406 002000 A 1010 CL2    CALL    SIWF,OFCB,0,0,0,0,0  I/O PTR,LU#,SIZE,AREA,KEY,FILENAME P00 00993
002407 004074 R
002410 000000 E
002411 000000 A
002412 000000 A
002413 000000 A
002414 000000 A
002415 000000 A
002416 002000 A 1011 CL3    CALL    SIWF,S1CB,0,0,0,0,0  I/O PTR,LU#,SIZE,AREA,KEY,FILENAME P00 00994
002417 004074 R
002420 001665 E
002421 000000 A
002422 000000 A
002423 000000 A
002424 000000 A
002425 000000 A
002426 002000 A 1012 CL4    CALL    SIWF,S2CB,0,0,0,0,0  I/O PTR,LU#,SIZE,AREA,KEY,FILENAME P00 00995
002427 004074 R
002430 001731 E
002431 000000 A
002432 000000 A
002433 000000 A
002434 000000 A
002435 000000 A
002436 002000 A 1013 CL5    CALL    SIWF,S3CB,0,0,0,0,0  I/O PTR,LU#,SIZE,AREA,KEY,FILENAME P00 00996
002437 004074 R
002440 001776 E
002441 000000 A
002442 000000 A
002443 000000 A
002444 000000 A
002445 000000 A
002446 006030 A 1014        LDXI    SRTC                                                       00 00997
002447 002371 E
002450 015205 A 1015        LDA     SFAO,X           GET OUTPUT BEG AREA PTR                   00 00998
002451 055213 A 1016        STA     OCAB,X         MAKE IT CURR OUTPUT AREA PTR                00 00999
002452 015207 A 1017        LDA     SFAO+2,X       GET OUTPUT END AREA PTR                     00 01000
002453 055214 A 1018        STA     OCAE,X           MAKE IT CURR OUTPUT AREA END              00 01001
002454 006017 A 1019        LDAE    CL1+3            GET SORT IN LU#                           00 01002
002455 002401 R
002456 055222 A 1020        STA     DILU,X                                                     00 01003
002457 002000 A 1021        CALL    RMD            IS IT RMD                                   00 01004
002460 003725 R
002461 001015 A 1022        JANZ    DIN              -NO-                                     *00 01005
002462 002473 R
002463 006030 A 1023        LDXI    IFCB                                                      *00 01006
002464 002408 E
002465 015003 A 1024        LDA     3,1              MODIFY                                   *00 01007
002466 150455 A 1025        ANA     BR12             OPEN TO                                   00 01008
002467 055003 A 1026        STA     3,1                REWIND                                 *00 01009
002470 015053 A 1027        LDA     43,1             MODIFY                                   *00 01010
002471 110435 A 1028        ORA     BS12             CLOSE TO                                  00 01011
002472 055053 A 1029        STA     43,1               UPDATE                                 *00 01012
002473 002000 A 1030 DIN    CALL    IFCA             OPEN INPUT FILE                          *00 01013
002474 000010 E
            1031            STAT    IFCB,SIIE,STSIC,SIIE,SIIE                                  00 01014
002475 006505 A
002476 000073 A
002477 002464 E
002500 002571 R
002501 002504 R
002502 002571 R
002503 002571 R
       002504 R 1032 STSIC  EQU     *                                                         *00 01015
002504 006017 A 1033        LDAE    CL2+3                                                     *00 01016
002505 002411 R
002506 002000 A 1034        CALL    RMD            IS IT RMD                                   00 01017
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002507 005725 R
002510 001016 A 1035          JANZ    ODUT          -NO-                                  *00 01018
002511 002517 R
002512 006030 A 1036          LDXI    OFCB                                                *00 01019
002513 002410 E
002514 015003 A 1037          LDA     3,1           MODIFY                                *00 01020
002515 150455 A 1038          ANA     BR12          OPEN TO                                00 01021
002516 055003 A 1039          STA     3,1             REWIND                              *00 01022
002517 002000 A 1040 ODUT     CALL    OFCA          OPEN OUTPUT FILE                      *00 01023
002520 000000 E
                1041          STAT    OFCB,SIOE,STSOC,SIOE,SIOE                            00 01024
002521 006505 A
002522 000373 A
002523 002513 E
002524 002577 R
002525 002530 R
002526 002577 R
002527 002577 R
       002530 R 1042 STSOC    EQU     *                                                   *00 01025
002530 002000 A 1043          CALL    SICA                                                 00 01026
002531 000000 E
                1044          STAT    SICB,SI1E,SI1E,SI1E,SI1E                             00 01027
002532 006505 A
002533 000373 A
002534 002420 E
002535 002605 R
002536 002605 R
002537 002605 R
002540 002605 R
002541 002000 A 1045          CALL    S2CA                                                 00 01028
002542 000000 E
                1046          STAT    S2CB,SI2E,SI2E,SI2E,SI2E                             00 01029
002543 006505 A
002544 000373 A
002545 002438 E
002546 002610 R
002547 002610 R
002550 002610 R
002551 002610 R
002552 002000 A 1047          CALL    S3CA                                                 00 01030
002553 000000 E
                1048          STAT    S3CB,SI3E,SI3E,SI3E,SI3E                             00 01031
002554 006505 A
002555 000373 A
002556 002446 E
002557 002621 R
002560 002621 R
002561 002621 R
002562 002621 R
002563 014127 A 1049 SRET     LDA     SERROR                                               00 01032
002564 001010 A 1050          JAZ*    SINI          IF NO ERRORS - RETURN                  00 01033
002565 101367 R
                1051 SRET1    EXIT                  END THE SORT                           00 01034
002566 006505 A
002567 000406 A
002570 000220 A
002571 002000 A 1052 SIIE     CALL    SCER,ST05,(TB3)  PRINT ERROR MSG                     00 01035
002572 002635 R
002573 002707 R
002574 005311 R
002575 001000 A 1053          JMP     SRET                                                 00 01036
002576 002563 R
002577 002000 A 1054 SIOE     CALL    SCER,ST05,(TB4)                                      00 01037
002600 002635 R
002601 002737 R
002602 005317 R
002603 001000 A 1055          JMP     SRET                                                 00 01038
002604 002563 R
002605 002000 A 1056 SI1E     CALL    SCER,ST05,(TB5)                                      00 01039
002606 002635 R
002607 002737 R
002610 005325 R
002611 001000 A 1057          JMP     SRET                                                 00 01040
002612 002563 R
002613 002000 A 1058 SI2E     CALL    SCER,ST05,(TB6)                                      00 01041
002614 002635 R
002615 002737 R
002616 005333 R
002617 001000 A 1059          JMP     SRET                                                 00 01042
002620 002563 R
002621 002000 A 1060 SI3E     CALL    SCER,ST05,(TB7)                                      00 01043
002622 002635 R
002623 002737 R
002624 005341 R
002625 001000 A 1061          JMP     SRET                                                 00 01044
002626 002563 R
002627 002000 A 1062 ST0SE    CALL    SCER,ST08,0   PRINT ERROR MESSAGE                  F  ********
002630 002635 R
002631 002741 R
002632 000000 A
002633 001000 A 1063          JMP     SISA          CONTINUE                             F  ********
002634 002227 R
002635 000000 A 1064 SCER     ENTR                                                         00 01045
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002636 006010 A 1065          LDAI    '  '                                                    00 01046
002637 120240 A
002640 054061 A 1066          STA     SIS2+3                                                 00 01047
002641 002000 A 1067          CALL    MOVE,(SIS2+4),0,(SIS2+3),0,8  CLEAR BUFFER             00 01048
002642 001316 E
002643 002723 R
002644 000000 A
002645 002722 R
002646 000000 A
002647 000010 A
002650 006037 A 1068          LDXE    SCER                                                   00 01049
002651 002635 R
002652 025000 A 1069          LDB     0,X           GET ERR NUMBER                           00 01050
002653 016000 A 1070          LDA     0,B                                                    00 01051
002654 054044 A 1071          STA     SIS2+2        STORE IN BUFFER                          00 01052
002655 016001 A 1072          LDA     1,B                                                    00 01053
002656 054043 A 1073          STA     SIS2+3                                                 00 01054
002657 025001 A 1074          LDB     1,X           GET SCAN TABLE PTR                       00 01055
002660 005144 A 1075          IXR                                                            00 01056
002661 005144 A 1076          IXR                                                            00 01057
002662 006077 A 1077          STXE    SCER          SAVE RETURN                              00 01058
002663 002635 R
002664 001020 A 1078          JBZ     SW1           JUMP IF NO CONTROL CONSTANT              00 01059
002665 002701 R
002666 016000 A 1079          LDA     0,B           GET PTR TO CONTROL CONSTANT              00 01060
002667 054006 A 1080          STA     SWM1+4        STORE IN MOVE                            00 01061
002670 016003 A 1081          LDA     3,B           GET LENGTH                               00 01062
002671 054006 A 1082          STA     SWM1+6        STORE IN MOVE                            00 01063
002672 002000 A 1083 SWM1     CALL    MOVE,(SIS2+4),0,0,0,0  MOVE CONTROL CONSTANT           00 01064
002673 002642 E
002674 002723 R
002675 000000 A
002676 000000 A
002677 000000 A
002700 000000 A
               1084 SW1       WRITE   SIS1,5,0,1    WRITE THE ERROR MSG                      00 01065
002701 006505 A
002702 000404 A
002703 100000 A
002704 010405 A
002705 002714 R
002706 000000 A
002707 000000 A
002710 044002 A 1085          INR     SERROR        INCREMENT ERROR COUNT                    00 01066
002711 001000 A 1086          JMP*    SCER          RETURN                                   00 01067
002712 102635 R
002713 000000 A 1087 SERROR   DATA    0                                                      00 01068
               1088 SIS1      DCB     8,SI$2,0                                               00 01069
002714 000010 A
002715 002717 R
002716 000000 A
002717 120240 A 1089 SIS2     DATA    '  ST  '                                               00 01070
002720 151724 A
002721 120240 A
002722 120240 A
002723 120240 A
002724 120240 A
002725 120240 A
002726 120240 A
002727 130261 A 1090 ST01     DATA    '01, '                                                 00 01071
002730 126240 A
002731 130262 A 1091 ST02     DATA    '02  '                                                 00 01072
002732 120240 A
002733 130263 A 1092 ST03     DATA    '03  '                                                 00 01073
002734 120240 A
002735 130264 A 1093 ST04     DATA    '04  '                                                 00 01074
002736 120240 A
002737 130265 A 1094 ST05     DATA    '05, '                                                 00 01075
002740 126240 A
002741 130270 A 1095 ST08     DATA    '08  '                                           F     ********
002742 120240 A
               1096 *                                                                        00 01076
               1097 *  SCAN - SEARCHES CONTROL STATEMENT BUFFER UNTIL A MATCH IS FOUND        00 01077
               1098 *         FOR THE SPECIFIED CONTROL CONSTANT (SEARCH ARGUMENT).          00 01078
               1099 *                                                                        00 01079
               1100 *         STORE THE PARAMETERS IN EXPANSION CELLS, USING THE             00 01080
               1101 *         SCAN TABLE INFORMATION ABOUT NUMBER, LENGTH AND TYPE           00 01081
               1102 *         (NUMERIC 0-9 OR ALPHANUMERIC $,A-Z,0-9) OF PARAMETERS          00 01082
               1103 *         AND WHETHER PARAMETERS ARE OPTIONAL OR REQUIRED.               00 01083
               1104 *                                                                        00 01084
               1105 *         CHECKS FOR ERRORS - REQUIRED CONTROL STMT MISSING              00 01085
               1106 *                             REQUIRED PARAMETER MISSING                 00 01086
               1107 *                             INVALID PARAMETER                          00 01087
               1108 *                             INVALID TERMINATOR                         00 01088
               1109 *                                                                        00 01089
               1110 *  CALLING SEQ                                                           00 01090
               1111 *      JMPM SCAN                                                         00 01091
               1112 *      DATA (PTR TO MAJOR SCAN TABLE)                                    00 01092
               1113 *                                                                        00 01093
               1114 *  RETURN CODE - A REGISTER = 0 IF FOUND, -1 IF NOT FOUND OR ERROR       00 01094
               1115 *                                                                        00 01095
               1116 *      NOTE: IF FOUND, STARTING AND ENDING WORD AND BYTE LOCATION+1BYTE  00 01096
               1117 *            ARE STORED IN SCSW,SCSB,SCEW,SCEB                           00 01097
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                    1118 *                                                                                  00 01098
002743 000000 A     1119 SCAN   ENTR                                                                        00 01099
002744 005001 A     1120        TZA                                                                         00 01100
002745 054437 A     1121        STA     SCERZ       ZERO ERROR COUNT                                        00 01101
002746 006017 A     1122        LDAE    SCWS  GET STARTING WORD AND BYTE OF I/O AREA                        00 01102
002747 004701 R
002750 006057 A     1123        STAE    CWSW   FOR THE SCAN AND MAKE THEM THE CURRENT                     00 01103
002751 004703 R
002752 006017 A     1124        LDAE    SCBS   WORD AND BYTE                                               00 01104
002753 004702 R
002754 006057 A     1125        STAE    CBSW                                                               00 01105
002755 004704 R
002756 006017 A     1126 SC1    LDAE    CWSW        GET STRT WD FOR SCAN                                   00 01106
002757 004703 R
002760 054037 A     1127        STA     SC2+2       STORE AS TARGET WORD                                   00 01107
002761 006017 A     1128        LDAE    CBSW        GET STRT BYTE FOR SCAN                                 00 01108
002762 004704 R
002763 054035 A     1129        STA     SC2+3       STORE AS TARGET BYTE                                   00 01109
002764 006017 A     1130        LDAE    SCWE        GET END OF CTL AREA                                    00 01110
002765 004705 R
002766 006147 A     1131        SUBE    CWSW        MINUS BEGIN OF CTL AREA                                00 01111
002767 004703 R
002770 005111 A     1132        IAR               PLUS 1                                                   00 01112
002771 004241 A     1133        LRLA    1           TIMES 2                                                00 01113
002772 006057 A     1134        STAE    SCW1        SAVE                                                   00 01114
002773 004707 R
002774 006017 A     1135        LDAE    CBSW        GET STARTING BYTE                                      00 01115
002775 004704 R
002776 004241 A     1136        LRLA    1           SHIFT LEFT 1                                           00 01116
002777 006117 A     1137        ORAE    SCBE        OR IN ENDING BYTE                                      00 01117
003000 004706 R
003001 005012 A     1138        TAB               MAKE IT AN INDEX                                         00 01118
003002 006016 A     1139        LDAE    SCCN,B      GET ADJUSTMENT VALUE                                   00 01119
003003 004711 R
003004 006127 A     1140        ADDE    SCW1        PLUS SAVED VALUE                                       00 01120
003005 004707 R
003006 006057 A     1141        STAE    SCLP        SAVE LENGTH IN                                         00 01121
003007 004715 R
003010 006027 A     1142        LDBE*   SCAN       GET MAJOR SCAN TABLE PTR                                00 01122
003011 102743 R
003012 016000 A     1143        LDA     0,B         GET SEARCH ARGUMENT PTR                                00 01123
003013 054006 A     1144        STA     SC2+4       MAKE IT SOURCE                                         00 01124
003014 016001 A     1145        LDA     1,B         GET SRCH ARG LENGTH                                    00 01125
003015 054006 A     1146        STA     SC2+6       MAKE IT THE COMPARE LENGTH                             00 01126
003016 002000 A     1147 SC2    CALL    COMP,0,0,0,0,0,0,0 IS IT THE SEARCH ARGUMENT                       00 01127
003017 001174 E
003020 000000 A
003021 000000 A
003022 000000 A
003023 000000 A
003024 000000 A
003025 000000 A
003026 000000 A
003027 006017 A     1148        LDAE    SC2+8       GET RESULT                                             00 01128
003030 003026 R
003031 001010 A     1149        JAZ     SC12        JUMP IF EQUAL                                          00 01129
003032 003112 R
003033 006017 A     1150        LDAE    SCLP        GET SCAN AREA LENGTH                                   00 01130
003034 004715 R
003035 006027 A     1151        LDBE*   SCAN       GET TABLE POINTER                                       00 01131
003036 102743 R
003037 146001 A     1152        SUB     1,B         MINUS ARGUMENT LENGTH                                  00 01132
003040 001004 A     1153        JAN     SC4         REQUESTED STRING IS NOT                                00 01133
003041 003063 R
003042 001010 A     1154        JAZ     SC4          IN THE I/O AREA                                       00 01134
003043 003063 R
003044 006017 A     1155        LDAE    CBSW       GET START BYTE FOR SCAN PASS                            00 01135
003045 004704 R
003046 001016 A     1156        JANZ    SC5        JUMP IF NOT ZERO                                        00 01136
003047 003054 R
003050 006047 A     1157        INRE    CBSW       IF ZERO MAKE IT A 1                                     00 01137
003051 004704 R
003052 001000 A     1158        JMP     SC1        RE-SCAN                                                 00 01138
003053 002756 R
003054 005001 A     1159 SC5    TZA                                                                        00 01139
003055 006057 A     1160        STAE    CBSW       MAKE IT ZERO                                            00 01140
003056 004704 R
003057 006047 A     1161        INRE    CWSW       INCR START WORD PTR                                     00 01141
003060 004703 R
003061 001000 A     1162        JMP     SC1        RE SCAN                                                 00 01142
003062 002756 R
003063 006027 A     1163 SC4    LDBE*   SCAN       GET SCAN TABLE PTR                                      00 01143
003064 102743 R
003065 016005 A     1164        LDA     5,B        GET OPTIONAL SWITCH                                     00 01144
003066 001004 A     1165        JAN     SCRT       OPTIONAL CTL STMT MISSING - OK                          00 01145
003067 003073 R
003070 005301 A     1166 SCERR  DECR    1          ERROR RETURN CODE = -1                                  00 01146
003071 001000 A     1167        JMP     SCRT1                                                              00 01147
003072 003077 R
003073 014311 A     1168 SCRT   LDA     SCERZ                                                              00 01148
003074 001016 A     1169        JANZ    SCERR      IF ANY ERRORS - ERROR RETURN                            00 01149
003075 003070 R
003076 005001 A     1170        TZA                NORMAL RETURN CODE = 0                                  00 01150
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003077 006047 A 1171 SCRT1   INRE     SCAN                                        00 01151
003100 002743 R
003101 001000 A 1172         JMP*     SCAN       RETURN                           00 01152
003102 102743 R
003103 006027 A 1173 SC3     LDBE*    SCAN     GET SCAN TABLE PTR                 00 01153
003104 102743 R
003105 016002 A 1174         LDA      2,B        GET INTERM TABLE PTR             00 01154
003106 001016 A 1175         JANZ     SC8        JUMP IF THERE IS ONE             00 01155
003107 003254 R
003110 001000 A 1176         JMP      SCRT       RETURN                           00 01156
003111 003073 R
003112 006027 A 1177 SC12    LDBE*    SCAN     GET TABLE POINTER                  00 01157
003113 102743 R
003114 016001 A 1178         LDA      1,B        GET ARGUMENT LENGTH              00 01158
003115 006400 A 1179         BT       00,SCGO                                     00 01159
003116 003131 R
003117 006017 A 1180         LDAE     SC2+3                                       00 01160
003120 003021 R
003121 130421 A 1181         ERA      ONE                                         00 01161
003122 001010 A 1182         JAZ      SGGO                                        00 01162
003123 003130 R
003124 016001 A 1183         LDA      1,B                                         00 01163
003125 005311 A 1184         DAR                                                  00 01164
003126 001000 A 1185         JMP      SCGO                                        00 01165
003127 003131 R
003130 016001 A 1186 SGGO    LDA      1,B
003131 004341 A 1187 SCGO    LSRA     1        DIVIDE BY 2                        00 01167
003132 005211 A 1188         CPA                 MAKE IT NEGATIVE                 00 01168
003133 005111 A 1189         IAR                                                  00 01169
003134 006127 A 1190         ADDE     SC2+2        PLUS TARGET WORD              00 01170
003135 003020 R
003136 006057 A 1191         STAE     FSWL         STORE AS START WORD           00 01171
003137 004716 R
003140 006057 A 1192         STAE     SCSW                                       00 01172
003141 004675 R
003142 006017 A 1193         LDAE     SC2+3        GET BYTE NUMBER               00 01173
003143 003021 R
003144 006057 A 1194         STAE     FSBL         STORE AS START BYTE           00 01174
003145 004717 R
003146 006057 A 1195         STAE     SCSB                                       00 01175
003147 004676 R
003150 001010 A 1196         JAZ      SC9          JUMP IF STARTING BYTE =0      00 01176
003151 003213 R
003152 016001 A 1197         LDA      1,B          GET SCH ARG LGH               00 01177
003153 005111 A 1198         IAR                PLUS 1 FOR NEXT BYTE            00 01178
003154 006400 A 1199         BT       00,SC10      JUMP IF ODD                   00 01179
003155 003174 R
003156 004341 A 1200         LSRA     1            DIVIDE BY 2                   00 01180
003157 006127 A 1201         ADDE     FSWL         ADD START WD                  00 01181
003160 004716 R
003161 006057 A 1202         STAE     FEWL         MAKE IT END WD                00 01182
003162 004720 R
003163 006057 A 1203         STAE     SCEW                                       00 01183
003164 004677 R
003165 005001 A 1204         TZA                                                  00 01184
003166 006057 A 1205         STAE     FEBL         MAKE END BYTE 0               00 01185
003167 004721 R
003170 006057 A 1206         STAE     SCEB                                       00 01186
003171 004700 R
003172 001000 A 1207         JMP      SC3                                        00 01187
003173 003103 R
003174 004341 A 1208 SC10    LSRA     1            DIVIDE BY 2                   00 01188
003175 006127 A 1209         ADDE     FSWL         ADD START WD                  00 01189
003176 004716 R
003177 006057 A 1210         STAE     FEWL         MAKE IT END WD                00 01190
003200 004720 R
003201 006057 A 1211         STAE     SCEW                                       00 01191
003202 004677 R
003203 006017 A 1212         LDAE     FSBL         GET START BYTE                00 01192
003204 004717 R
003205 006057 A 1213         STAE     FEBL         MAKE IT END BYTE              00 01193
003206 004721 R
003207 006057 A 1214         STAE     SCEB                                       00 01194
003210 004700 R
003211 001000 A 1215         JMP      SC3                                        00 01195
003212 003103 R
003213 016001 A 1216 SC9     LDA      1,B          GET SCH ARG LGH               00 01196
003214 005111 A 1217                PLUS 1 FOR NEXT BYTE                         00 01197
003215 006400 A 1218         BT       00,SC11      JUMP IF ODD                   00 01198
003216 003236 R
003217 004341 A 1219         LSRA     1            DIVIDE BY 2                   00 01199
003220 005311 A 1220         DAR                 MINUS 1                         00 01200
003221 006127 A 1221         ADDE     FSWL         PLUS START WD                 00 01201
003222 004716 R
003223 006057 A 1222         STAE     FEWL         IS END WD                     00 01202
003224 004720 R
003225 006057 A 1223         STAE     SCEW                                       00 01203
003226 004677 R
003227 005101 A 1224         INCR     1                                          00 01204
003230 006057 A 1225         STAE     FEBL         MAKE END BYTE A 1             00 01205
003231 004721 R
003232 006057 A 1226         STAE     SCEB                                       00 01206
003233 004700 R
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003234 001000 A 1227          JMP     SC3                                          00 01207
003235 003103 R
003236 004341 A 1228 SC11     LSRA    1       DIVIDE BY 2                          00 01208
003237 006127 A 1229          ADDE    FSWL    PLUS START WD                        00 01209
003240 004716 R
003241 006057 A 1230          STAE    FEWL    IS END WD                            00 01210
003242 004720 R
003243 006057 A 1231          STAE    SCEW                                         00 01211
003244 004677 R
003245 005001 A 1232          TZA                                                  00 01212
003246 006057 A 1233          STAE    FEBL    MAKE END BYTE = 0                    00 01213
003247 004721 R
003250 006057 A 1234          STAE    SCEB                                         00 01214
003251 004700 R
003252 001000 A 1235          JMP     SC3                                          00 01215
003253 003103 R
003254 006017 A 1236 SC8      LDAE    FEWL    GET START WD                         00 01216
003255 004720 R
003256 006057 A 1237          STAE    CMSW    STORE IN WORK AREA                   00 01217
003257 004722 R
003260 006017 A 1238          LDAE    FEBL    GET START BYTE                       00 01218
003261 004721 R
003262 006057 A 1239          STAE    CMSB    STORE IN  WORK AREA                  00 01219
003263 004723 R
003264 005001 A 1240          TZA                                                  00 01220
003265 006057 A 1241          STAE    FCNT    ZERO THE FIELD CHAR CNT              00 01221
003266 004734 R
003267 006027 A 1242 SC16     LDBE    CMSB    GET BYTE NUMBER AS INDEX             00 01222
003270 004723 R
003271 006017 A 1243          LDAE*   CMSW    GET TARGET WD                        00 01223
003272 104722 R
003273 006156 A 1244          ANAE    CMMK,B  CLEAR UNUSED BYTE                    00 01224
003274 004724 R
003275 006146 A 1245          SUBE    COMA,B  MINUS A COMMA                        00 01225
003276 004726 R
003277 001010 A 1246          JAZ     SCMA    JUMP IF EQUAL                        00 01226
003300 003356 R
003301 006126 A 1247          ADDE    COMA,B  RESTORE                              00 01227
003302 004726 R
003303 006146 A 1248          SUBE    BLNK,B  MINUS A BLANK                        00 01228
003304 004730 R
003305 001010 A 1249          JAZ     SLES    JUMP IF EQUAL                        00 01229
003306 003354 R
003307 006126 A 1250          ADDE    BLNK,B  RESTORE                              00 01230
003310 004730 R
003311 006146 A 1251          SUBE    PARN,B  MINUS A RIGHT PAREN                  00 01231
003312 004732 R
003313 001010 A 1252          JAZ     SLES    JUMP IF EQUAL                        00 01232
003314 003354 R
003315 006017 A 1253          LDAE    CMSB    GET SCAN BYTE                        00 01233
003316 004723 R
003317 006147 A 1254          SUBE    SCBE    MINUS ENDING BYTE OF CONTROL AREA    00 01234
003320 004706 R
003321 001016 A 1255          JANZ    SC13    JUMP IF NOT END OF SCAN              00 01235
003322 003333 R
003323 006017 A 1256          LDAE    CMSW    GET SCAN WORD                        00 01236
003324 004722 R
003325 006147 A 1257          SUBE    SCWE    MINUS END OF CONTROL AREA            00 01237
003326 004703 R
003327 001016 A 1258          JANZ    SC13    JUMP IF NOT END OF SCAN              00 01238
003330 003333 R
003331 001000 A 1259          JMP     SCERR   JUMP TO ERROR RETURN IF END OF SCAN  00 01239
003332 003070 R
003333 006017 A 1260 SC13     LDAE    CMSB    GET SCAN BYTE                        00 01240
003334 004723 R
003335 001016 A 1261          JANZ    SC14    JUMP IF 1                            00 01241
003336 003343 R
003337 006047 A 1262          INRE    CMSB    MAKE IT 2                            00 01242
003340 004723 R
003341 001000 A 1263          JMP     SC15                                         00 01243
003342 003350 R
003343 005001 A 1264 SC14     TZA                                                  00 01244
003344 006057 A 1265          STAE    CMSB    MAKE BYTE = 0                        00 01245
003345 004723 R
003346 006047 A 1266          INRE    CMSW    INCREMENT SCAN WD PTR                00 01246
003347 004722 R
003350 006047 A 1267 SC15     INRE    FCNT    INCREMENT FIELD CNT                  00 01247
003351 004734 R
003352 001000 A 1268          JMP     SC16    CONTINUE THE SCAN                    00 01248
003353 003267 R
003354 006047 A 1269 SLES     INRE    SWIT    TURN ON LAST ENTRY SWITCH            00 01249
003355 004735 R
003356 006027 A 1270 SCMA     LDBE*   SCAN    GET MAJOR SCAN TABLE PTR             00 01250
003357 102743 R
003360 026004 A 1271          LDB     4,B     GET INTERMEDIATE TABLE PTR           00 01251
003361 016001 A 1272          LDA     1,B     GET LGH OF EXPAND CELL IN WORDS      00 01252
003362 001002 A 1273          JAP     *+4                                          00 01253
003363 003366 R
003364 005211 A 1274          CPA             MAKE POSITIVE                        00 01254
003365 005111 A 1275          IAR                                                  00 01255
003366 004241 A 1276          LRLA    1       TIMES 2 FOR NUMBER OF BYTES          00 01256
003367 006147 A 1277          SUBE    FCNT    MINUS THE OPERAND BYTES              00 01257
003370 004734 R
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003371 001004 A 1278          JAN     SC17        ERROR IF IT WILL NOT FIT                          00 01258
003372 003402 R
003373 006017 A 1279          LDAE    FCNT        GET THE NUMBER OF OPERAND BYTES                   00 01259
003374 004734 R
003375 001016 A 1280          JANZ    SC18                                                          00 01260
003376 003406 R
003377 016001 A 1281          LDA     1,B         GET OPTION SWITCH                                 00 01261
003400 001004 A 1282          JAN     SC19        GO  CHECK FOR MORE ENTRIES                        00 01262
003401 003703 R
003402 044002 A 1283 SC17     INR     SCERZ       INC ERROR COUNT                                   00 01263
003403 001000 A 1284          JMP     SC19        GO  CHECK FOR MORE ENTRIES                        00 01264
003404 003703 R
003405 000000 A 1285 SCERZ    DATA    0                                                             00 01265
003406 016002 A 1286 SC18     LDA     2,B         GET ADJUSTMENT INDICATOR                          00 01266
003407 001004 A 1287          JAN     SC20        RIGHT ADJUST                                      00 01267
003410 003512 R
003411 006017 A 1288          LDAE    FEWL        GET START WORD FOR FIELD                          00 01268
003412 004720 R
003413 054014 A 1289          STA     SC21+4      MAKE IT SOURCE                                    00 01269
003414 006017 A 1290          LDAE    FEBL        GET START BYTE FOR FIELD                          00 01270
003415 004721 R
003416 054012 A 1291          STA     SC21+5      MAKE IT SOURCE BYTE                               00 01271
003417 006017 A 1292          LDAE    FCNT        GET MOVE LENGTH                                   00 01272
003420 004731 R
003421 054010 A 1293          STA     SC21+6      STORE IN CALL                                     00 01273
003422 016000 A 1294          LDA     0,B         GET EXPANSION CELL                                00 01274
003423 054002 A 1295          STA     SC21+2      STORE AS TARGET                                   00 01275
003424 002000 A 1296 SC21     CALL    MOVE,0,0,0,0,0  MOVE FIELD TO EXPANSION CELL                  00 01276
003425 002673 E
003426 000000 A
003427 000000 A
003430 000000 A
003431 000000 A
003432 000000 A
003433 001000 A 1297          JMP     SC26        DO AN ALPHA CK                                    00 01277
003434 003600 R
003435 006027 A 1298 SC27     LDBE*   SCAN        GET MAJOR SCAN TABLE                              00 01278
003436 102743 R
003437 026001 A 1299          LDB     4,B         GET INTERMEDIATE TABLE                            00 01279
003440 016001 A 1300          LDA     1,B         GET LGH OF EXPAND CELL                            00 01280
003441 001002 A 1301          JAP     *+4                                                           00 01281
003442 003445 R
003443 005211 A 1302          CPA                 MAKE POSITIVE                                     00 01282
003444 005111 A 1303          IAR                                                                   00 01283
003445 006057 A 1304          STAE    CKLP        STORE AS LOOP CTR                                 00 01284
003446 004736 R
003447 016000 A 1305          LDA     0,B         GET EXPANSION CELL PTR                            00 01285
003450 006057 A 1306          STAE    ECPT        SAVE PTR                                          00 01286
003451 004737 R
003452 005001 A 1307 SC24     TZA                                                                   00 01287
003453 006057 A 1308          STAE    SCW1        INIT BYTE/WORD CNT                                00 01288
003454 004707 R
003455 006027 A 1309          LDBE*   ECPT        GET A WORD OF EXPANDED FIELD                      00 01289
003456 104737 R
003457 005001 A 1310 SC23     TZA                                                                   00 01290
003460 004450 A 1311          LLRL    8           PUT 8 BITS IN A REG                               00 01291
003461 006140 A 1312          SUBI    0272        IS IT ABOVE 0271                                  00 01292
003462 000272 A
003463 001002 A 1313          JAP     SC17        JUMP IF ERROR                                     00 01293
003464 003402 R
003465 006120 A 1314          ADDI    0272-0260   BELOW 0260                                        00 01294
003466 000012 A
003467 001004 A 1315          JAN     SC17        JUMP IF ERROR                                     00 01295
003470 003402 R
003471 006017 A 1316          LDAE    SCW1        GET BYTE/WORD CNT                                 00 01296
003472 004707 R
003473 006047 A 1317          INRE    SCW1        INCR BY 1                                         00 01297
003474 004707 R
003475 001010 A 1318          JAZ     SC23        GET 2ND BYTE OF WORD                              00 01298
003476 003457 R
003477 006047 A 1319          INRE    ECPT        INCR EXPANDED FIELD PTR                           00 01299
003500 004737 R
003501 006017 A 1320          LDAE    CKLP        GET LOOP CTR                                      00 01300
003502 004736 R
003503 005211 A 1321          DAR                 MINUS 1                                           00 01301
003504 006057 A 1322          STAE    CKLP                                                          00 01302
003505 004736 R
003506 001016 A 1323          JANZ    SC24        LOOK AT NEXT WORD                                 00 01303
003507 003452 R
003510 001000 A 1324          JMP     SC19        FIELD IS VALID                                    00 01304
003511 003703 R
003512 006027 A 1325 SC20     LDBE*   SCAN        MAJOR PTR                                         00 01305
003513 102743 R
003514 026004 A 1326          LDB     4,B         GET INTERM PTR                                    00 01306
003515 016001 A 1327          LDA     1,B         GET LENGTH                                        00 01307
003516 001002 A 1328          JAP     *+4                                                           00 01308
003517 003522 R
003520 005211 A 1329          CPA                 MAKE POSITIVE                                     00 01309
003521 005111 A 1330          IAR                                                                   00 01310
003522 126000 A 1331          ADD     0,B         PLUS EXPANSION CELL PTR                           00 01311
003523 006057 A 1332          STAE    SCW1        SAVE WD PTR TO END OF EXP CELL                    00 01312
003524 004707 R
003525 006017 A 1333          LDAE    FCNT        GET NUMBER OF BYTES IN FIELD                      00 01313
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003526 004734 R
003527 054045 A 1334          STA     SC28+6      STORE AS MOVE LENGTH                    00 01314
003530 006400 A 1335          BT      00,SC29                                             00 01315
003531 003546 R
003532 005001 A 1336          TZA                                                         00 01316
003533 054036 A 1337          STA     SC28+3      STORE AS TARGET BYTE                    00 01317
003534 006017 A 1338          LDAE    FCNT                                                00 01318
003535 004734 R
003536 004341 A 1339          LSRA    1             DIVIDE BY 2                           00 01319
003537 005211 A 1340          CPA                 MAKE NEGATIVE                           00 01320
003540 005111 A 1341          IAR                                                         00 01321
003541 006127 A 1342          ADDE    SCW1          PLUS END+1 OF EXP CELL                00 01322
003542 004707 R
003543 054025 A 1343          STA     SC28+2        MAKE TARGET                           00 01323
003544 001000 A 1344          JMP     SC30                                                00 01324
003545 003561 R
003546 005101 A 1345 SC29     INCR    1             GET +1                                00 01325
003547 054022 A 1346          STA     SC28+3        STORE AS TARGET BYTE                  00 01326
003550 006017 A 1347          LDAE    FCNT          GET BYTE CNT                          00 01327
003551 004734 R
003552 004341 A 1348          LSRA    1             DIVIDE BY2                            00 01328
003553 005111 A 1349          IAR                 PLUS 1                                  00 01329
003554 005211 A 1350          CPA                 MAKE NEGATIVE                           00 01330
003555 005111 A 1351          IAR                                                         00 01331
003556 006127 A 1352          ADDE    SCW1          PLUS END+1 OF EXP CELL                00 01332
003557 004707 R
003560 054010 A 1353          STA     SC28+2        MAKE IT TARGET WORD                   00 01333
003561 006017 A 1354 SC30     LDAE    FEWL          INITIALIZE                            00 01334
003562 004720 R
003563 054007 A 1355          STA     SC28+4          SOURCE                              00 01335
003564 006017 A 1356          LDAE    FEBL            WORD AND                            00 01336
003565 004721 R
003566 054005 A 1357          STA     SC28+5          BYTE                                00 01337
003567 002000 A 1358 SC28     CALL    MOVE,0,0,0,0,0  MOVE TO RIGHT OF EXPANSION CELL     00 01338
003570 003425 E
003571 000000 A
003572 000000 A
003573 000000 A
003574 000000 A
003575 000000 A
003576 001000 A 1359          JMP     SC27          CHECK NUMERIC                         00 01339
003577 003435 R
003600 006027 A 1360 SC26     LDBE*   SCAN        GET MAJOR PTR                           00 01340
003601 102743 R
003602 026004 A 1361          LDB     4,B           GET INTERMEDIATE PTR                  00 01341
003603 016001 A 1362          LDA     1,B           GET EXP CELL LENGTH                   00 01342
003604 001002 A 1363          JAP     *+4                                                 00 01343
003605 003610 R
003606 005211 A 1364          CPA                   MAKE POSITIVE                         00 01344
003607 005111 A 1365          IAR                                                         00 01345
003610 006057 A 1366          STAE    CKLP          SAVE                                  00 01346
003611 004736 R
003612 016000 A 1367          LDA     0,B           GET EXP CELL PTR                      00 01347
003613 006057 A 1368          STAE    ECPT          SAVE                                  00 01348
003614 004737 R
003615 005001 A 1369 SC31     TZA                                                         00 01349
003616 006057 A 1370          STAE    SCW1          STORE 0 IN BYTE INDICATOR             00 01350
003617 004707 R
003620 006027 A 1371          LDBE*   ECPT        GET EXP CELL WD                         00 01351
003621 104737 R
003622 005001 A 1372 SC32     TZA                                                         00 01352
003623 004450 A 1373          LLRL    8             GET A BYTE                            00 01353
003624 006140 A 1374          SUBI    0272          IS IT ABOVE 0271                      00 01354
003625 000272 A
003626 001002 A 1375          JAP     SC33          CHECK ALPHA                           00 01355
003627 003644 R
003630 006120 A 1376          ADDI    0272-0260     BELOW 0260                            00 01356
003631 000012 A
003632 001004 A 1377          JAN     SC34          CHECK $                               00 01357
003633 003650 R
003634 006017 A 1378 SC37     LDAE    SCW1          GET BYTE INDICATOR                    00 01358
003635 004707 R
003636 006047 A 1379          INRE    SCW1          INCR BYTE INDICATOR                   00 01359
003637 004707 R
003640 001010 A 1380          JAZ     SC32          GET 2ND BYTE OF WORD                  00 01360
003641 003622 R
003642 001000 A 1381          JMP     SC35          CHECK IT                              00 01361
003643 003670 R
003644 006120 A 1382 SC33     ADDI    0272-0333     ABOVE 0332=Z                          00 01362
003645 177737 A
003646 001002 A 1383          JAP     SC17          JUMP IF ERROR                         00 01363
003647 003402 R
003650 006120 A 1384          ADDI    0333-0301     BELOW 0301=A                          00 01364
003651 000032 A
003652 001004 A 1385          JAN     SC17          JUMP IF ERROR                         00 01365
003653 003402 R
003654 001000 A 1386          JMP     SC37                                                00 01366
003655 003634 R
003656 006120 A 1387 SC34     ADDI    0260-0244     $                                     00 01367
003657 000014 A
003660 001010 A 1388          JAZ     SC37                                                00 01368
003661 003634 R
003662 006120 A 1389          ADDI    0244-0240     BLANK                                 00 01369
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003663 000004 A
003664 001016 A 1390          JANZ    SC17        JUMP IF ERROR                                  00 01370
003665 003402 R
003666 001000 A 1391          JMP     SC37                                                       00 01371
003667 003634 R
003670 006047 A 1392 SC35     INRE    ECPT        INCR EXP CELL PTR                              00 01372
003671 004737 R
003672 006017 A 1393          LDAE    CKLP        GET LOOP CTR                                   00 01373
003673 004736 R
003674 005311 A 1394          DAR                                                                00 01374
003675 006057 A 1395          STAE    CKLP                                                       00 01375
003676 004736 R
003677 001016 A 1396          JANZ    SC31        LOOK AT NEXT WORD                              00 01376
003700 003615 R
003701 001000 A 1397          JMP     SC19        FIELD IS VALID                                 00 01377
003702 003703 R
003703 006017 A 1398 SC19     LDAE    CMSB        GET DELIMITER BYTE INDICTAOR                   00 01378
003704 004723 R
003705 006400 A 1399          BT      00,SC38     JUMP IF BYTE 1 IS CURRENT                      00 01379
003706 003713 R
003707 006047 A 1400          INRE    CMSB        MAKE IT BYTE 1                                 00 01380
003710 004723 R
003711 001000 A 1401          JMP     SC39                                                       00 01381
003712 003720 R
003713 006047 A 1402 SC38     INRE    CMSW          INCR WORD PTR                                00 01382
003714 004722 R
003715 005001 A 1403          TZA                                                                00 01383
003716 006057 A 1404          STAE    CMSB          MAKE BYTE INDICATOR 0                        00 01384
003717 004723 R
003720 006027 A 1405 SC39     LDBE*   SCAN        GET MAJOR PTR                                  00 01385
003721 102743 R
003722 016005 A 1406          LDA     5,B           GET NUMBER OF ENTRIES IN INTER TABLE         00 01386
003723 001002 A 1407          JAP     SC40          JUMP IF POSITIVE                             00 01387
003724 003727 R
003725 005211 A 1408          CPA                 MAKE POSITIVE                                  00 01388
003726 005111 A 1409          IAR                                                                00 01389
003727 005311 A 1410 SC40     DAR                                                                00 01390
003730 054002 A 1411          STA     *+3                                                        00 01391
003731 004201 A 1412          ASLA    1             TIMES 3 WORDS PER ENTRY                      00 01392
003732 006120 A 1413          ADDI    *-*                                                        00 01393
003733 000000 A
003734 126002 A 1414          ADD     2,B           PLUS START OF INTERM TABLE                   00 01394
003735 146004 A 1415          SUB     4,B           MINUS CURRENT PTR                            00 01395
003736 001016 A 1416          JANZ    SC42          THAT WAS NOT LAST ENTRY                      00 01396
003737 003751 R
003740 014774 A 1417          LDA     SWIT          GET SWITCH                                   00 01397
003741 006400 A 1418          BT      00,SC43       LAST ENTRY SWITCH ON                         00 01398
003742 003745 R
003743 001000 A 1419          JMP     SCERR         ERROR RETURN                                 00 01399
003744 003070 R
003745 005001 A 1420 SC43     TZA                                                                00 01400
003746 054766 A 1421          STA     SWIT          TURN OFF LAST ENTRY SWITCH                   00 01401
003747 001000 A 1422          JMP     SCRT          RETURN                                       00 01402
003750 003073 R
003751 014763 A 1423 SC42     LDA     SWIT          GET LAST ENTRY SWITCH                        00 01403
003752 006400 A 1424          BT      00,SC44       JUMP IF ON                                   00 01404
003753 003765 R
003754 014745 A 1425          LDA     CMSW          INITIALIZE START                             00 01405
003755 054742 A 1426          STA     FEWL          POINTERS FOR NEXT                            00 01406
003756 014744 A 1427          LDA     CMSB          FIELD                                        00 01407
003757 054741 A 1428          STA     FEBL          SCAN                                         00 01408
003760 016004 A 1429          LDA     4,B           GET CURR INTERM ENTRY PTR                    00 01409
003761 120464 A 1430          ADD     THREE         INCR TO NEXT ENTRY                           00 01410
003762 056004 A 1431          STA     4,B           SAVE                                         00 01411
003763 001000 A 1432          JMP     SC8           GO PROCESS NEXT ENTRY                        00 01412
003764 003254 R
003765 005001 A 1433 SC44     TZA                                                                00 01413
003766 054746 A 1434          STA     SWIT          TURN OFF LAST ENTRY SWITCH                   00 01414
003767 016005 A 1435          LDA     5,B           GET NUM OF ENTRIES IN INTERM TABLE           00 01415
003770 001002 A 1436          JAP     SC45                                                       00 01416
003771 003774 R
003772 005211 A 1437          CPA                                                                00 01417
003773 005111 A 1438          IAR                                                                00 01418
003774 054002 A 1439 SC45     STA     *+3                                                        00 01419
003775 004201 A 1440          ASLA    1             TIMES 3                                      00 01420
003776 006120 A 1441          ADDI    *-*                                                        00 01421
003777 000000 A
004000 126002 A 1442          ADD     2,B           PLUS FIRST ENTRY PTR                         00 01422
004001 054705 A 1443          STA     SCW1          SAVE FOR LOOP CONTROL                        00 01423
004002 016004 A 1444 SC46     LDA     4,B           GET CURR ENTRY PTR                           00 01424
004003 120464 A 1445          ADD     THREE         INCR TO NEXT ENTRY                           00 01425
004004 056004 A 1446          STA     4,B           SAVE                                         00 01426
004005 144701 A 1447          SUB     SCW1          MINUS LOOP CONTROL                           00 01427
004006 001010 A 1448          JAZ     SCRT          RETURN                                       00 01428
004007 003073 R
004010 026004 A 1449          LDB     4,B           GET ENTRY PTR                                00 01429
004011 016001 A 1450          LDA     1,B           GET OPTION SWITCH                            00 01430
004012 001002 A 1451          JAP     SCERR         ERROR IF REQUIRED MISSING                    00 01431
004013 003070 R
004014 006027 A 1452          LDBE*   SCAN        GET MAJOR PTR                                  00 01432
004015 102743 R
004016 001000 A 1453          JMP     SC46                                                       00 01433
004017 004002 R
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                    1454 *
                    1455 *  SIFC - PUT RECLEN, FILENAME AND KEY IN CALL TO SIWF
                    1456 *
                    1457 *  CALLING SEQUENCE -
                    1458 *       JMPM    SIFC
                    1459 *       DATA    (PTR TO INTERMEDIATE SCAN TABLE)
                    1460 *       DATA    (PTR TO CALL TO SIWF)
                    1461 *
004020 000000 A     1462 SIFC   ENTR
004021 006037 A     1463        LDXE    SIFC        GET PARAM PTR
004022 004020 R
004023 025001 A     1464        LDB     1,X          GET CALL PTR
004024 035000 A     1465        LDX     0,X          GET INTERMEDIATE TABLE PTR
004025 006015 A     1466        LDAE*   9,X          GET RECORD SIZE
004026 100011 A
004027 056004 A     1467        STA     4,B          STORE IN CALL
004030 006015 A     1468 SIF2   LDAE*   0,X         GET LU#
004031 100000 A
004032 056003 A     1469        STA     3,B          STORE IN CALL
004033 006015 A     1470        LDAE*   3,X          GET FILE NAME
004034 100003 A
004035 006140 A     1471        SUBI    ' '          IS THERE ONE
004036 120240 A
004037 001010 A     1472        JAZ     SIF1         NO FILE NAME
004040 004055 R
004041 015003 A     1473        LDA     3,X          GET FILE NAME PTR
004042 056007 A     1474        STA     7,B          STORE IN CALL
004043 006015 A     1475        LDAE*   6,X          GET KEY
004044 100006 A
004045 006140 A     1476        SUBI    ' '          IS THERE ONE
004046 120240 A
004047 001010 A     1477        JAZ     SIF1         NO, FINISHED
004050 004055 R
004051 006015 A     1478        LDAE*   6,X          GET KEY
004052 100006 A
004053 004350 A     1479        LSRA    8            PUT IN LOW ORDER
004054 056006 A     1480        STA     6,B          STORE IN CALL
004055 006047 A     1481 SIF1   INRE    SIFC
004056 004020 R
004057 006047 A     1482        INRE    SIFC
004060 004020 R
004061 001000 A     1483        JMP*    SIFC
004062 104020 R
                    1484 *
                    1485 *       SIFW - PUT FILENAME AND KEY IN CALL TO SIWF
                    1486 *
                    1487 *  CALLING SEQUENCE -
                    1488 *       JMPM    SIFW
                    1489 *       DATA    (PTR TO INTERMEDIATE SCAN TABLE)
                    1490 *       DATA    (PTR TO CALL TO SIWF)
                    1491 *
004063 000000 A     1492 SIFW   ENTR
004064 006037 A     1493        LDXE    SIFW        INITIALIZE
004065 004063 R
004066 006077 A     1494        STXE    SIFC         EXIT
004067 004020 R
004070 025001 A     1495        LDB     1,X          GET CALL PTR
004071 035000 A     1496        LDX     0,X          GET INTERMED TABLE PTR
004072 001000 A     1497        JMP     SIF2
004073 004030 R
                    1498 *
                    1499 *  SIWF - FILL IN FCB'S
                    1500 *
                    1501 *  CALLING SEQUENCE -
                    1502 *       JMPM    SIWF
                    1503 *       DATA    (PTR TO START OF I/O MACROS FOR THIS FILE)
                    1504 *       DATA    LUN
                    1505 *       DATA    RECLEN
                    1506 *       DATA    BUFFER ADDRESS
                    1507 *       DATA    KEY
                    1508 *       DATA    FILENAME
                    1509 *
004074 000000 A     1510 SIWF   ENTR
004075 006037 A     1511        LDXE    SIWF         GET PARAM PTR
004076 004074 R
004077 025000 A     1512        LDB     0,X          GET I/O MACRO PTR
004100 010423 A     1513        LDA     FOUR         GET LOOP CTL
004101 054046 A     1514        STA     SWF1         SAVE LOOP CTL
004102 016003 A     1515 SWF2   LDA     3,B          GET LOGICAL UNIT CELL
004103 115001 A     1516        ORA     1,X          OR WITH LOGICAL UNIT NUM
004104 056003 A     1517        STA     3,B          PUT IN I/O MACRO
004105 014042 A     1518        LDA     SWF1         GET LOOP CTR
004106 005311 A     1519        DAR                 MINUS 1
004107 054040 A     1520        STA     SWF1         SAVE IT
004110 001010 A     1521        JAZ     SWF3
004111 004117 R
004112 005021 A     1522        TBA                 ADD 10
004113 120471 A     1523        ADD     TEN              TO I/O
004114 005012 A     1524        TAB                 MACRO PTR
004115 001000 A     1525        JMP     SWF2         PROCESS IT
004116 004102 R
004117 026004 A     1526 SWF3   LDB     4,B          GET FCB PTR
004120 015002 A     1527        LDA     2,X          GET RECORD LENGTH
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004121 056000 A 1528          STA     0,B     PUT IT IN FCB/DCB                    00 01508
004122 015003 A 1529          LDA     3,X     GET AREA PTR                         00 01509
004123 056001 A 1530          STA     1,B     PUT IT IN FCB/DCB                    00 01510
004124 016002 A 1531          LDA     2,B     GET KEY                              00 01511
004125 115004 A 1532          ORA     4,X     OR IN ACTUAL KEY                     00 01512
004126 056002 A 1533          STA     2,B     SAVE IT                              00 01513
004127 015005 A 1534          LDA     5,X     GET FILE NAME PTR                    00 01514
004130 001010 A 1535          JAZ     SWF4    IF 0, DCB, FINISHED                  00 01515
004131 004141 R
004132 005014 A 1536          TAX                                                  00 01516
004133 015000 A 1537          LDA     0,X     PUT FILE NAME                        00 01517
004134 056007 A 1538          STA     7,B     IN FCB                               00 01518
004135 015001 A 1539          LDA     1,X                                          00 01519
004136 056010 A 1540          STA     8,B                                          00 01520
004137 015002 A 1541          LDA     2,X                                          00 01521
004140 056011 A 1542          STA     9,B                                          00 01522
004141 006017 A 1543 SWF4     LDAE    SIWF    GET PARAM PTR                        00 01523
004142 004074 R
004143 120466 A 1544          ADD     SIX     COMPUTE RETURN                       00 01524
004144 006057 A 1545          STAE    SIWF                                         00 01525
004145 004074 R
004146 001000 A 1546          JMP*    SIWF    RETURN                               00 01526
004147 104074 R
004150 000000 A 1547 SWF1     DATA    0       WORK CELL                            00 01527
               1548 *                                                             00 01528
               1549 *  SI50 - COMPUTE WORK AREA BUFFER LOCATIONS AND SIZES         00 01529
               1550 *         COMPUTE CONTROL FIELD MOVE AND COMPARE PARAMETERS    00 01530
               1551 *                                                             00 01531
               1552 *  CALLING SEQUENCE -                                         00 01532
               1553 *        JMPM    SI50                                         00 01533
               1554 *                                                             00 01534
004151 000000 A 1555 SI50     ENTR                                                 00 01535
004152 006017 A 1556          LDAE    C4        GET INPUT WORD COUNT              *00 01536
004153 005556 R
004154 005012 A 1557          TAB               SAVE IN B                         *00 01537
004155 006147 A 1558          SUBE    C8        MINUS OUTPUT WORD COUNT           *00 01538
004156 005567 R
004157 001002 A 1559          JAP     *+4       JUMP C4>=C8                       *00 01539
004160 004163 R
004161 006027 A 1560          LDBE    C8                                          *00 01540
004162 005567 R
004163 006067 A 1561          STBE    BUFL      SAVE I/O BUFFER SIZE (WORDS)      E.1********
004164 005272 R
004165 004001 A 1562          ASLB    1         MAKE WORD COUNT = 2WORD COUNT       *00 01542
004166 006067 A 1563          STBE    BUFLB     SAVE I/O BUFFER SIZE (BYTES)      E.1********
004167 005273 R
004170 002000 A 1564 SI50A    CALL    SIGC,0,0  GET AVAILABLE CORE LOCATION AND SIZE  00 01544
004171 006062 R
004172 000000 A
004173 000000 A
004174 006030 A 1565          LDXI    SRTC      GET SORT CONTROL TABLE               00 01545
004175 002447 E
004176 006017 A 1566          LDAE    SI50A+2   GET AVAILABLE CORE LOCATION         00 01546
004177 004172 R
004200 055015 A 1567          STA     INBF,X    MAKE IT SORT INPUT BUFFER AREA       00 01547
004201 006127 A 1568          ADDE    BUFL        ADD I/O BUFFER LENGTH              E.1********
004202 005272 R
004203 055016 A 1569          STA     OUBF,X    MAKE IT THE SORT IN OUTPUT BUFFER    00 01549
004204 006017 A 1570          LDAE*   ITB2+9    GET OUTPUT FILE RECORD LENGTH        00 01550
004205 105416 R
004206 001016 A 1571          JANZ    SI51      JUMP IF NOT ZERO                     00 01551
004207 004216 R
004210 006017 A 1572          LDAE*   ITB1+9    GET INPUT FILE RECORD LENGTH         00 01552
004211 105402 R
004212 006057 A 1573          STAE*   ITB2+9    MAKE IT THE OUTPUT RECORD LENGTH     00 01553
004213 105416 R
004214 001000 A 1574          JMP     SI52      CONTINUE                             00 01554
004215 004235 R
004216 006147 A 1575 SI51     SUBE*   ITB1+9    MINUS INPUT RECORD LENGTH            00 01555
004217 105402 R
004220 001010 A 1576          JAZ     SI52      CONTINUE IF SORT INPUT AND OUTPUT LENGTH EQUA00 01556
004221 004235 R
004222 015260 A 1577          LDA     SWCH,X    GET THE SYSTEM SWCH                  00 01557
004223 006150 A 1578          ANAI    01404       USER EXIT(S) OR SKIP FINAL MERGE   F  ********
004224 001404 A
004225 001016 A 1579          JANZ    SI52      YES - OK                             00 01559
004226 004235 R
004227 002000 A 1580          CALL    SCER,ST02,0 PRINT ERROR MSG                    00 01560
004230 002635 R
004231 002731 R
004232 000000 A
004233 006030 A 1581          LDXI    SRTC                                         00 01561
004234 004175 E
004235 006017 A 1582 SI52     LDAE*   ITB1+9    GET INPUT RECORD LENGTH              00 01562
004236 105402 R
004237 004241 A 1583          LRLA    1         TIME 2 = # OF BYTES                  00 01563
004240 055003 A 1584          STA     INRL,X    SET INPUT RECORD LENGTH              00 01564
004241 025260 A 1585          LDB     SWCH,X                                         00 01565
004242 006422 A 1586          BT      RB1+02,SI52A  JUMP IF INEXIT                   00 01566
004243 004250 R
004244 006470 A 1587          BT      RB0+010,SI52A JUMP IF NO OUTEXIT               00 01567
004245 004250 R
004246 006057 A 1588          STAE    BUFLB       OUTEXIT ONLY - WORKRECLEN = INLEN  E.1********
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004247 005273 R
004250 006017 A 1589 SI52A  LDAE*   ITB2+9       GET OUTPUT RECORD LENGTH                    00 01569
004251 105416 R
004252 055011 A 1590        STA     FSOB,X       SET OUTPUT RECORD LENGTH IN WORDS           00 01570
004253 004241 A 1591        LRLA    1            TIMES 2 = # OF BYTES                        00 01571
004254 055006 A 1592        STA     OTRL,X       SET OUTPUT RECORD LENGTH IN BYTES           00 01572
004255 006462 A 1593        BT      RB0+02,SI52B  JUMP IF NO INEXIT                          00 01573
004256 004263 R
004257 006430 A 1594        BT      RB1+010,SI52B JUMP IF OUTEXIT                            00 01574
004260 004263 R
004261 006057 A 1595        STAE    BUFLB         INEXIT ONLY - WORKRECLEN = OUTLEN          E.1********
004262 005273 R
004263 006462 A 1596 SI52B  BT      RB0+02,SI53  JUMP IF NO INEXIT                           00 01576
004264 004271 R
004265 006017 A 1597        LDAE    BUFL          GET 2ND BUFFER LENGTH                      E.1********
004266 005272 R
004267 001000 A 1598        JMP     SI54                                                     00 01578
004270 004272 R
004271 005001 A 1599 SI53   TZA                GET A ZERO                                    00 01579
004272 125016 A 1600 SI54   ADD     OUBF,X       PLUS SORT OUTPUT RECORD PTR                 00 01580
004273 055020 A 1601        STA     SBEG,X       MAKE IT THE SORT AREA PTR                   00 01581
004274 055022 A 1602        STA     SCUR,X       MAKE IT THE CURRENT SORT AREA PTR           00 01582
004275 006010 A 1603        LDAI    TLFC         GET START OF CTL FLD MOVE PARAM             00 01583
004276 000000 E
004277 054754 A 1604        STA     SIMP         SAVE IT                                     00 01584
004300 006010 A 1605        LDAI    CTLS         GET START OF CTL FLD COMP PARAM             00 01585
004301 000000 E
004302 054752 A 1606        STA     SICP         SAVE IT                                     00 01586
004303 006020 A 1607        LDBI    C18          GET START OF CTL FLD EXPANSION CELLS        00 01587
004304 005614 R
004305 064750 A 1608        STB     SICF         SAVE IT                                     00 01588
004306 034747 A 1609 SI55   LDX     SICF         GET PTR TO CTL FLD-EXPANSION CELLS          00 01589
004307 015002 A 1610        LDA     2,X          GET END   COLUMN OF FIELD                   00 01590
004310 001010 A 1611        JAZ     SI56         DONE IF ZERO                                00 01591
004311 004441 R
004312 144760 A 1612        SUB     PUFLB                                                    00 01592
004313 005311 A 1613        DAR                                                              00 01593
004314 001002 A 1614        JAP     SI55A        ERROR IF PAST END OF REC                    00 01594
004315 004335 R
004316 015000 A 1615        LDA     0,X          GET START COL                               00 01595
004317 001010 A 1616        JAZ     SI55A        ERROR IF ZERO                               00 01596
004320 004335 R
004321 144751 A 1617        SUB     BUFLB                                                    00 01597
004322 005311 A 1618        DAR                                                              00 01598
004323 001002 A 1619        JAP     SI55A        ERROR IF PAST END OF REC                    00 01599
004324 004335 R
004325 015002 A 1620        LDA     2,X          GET END COL                                 00 01600
004326 145000 A 1621        SUB     0,X          MINUS START COLUMN                          00 01601
004327 005111 A 1622        IAR                PLUS 1 - COMPUTE LENGTH                       00 01602
004330 054730 A 1623        STA     SILG         SAVE FIELD LENGTH                           00 01603
004331 001010 A 1624        JAZ     SI55A        IF ZERO, QUIT                               00 01604
004332 004335 R
004333 001002 A 1625        JAP     SI57         IF POSITIVE, CONTINUE                       00 01605
004334 004343 R
004335 002000 A 1626 SI55A  CALL    SCER,ST03,0  PRINT ERROR MSG                             00 01606
004336 002635 R
004337 002733 R
004340 000000 A
004341 001000 A 1627        JMP*    SI50         RETURN                                      00 01607
004342 104151 R
004343 015000 A 1628 SI57   LDA     0,X          GET CTL FIELD START COLUMN                  00 01608
004344 005311 A 1629        DAR                                                              00 01609
004345 005012 A 1630        TAB                                                              00 01610
004346 005001 A 1631        TZA                                                              00 01611
004347 170422 A 1632        DIV     TWO          DIVIDE BY 2                                 00 01612
004350 034703 A 1633        LDX     SIMP         GET MOVE PARAM PTR                          00 01613
004351 065002 A 1634        STB     2,X          STORE QUOTIENT AS SRC WD DISPL              00 01614
004352 055003 A 1635        STA     3,X          STORE REMAINDER AS SRC BYTE DISPL           00 01615
004353 024701 A 1636        LDB     SICP         GET COMP PARAM PTR                          00 01616
004354 014702 A 1637        LDA     SITW         GET TARGET WORD                             00 01617
004355 055000 A 1638        STA     0,X          STORE AS MOVE TGT WD DISP                   00 01618
004356 056000 A 1639        STA     0,B          STORE AS TARGET AND SOURCE                  00 01619
004357 056002 A 1640        STA     2,B          WD FOR COMPARE                              00 01620
004360 014677 A 1641        LDA     SITB         GET TARGET BYTE                             00 01621
004361 055001 A 1642        STA     1,X          STORE AS TARGET BYTE FOR MOVE               00 01622
004362 056001 A 1643        STA     1,B          STORE AS TARGET AND SOURCE                  00 01623
004363 056003 A 1644        STA     3,B           BYTE FOR COMPARE                           00 01624
004364 014674 A 1645        LDA     SILG         GET CTL FLD LENGTH                          00 01625
004365 055004 A 1646        STA     4,X          MAKE IT MOVE LENGTH                         00 01626
004366 056004 A 1647        STA     4,B          MAKE IT COMPARE LENGTH                      00 01627
004367 005024 A 1648        TBX                PUT COMP PTR IN X                             00 01628
004370 005012 A 1649        TAB                                                              00 01629
004371 005001 A 1650        TZA                                                              00 01630
004372 170422 A 1651        DIV     TWO          DIVIDE BY 2                                 00 01631
004373 124664 A 1652        ADD     SITB         ADD TGT BYTE TO REMAINDER                   00 01632
004374 054663 A 1653        STA     SITB         SAVE IT                                     00 01633
004375 005021 A 1654        TBA                                                              00 01634
004376 124660 A 1655        ADD     SITW         ADD TGT WD TO QUOTIENT                      00 01635
004377 054657 A 1656        STA     SITW         SAVE IT                                     00 01636
004400 014657 A 1657        LDA     SITB         GET TARGET BYTE                             00 01637
004401 001010 A 1658        JAZ     SI58         IF ZERO, CONTINUE                           00 01638
004402 004411 R
004403 005311 A 1659        DAR                                                              00 01639
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004404 001010 A 1660          JAZ     SI58        IF 1, CONTINUE                                  00 01640
004405 004411 R
004406 005001 A 1661          TZA                                                                 00 01641
004407 054650 A 1662          STA     SITB        MAKE TARGET BYTE 0                              00 01642
004410 044646 A 1663          INR     SITW        INCREMENT TGT WD DISPL BY 1                     00 01643
004411 024644 A 1664 SI58     LDB     SICF        GET PTR TO CTL FLD EXP CELL                     00 01644
004412 016004 A 1665          LDA     4,B         GET SEQUENCE INDICATOR                          00 01645
004413 006140 A 1666          SUBI    'D '          IS IT DESCENDING                              00 01646
004414 142240 A
004415 001016 A 1667          JANZ    SI59        NO                                              00 01647
004416 004421 R
004417 005301 A 1668          DECR    1           YES - SET COMP SEQ                              00 01648
004420 055005 A 1669          STA     5,X           SAVE PARAMETER                                00 01649
004421 014632 A 1670 SI59     LDA     SIMP        GET MOVE PARAM PTR                              00 01650
004422 120465 A 1671          ADD     FIVE        BUMP TO NEXT PARAM                              00 01651
004423 054630 A 1672          STA     SIMP        SAVE IT                                         00 01652
004424 014630 A 1673          LDA     SICP        GET COMP PARAM PTR                              00 01653
004425 120467 A 1674          ADD     SEVEN       BUMP TO NEXT PARAM                              00 01654
004426 054626 A 1675          STA     SICP        SAVE IT                                         00 01655
004427 014626 A 1676          LDA     SICF        GET EXP CELL PTR                                00 01656
004430 120465 A 1677          ADD     FIVE        BUMP TO NEXT PTR                                00 01657
004431 054624 A 1678          STA     SICF        SAVE IT                                         00 01658
004432 044627 A 1679          INR     SICC        INCR CTL FLD CTR BY 1                           00 01659
004433 014626 A 1680          LDA     SICC        GET CNT                                         00 01660
004434 140466 A 1681          SUB     SIX         IS IT 6                                         00 01661
004435 001010 A 1682          JAZ     SI56        YES, THATS ALL THE CTL FLDS                     00 01662
004436 004441 R
004437 001000 A 1683          JMP     SI55        NO, PROCESS NEXT CTL FLD                        00 01663
004440 004306 R
004441 014620 A 1684 SI56     LDA     SICC        GET CTL FLD CNT                                 00 01664
004442 006030 A 1685          LDXI    SRTC        GET SORT CTL TABLE                              00 01665
004443 004234 E
004444 055043 A 1686          STA     CTLC,X      SAVE CTL FLD CNT                                00 01666
004445 055030 A 1687          STA     NCTL,X        FOR LOOP CONTROL                              00 01667
004446 024605 A 1688          LDB     SIMP        GET MOVE PARAM PTR                              00 01668
004447 015260 A 1689          LDA     SWCH,X      GET SYSTEM SWITCH                               00 01669
004450 006464 A 1690          BT      04,SI60   JUMP IF KLYWORD SORT                              00 01670
004451 004463 R
004452 014604 A 1691          LDA     SITW        GET TGT WD DISP                                 00 01671
004453 056000 A 1692          STA     0,B         MAKE IT TGT WD DISP FOR RECORD                  00 01672
004454 014603 A 1693          LDA     SITB        GET TGT WD BYTE                                 00 01673
004455 056001 A 1694          STA     1,B         MAKE IT TGT BYTE FOR RECORD                     00 01674
004456 014614 A 1695          LDA     BUFLB       GET MERGE RECORD LENGTH IN BYTES                00 01675
004457 056004 A 1696          STA     4,B         MAKE IT RECORD MOVE LENGTH                      00 01676
004460 054602 A 1697          STA     SIML        SAVE RECORD LENGTH                              00 01677
004461 001000 A 1698          JMP     SI61                                                        00 01678
004462 004502 R
004463 014574 A 1699 SI60     LDA     SITB        GET NEXT TARGET BYTE                            00 01679
004464 001010 A 1700          JAZ     SI62        IF ZERO, WD ALIGNED                             00 01680
004465 004472 R
004466 005001 A 1701          TZA                                                                 00 01681
004467 054570 A 1702          STA     SITB        MAKE TARGET BYTE 0                              00 01682
004470 044566 A 1703          INR     SITW        BUMP WD PTR TO NEXT WD                          00 01683
004471 044571 A 1704          INR     SIML        INCR LENGTH BY 1                                00 01684
004472 014564 A 1705 SI62     LDA     SITW        GET TGT WD DISPL                                00 01685
004473 056000 A 1706          STA     0,B         MAKE IT TGT WD DISP FOR RECORD MOVE             00 01686
004474 014563 A 1707          LDA     SITB        GET TGT BYTE DISPL                              00 01687
004475 056001 A 1708          STA     1,B         MAKE IT TGT BYTE DISP FOR RECORD MOVE           00 01688
004476 010422 A 1709          LDA     TWO         GET A 2                                         00 01689
004477 056004 A 1710          STA     4,B         MAKE IT RECNO MOVE LENGTH IN BYTES              00 01690
004500 124562 A 1711          ADD     SIML      ADD POSSIBLE 1                                    00 01691
004501 054561 A 1712          STA     SIML        SAVE IT                                         00 01692
004502 014554 A 1713 SI61     LDA     SITW        GET TARGET WD                                   00 01693
004503 004241 A 1714          LRLA    1           TIMES 2                                         00 01694
004504 124553 A 1715          ADD     SITB        PLUS BYTE NUMBER                                00 01695
004505 124555 A 1716          ADD     SIML        PLUS ADJUSTED REC LGH                           00 01696
004506 006400 A 1717          BT      00,SI63     IF ODD, ADD 1                                   00 01697
004507 004512 R
004510 001000 A 1718          JMP     SI64                                                        00 01698
004511 004513 R
004512 005111 A 1719 SI63     IAR                                                                 00 01699
004513 055007 A 1720 SI64     STA     SLGH,X      SAVE MERGE RECORD LENGTH IN BYTES               00 01700
004514 004341 A 1721          LSRA    1           DIVIDE BY 2                                     00 01701
004515 055024 A 1722          STA     MFLH,X      SAVE MERGE RECORD LENGTH IN WORDS               00 01702
004516 015000 A 1723          LDA     SBEG,X      GET SORT AREA PTR                               00 01703
004517 006147 A 1724          SUBE    SI50A+2     MINUS START OF AVAIL AREA                       00 01704
004520 004172 R
004521 005211 A 1725          CPA                                                                 00 01705
004522 005111 A 1726          IAR                                                                 00 01706
004523 006127 A 1727          ADDE    SI50A+3     COMPUTE SORT AREA SIZE = AVAIL - BUFFERS        00 01707
004524 004173 R
004525 005012 A 1728          TAB                                                                 00 01708
004526 005001 A 1729          TZA                                                                 00 01709
004527 175024 A 1730          DIV     MFLH,X      DIVIDE BY MERGE RECORD SIZE                     00 01710
004530 005021 A 1731          TBA                                                                 00 01711
004531 005311 A 1732          DAR                 SUBTRACT 1 FOR SORT EXCHANGE AREA               00 01712
004532 054531 A 1733          STA     SIBL        SAVE NUM RECS IN SORT AREA                      00 01713
004533 140422 A 1734          SUB     TWO         MINUS 2                                         00 01714
004534 001002 A 1735          JAP     SI65        JUMP IF SORT AREA HOLDS AT LEAST TWO RECORDS    00 01715
004535 004544 R
004536 002000 S 1736 SI64A    CALL    SCER,ST04,0 PRINT ERROR MSG                                 00 01716
004537 002635 P
004540 002735 R
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004541 000000 A
004542 001000 A 1737          JMP*    SI50          RETURN                                                  00 01717
004543 104151 R
                1738 *  COMPUTE BLOCKING FACTOR FOR WORK FILES                                            00 01718
004544 006010 A 1739 SI65     LDAI    SRT1          GET PTR TO MERGE OUTEXIT BUFFER                         00 01719
004545 000010 R
004546 055262 A 1740          STA     MBUF,X        SAVE IT                                                 00 01720
004547 025260 A 1741          LDB     SWCH,X                                                                00 01721
004550 006470 A 1742          BT      RB0+010,*+3   IF OUTEXIT                                              00 01722
004551 004553 R
004552 124517 A 1743          ADD     BUFL          LEAVE SPACE FOR 1ST BUFFER                              00 01723
004553 054520 A 1744          STA     MBEG          SAVE BEGINNING OF MERGE WORK AREAS                      00 01724
004554 006017 A 1745          LDAE    SI50A+2       GET START OF SORT WORKSPACE                             00 01725
004555 004172 R
004556 144515 A 1746          SUB     MBEG          MINUS START OF MERGE WORKSPACE                          00 01726
004557 006127 A 1747          ADDE    SI50A+3       PLUS SIZE OF SORT WORKSPACE                             00 01727
004560 004173 R
004561 005012 A 1748          TAB                                                                           00 01728
004562 005001 A 1749          TZA                                                                           00 01729
004563 175024 A 1750          DIV     MFLH,X        FIND MAX NUM OF MERGE RECORDS                           00 01730
004564 005001 A 1751          TZA                                                                           00 01731
004565 170464 A 1752          DIV     THREE         FIND MAX BLK FACTOR FOR 3 MERGE BUFFERS                 00 01732
004566 064500 A 1753          STB     MREM          SAVE AS POSSIBLE MRG BLK FACTOR                         00 01733
004567 005021 A 1754          TBA                                                                           00 01734
004570 140422 A 1755          SUB     TWO           IS IT GREATER THAN 1 ?                                  00 01735
004571 001002 A 1756          JAP     SI68          JUMP IF YES                                             00 01736
004572 004601 R
004573 002000 A 1757 SI67     CALL    SCER,ST04,0   PRINT ERROR MSG                                         00 01737
004574 002635 R
004575 002735 R
004576 000000 A
004577 001000 A 1758          JMP*    SI50          RETURN                                                  00 01738
004600 104151 R
004601 014465 A 1759 SI68     LDA     MREM          GET MRG BLK FACTOR                                      00 01739
004602 144461 A 1760          SUB     SIBL          SUB NUM RECS IN SORT AREA                               00 01740
004603 005311 A 1761          DAR                                                                           00 01741
004604 001004 A 1762          JAN     *+4           JUMP IF SORT AREA WILL HOLD 1 MRG BLK                   00 01742
004605 004610 R
004606 014455 A 1763          LDA     SIBL          GET NEM RECS IN SORT AREA                               00 01743
004607 054457 A 1764          STA     MREM          MAKE IT POSSIBLE BLK FCTR                               00 01744
004610 024461 A 1765          LDB     BUFL          GET OUTEXIT BUFFER SIZE                                 00 01745
004611 015260 A 1766          LDA     SWCH,X                                                                00 01746
004612 006410 A 1767          BT      RA1+8,*+3                                                             00 01747
004613 004615 R
004614 025011 A 1768          LDB     FSOB,X        OR OUTPUT RECORD LENGTH                                 00 01748
004615 005001 A 1769          TZA                                                                           00 01749
004616 175024 A 1770          DIV     MFLH,X        DIVIDED BY MERGE RECORD LENGTH                          00 01750
004617 001010 A 1771          JAZ     *+3                                                                   00 01751
004620 004622 R
004621 005122 A 1772          IBR                                                                           00 01752
004622 064446 A 1773          STB     SMIN          SAVE AS MIN MRG BLK FACTOR                              00 01753
004623 014443 A 1774          LDA     MREM                                                                  00 01754
004624 144444 A 1775          SUB     SMIN                                                                  00 01755
004625 001004 A 1776          JAN     SI67          ERROR IF MIN GT MAX BLK FACTOR                          00 01756
004626 004573 R
004627 014434 A 1777          LDA     SIBL                                                                  00 01757
004630 144440 A 1778          SUB     SMIN                                                                  00 01758
004631 001004 A 1779          JAN     SI67          ERROR IF MIN GT NUM RECS IN SORT AREA                   00 01759
004632 004573 R
004633 024430 A 1780          LDB     SIBL          GET NUM RECS IN SORT AREA                               00 01760
004634 005001 A 1781          TZA                                                                           00 01761
004635 174431 A 1782          DIV     MREM          DIVIDE BY MAX MERGE BLK                                 00 01762
004636 001010 A 1783          JAZ     SI72          IF REM=0, USE MAX                                       00 01763
004637 004652 R
004640 054427 A 1784          STA     MINR          STORE REMAINDER                                         00 01764
004641 005122 A 1785          IBR                                                                           00 01765
004642 064423 A 1786          STB     SIMM          SAVE QUOT + 1 FOR NUM BLKS                              00 01766
004643 024420 A 1787          LDB     SIBL          GET NUM REC IN SORT AREA                                00 01767
004644 005001 A 1788          TZA                                                                           00 01768
004645 174420 A 1789          DIV     SIMM          DIVIDE BY POSS NUM MRG BLKS                             00 01769
004646 144421 A 1790          SUB     MINR          MINUS PREVIOUS LEAST REMAINDER                          00 01770
004647 001002 A 1791          JAP     SI72          NEW REM GT OLD REM - USE OLD                            00 01771
004650 004652 R
004651 064415 A 1792          STB     MREM                                                                  00 01772
004652 024411 A 1793 SI72     LDB     SIBL          GET NUM RECS IN SORT AREA                               00 01773
004653 005001 A 1794          TZA                                                                           00 01774
004654 174412 A 1795          DIV     MREM          DIVIDED BY MERGE BLK FACTOR                             00 01775
004655 005001 A 1796          TZA                                                                           00 01776
004656 164410 A 1797          MUL     MREM          MULT QUOT BY MRG BLK FACTOR                             00 01777
004657 065023 A 1798          STB     SNUM,X        STORE AS NUM ENTRIES IN SORT AREA                       00 01778
004660 165024 A 1799          MUL     MFLH,X        TIMES WDS PER MRG RECORD                                00 01779
004661 005021 A 1800          TBA                                                                           00 01780
004662 125020 A 1801          ADD     SBEG,X        PLUS START OF SORT AREA                                 00 01781
004663 055031 A 1802          STA     SND1,X        SAVE END OF SORT AREA +1                                00 01782
004664 005311 A 1803          DAR                   MINUS 1                                                 00 01783
004665 055021 A 1804          STA     SEND,X        SAVE END OF SORT AREA                                   00 01784
004666 024400 A 1805          LDB     MREM          GET MERGE BLK FCTR                                      00 01785
004667 065014 A 1806          STB     SPWT,X        SAVE MRG BLK FCTR                                       00 01786
004670 005001 A 1807          TZA                                                                           00 01787
004671 165024 A 1808          MUL     MFLH,X        TIMES WDS PER MRG REC                                   00 01788
004672 065010 A 1809          STB     SBLK,X        STORE WDS PER MRG BLK                                   00 01789
004673 001000 A 1810          JMP*    SI50          RETURN                                                  00 01790
004674 104151 R
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004675 000000 A 1811 SCSW  DATA    0  WORD ADDRESS FOR START OF LOCATED SEARCH ARGUMENT          00 01791
004676 000000 A 1812 SCSB  DATA    0  BYTE ADDRESS FOR START OF LOCATED SEARCH ARGUMENT          00 01792
004677 000000 A 1813 SCEW  DATA    0  WORD ADDRESS FOR END+1 OF LOCATED SEARCH ARGUMENT          00 01793
004700 000000 A 1814 SCEB  DATA    0  BYTE ADDRESS FOR END+1 OF LOCATED SEARCH ARGUMENT          00 01794
004701 004744 R 1815 SCWS  DATA    (SIBF) STARTING WORD OF CONTROL AREA TO BEGIN SCAN           00 01795
004702 000000 A 1816 SCBS  DATA    0  STARTING BYTE OF CONTROL CARD AREA TO BEGIN SCAN           00 01796
004703 000000 A 1817 CWSW  DATA    0  STARTING WORD FOR SUCCESSIVE SCAN PASSES                   00 01797
004704 000000 A 1818 CBSW  DATA    0  STARTING BYTE FOR SUCCESSIVE SCAN PASSES                   00 01798
004705 004743 R 1819 SCWE  DATA    (SIBF-1) ENDING WORD OF CONTROL CARD AREA                    00 01799
004706 000001 A 1820 SCBE  DATA    1  ENDING BYTE OF CONTROL CARD AREA                         00 01800
004707 000000 A 1821 SCW1  DATA    0  WORK AREA                                                00 01801
004710 000000 A 1822 SCW2  DATA    0          READ COUNT                                        00 01802
004711 177777 A 1823 SCCN  DATA    -1,-1,-2,0  ADJUSTMENT VALUE FOR COMPUTING BYTES             00 01803
004712 177777 A
004713 177776 A
004714 000000 A
004715 000000 A 1824 SCLP  DATA    0  LOOP CONTROL COUNT FOR SCAN                              00 01804
004716 000000 A 1825 FSWL  DATA    0  FOUND SCH ARG WORD LOC                                   00 01805
004717 000000 A 1826 FSBL  DATA    0  FOUND SCH ARG BYTE LOC                                   00 01806
004720 000000 A 1827 FEWL  DATA    0  FOUND SCH ARG ENDING WORD LOC                            00 01807
004721 000000 A 1828 FEBL  DATA    0  FOUND SCH ARG ENDING BYTE LOC                            00 01808
004722 000000 A 1829 CMSW  DATA    0  START WD FOR DELIMITER                                   00 01809
004723 000000 A 1830 CMSB  DATA    0  START BT FOR DELIMITER                                   00 01810
004724 177400 A 1831 CMMK  DATA    017400,0377  MASK FOR ELIM UNWANTED CHAR                    00 01811
004725 000377 A
004726 126000 A 1832 COMA  DATA    0126000,0254  A COMMA IN LEFT AND RIGHT BYTE               00 01812
004727 000254 A
004730 120000 A 1833 BLNK  DATA    0120000,0240  A BLANK IN LEFT AND RIGHT BYTE               00 01813
004731 000240 A
004732 124400 A 1834 PARN  DATA    0124400,0251  A RIGHT PAREN IN LEFT AND RIGHT BYTE         00 01814
004733 000251 A
004734 000000 A 1835 FCNT  DATA    0  BYTE COUNT FOR FIELD                                    00 01815
004735 000000 A 1836 SWIT  DATA    0  LAST ENTRY SWITCH                                       00 01816
004736 000000 A 1837 CKLP  DATA    0  NUMERIC CHECK LOOP CTR                                   00 01817
004737 000000 A 1838 ECPT  DATA    0  CURRENT EXPANSION CELL WORD PTR                          00 01818
       1839 SICB  DCB     40,SIBF,0                                                         00 01819
004740 000050 A
004741 004744 R
004742 000000 A
004743 000000 A 1840       DATA    0          LO LINE CTL CHAR                               00 01820
004744         1841 SIBF   BSS     40*5                                                      00 01821
005254 000000 A 1842 SIMP  DATA    0  WORK CELL FOR PTR TO CTL FIELD MOVE PARAM              00 01822
005255 000000 A 1843 SICP  DATA    0  WORK CELL FOR PTR TO CTL FIELD COMP PARAM              00 01823
005256 000000 A 1844 SICF  DATA    0  WORK CELL FOR PTR TO CTL FIELD EXPAN CELL              00 01824
005257 000000 A 1845 SITW  DATA    0  TARGET WD DISPLACEMENT                                 00 01825
005260 000000 A 1846 SITB  DATA    0  TARGET BYTE DISPLACEMENT                               00 01826
005261 000000 A 1847 SILG  DATA    0  COMPUTED LENGTH                                        00 01827
005262 000000 A 1848 SICC  DATA    0  CONTROL FIELD CNT                                      00 01828
005263 000000 A 1849 SIML  DATA    0  SAVE LENGTH                                           00 01829
005264 000000 A 1850 SIBL  DATA    0  NUM OF RECORDS AVAILABLE IN SORT AREA                  00 01830
005265 000000 A 1851 SIMB  DATA    0  BLOCKING FACTOR FOR MERGE                             00 01831
005266 000000 A 1852 SIMM  DATA    0  MAX BLOCKING FACTOR FOR MERGE                         00 01832
005267 000000 A 1853 MREM  DATA    0  POSSIBLE MRG BLK FACTOR                               00 01833
005270 000000 A 1854 MINR  DATA    0  LEAST REMAINDER BLK FCTR                              00 01834
005271 000000 A 1855 SMIN  DATA    0  MINIMUM BLOCKING FACTOR                               00 01835
005272 000000 A 1856 BUFL  DATA    0          SORT I/O BUFFER SIZE (WORDS)                  00 01836
005273 000000 A 1857 BUFLB DATA    0          SORT I/O BUFFER SIZE (BYTES)                  00 01837
005274 000000 A 1858 MBEG  DATA    0            PTR TO BEGINNING OF MERGE WORK AREAS        00 01838
       1859 *                                                                             00 01839
       1860 * MAJOR SCAN AND EXPAND TABLES                                                 00 01840
       1861 *                                                                             00 01841
       1862 *       TABLE FORMAT   DATA (PTR TO SEARCH ARGUMENT)                          00 01842
       1863 *                      DATA LENGTH OF SEARCH ARGUMENT IN CHAR                 00 01843
       1864 *                      DATA (PTR TO INTERMEDIATE EXPAND TABLE) OR             00 01844
       1865 *                           (0) REQUESTS RETURN WITH NO EXPANSION             00 01845
       1866 *                      DATA LENGTH OF COMMENT FOR ERROR MSG                   00 01846
       1867 *                      DATA CURRENT INTERM TABLE ENTRY PTR                    00 01847
       1868 *                      DATA NUM OF ENTRIES IN INTERM TABLE-MINUS IF OPT       00 01848
       1869 *                                                                             00 01849
005275 005656 R 1870 TB1   DATA    (SA1),4,0,4,0,0          SORT                          00 01850
005276 000004 A
005277 000000 A
005300 000004 A
005301 000000 A
005302 000000 A
005303 005660 R 1871 TB2   DATA    (SA2),7,0,7,0,0          ENDSORT                       00 01851
005304 000007 A
005305 000000 A
005306 000007 A
005307 000000 A
005310 000000 A
005311 005664 R 1872 TB3   DATA    (SA3),7,(ITB1),5,(ITB1),4    INPUT=(                  00 01852
005312 000007 A
005313 005371 R
005314 000005 A
005315 005371 R
005316 000004 A
005317 005670 R 1873 TB4   DATA    (SA4),8,(ITB2),6,(ITB2),4    OUTPUT=(                 00 01853
005320 000010 A
005321 005405 R
005322 000006 A
005323 005405 R
005324 000004 A
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005325 005674 R 1874 TB5     DATA    (SA5),7,(ITB3),5,(ITB3),3     WORK1=(                    00 01854
005326 000007 A
005327 005421 R
005330 000005 A
005331 005421 R
005332 000003 A
005333 005700 R 1875 TB6     DATA    (SA6),7,(ITB4),5,(ITB4),3     WORK2=(                    00 01855
005334 000007 A
005335 005432 R
005336 000005 A
005337 005432 R
005340 000003 A
005341 005704 R 1876 TB7     DATA    (SA7),7,(ITB5),5,(ITB5),3     WORK3=(                    00 01856
005342 000007 A
005343 005443 R
005344 000005 A
005345 005443 R
005346 000003 A
005347 005710 R 1877 TB8     DATA    (SA8),9,(ITB6),7,(ITB6),18    SORTKEY=(                  00 01857
005350 000011 A
005351 005454 R
005352 000007 A
005353 005454 R
005354 000022 A
005355 005715 R 1878 TB9     DATA    (SA9),7,(ITB7),6,(ITB7),-1    INEXIT=                    00 01858
005356 000007 A
005357 005542 R
005360 000006 A
005361 005542 R
005362 177777 A
005363 005721 R 1879 TB10    DATA    (SA10),8,(ITB8),7,(ITB8),-1   OUTEXIT=                   00 01859
005364 000010 A
005365 005545 R
005366 000007 A
005367 005545 R
005370 177777 A
                1880 *                                                                       00 01860
                1881 * INTERMEDIATE TABLE FOR EXPANSION OF SORT PARAMETERS                    00 01861
                1882 *                                                                       00 01862
                1883 *       TABLE FORMAT   DATA (PTR TO EXPAND CELL)                        00 01863
                1884 *                      DATA LENGTH OF EXPAND CELL IN WORDS-MINUS,OPT    00 01864
                1885 *                      DATA 0 LEFT ADJUST OR -1 RIGHT ADJUST           00 01865
                1886 *                                                                       00 01866
005371 005550 R 1887 ITB1    DATA    (C1),2,-1      INPUT LUN                                00 01867
005372 000002 A
005373 177777 A
005374 005552 R 1888         DATA    (C2),-3,1      INPUT FILENAME                           00 01868
005375 177775 A
005376 000001 A
005377 005555 R 1889         DATA    (C3),-1,1      INPUT KEY                                00 01869
005400 177777 A
005401 000001 A
005402 005556 R 1890         DATA    (C4),3,-1      INPUT RECORD SIZE                        00 01870
005403 000003 A
005404 177777 A
005405 005561 R 1891 ITB2    DATA    (C5),2,-1      OUTPUT LUN                               00 01871
005406 000002 A
005407 177777 A
005410 005563 R 1892         DATA    (C6),-3,1      OUTPUT FILENAME                          00 01872
005411 177775 A
005412 000001 A
005413 005566 R 1893         DATA    (C7),-1,1      OUTPUT KEY                               00 01873
005414 177777 A
005415 000001 A
005416 005567 R 1894         DATA    (C8),-3,-1     OUTPUT RECORD SIZE                       00 01874
005417 177775 A
005420 177777 A
005421 005572 R 1895 ITB3    DATA    (C9),2,-1      WORK1 LUN                                00 01875
005422 000002 A
005423 177777 A
005424 005574 R 1896         DATA    (C10),3,1      WORK1 FILENAME                           00 01876
005425 000003 A
005426 000001 A
005427 005577 R 1897         DATA    (C11),-1,1     WORK1 KEY                                00 01877
005430 177777 A
005431 000001 A
005432 005600 R 1898 ITB4    DATA    (C12),2,-1     WORK2 LUN                                00 01878
005433 000002 A
005434 177777 A
005435 005602 R 1899         DATA    (C13),3,1      WORK2 FILENAME                           00 01879
005436 000003 A
005437 000001 A
005440 005605 R 1900         DATA    (C14),-1,1     WORK2 KEY                                00 01880
005441 177777 A
005442 000001 A
005443 005606 R 1901 ITB5    DATA    (C15),2,-1     WORK3 LUN                                00 01881
005444 000002 A
005445 177777 A
005446 005610 R 1902         DATA    (C16),3,1      WORK3 FILENAME                           00 01882
005447 000003 A
005450 000001 A
005451 005613 R 1903         DATA    (C17),-1,1     WORK3 KEY                                00 01883
005452 177777 A
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005453 000001 A
005454 005614 R 1904 ITB6   DATA    (C18),2,-1     CTL FLD 1 START COLUMN                00 01884
005455 000002 A
005456 177777 A
005457 005616 R 1905        DATA    (C19),2,-1     CTL FLD 1 END COLUMN                  00 01885
005460 000002 A
005461 177777 A
005462 005620 R 1906        DATA    (C20),-1,1     CTL FLD 1 SEQ INDICATOR               00 01886
005463 177777 A
005464 000001 A
005465 005621 R 1907        DATA    (C21),-2,-1    CTL FLD 2 START COLUMN                00 01887
005466 177776 A
005467 177777 A
005470 005623 R 1908        DATA    (C22),-2,-1    CTL FLD 2 END COLUMN                  00 01888
005471 177776 A
005472 177777 A
005473 005625 R 1909        DATA    (C23),-1,1     CTL FLD 2 SEQ INDICATOR               00 01889
005474 177777 A
005475 000001 A
005476 005626 R 1910        DATA    (C24),-2,-1    CTL FLD 3 START COLUMN                00 01890
005477 177776 A
005500 177777 A
005501 005630 R 1911        DATA    (C25),-2,-1    CTL FLD 3 END COLUMN                  00 01891
005502 177776 A
005503 177777 A
005504 005632 R 1912        DATA    (C26),-1,1     CTL FLD 3 SEQ INDICATOR               00 01892
005505 177777 A
005506 000001 A
005507 005633 R 1913        DATA    (C27),-2,-1    CTL FLD 4 START COLUMN                00 01893
005510 177776 A
005511 177777 A
005512 005635 R 1914        DATA    (C28),-2,-1    CTL FLD 4 END COLUMN                  00 01894
005513 177776 A
005514 177777 A
005515 005637 R 1915        DATA    (C29),-1,1     CTL FLD 4 SEQ INDICATOR               00 01895
005516 177777 A
005517 000001 A
005520 005640 R 1916        DATA    (C30),-2,-1    CTL FLD 5 START COLUMN                00 01896
005521 177776 A
005522 177777 A
005523 005642 R 1917        DATA    (C31),-2,-1    CTL FLD 5 END COLUMN                  00 01897
005524 177776 A
005525 177777 A
005526 005644 R 1918        DATA    (C32),-1,1     CTL FLD 5 SEQ INDICATOR               00 01898
005527 177777 A
005530 000001 A
005531 005645 R 1919        DATA    (C33),-2,-1    CTL FLD 6 START COLUMN                00 01899
005532 177776 A
005533 177777 A
005534 005647 R 1920        DATA    (C34),-2,-1    CTL FLD 6 END COLUMN                  00 01900
005535 177776 A
005536 177777 A
005537 005651 R 1921        DATA    (C35),-1,1     CTL FLD 6 SEQ INDICATOR               00 01901
005540 177777 A
005541 000001 A
005542 005652 R 1922 ITB7   DATA    (C36),-2,1     INEXIT INDICATOR                      00 01902
005543 177776 A
005544 000001 A
005545 005654 R 1923 ITB8   DATA    (C37),-2,1     OUTEXIT INDICATOR                     00 01903
005546 177776 A
005547 000001 A
                    1924 * END INTERMEDIATE TABLE                                        00 01904
                    1925 *                                                               00 01905
                    1926 * EXPANSION CELLS FOR SORT CONTROL CARDS                       00 01906
                    1927 *                                                               00 01907
005550 130260 A 1928 C1     DATA    '0000'         SORT IN LOGICAL UNIT NUMBER           00 01908
005551 130260 A
005552 120240 A 1929 C2     DATA    '      '       SORT IN FILE NAME                     00 01909
005553 120240 A
005554 120240 A
005555 120240 A 1930 C3     DATA    '  '           SORT IN KEY                           00 01910
005556 130260 A 1931 C4     DATA    '000000'       SORT IN RECORD SIZE IN WORDS          00 01911
005557 130260 A
005560 130260 A
005561 130260 A 1932 C5     DATA    '0000'         SORT OUT LOGICAL UNIT NUMBER          00 01912
005562 130260 A
005563 120240 A 1933 C6     DATA    '      '       SORT OUT FILE NAME                    00 01913
005564 120240 A
005565 120240 A
005566 120240 A 1934 C7     DATA    '  '           SORT OUT KEY                          00 01914
005567 130260 A 1935 C8     DATA    '000000'       SORT OUT RECORD SIZE                  00 01915
005570 130260 A
005571 130260 A
005572 130260 A 1936 C9     DATA    '0000'         WORK 1 LOGICAL UNIT NUMBER            00 01916
005573 130260 A
005574 120240 A 1937 C10    DATA    '      '       WORK 1 FILE NAME                      00 01917
005575 120240 A
005576 120240 A
005577 120240 A 1938 C11    DATA    '  '           WORK 1 KEY                            00 01918
005600 130260 A 1939 C12    DATA    '0000'         WORK 2 LOGICAL UNIT NUMBER            00 01919
005601 130260 A
005602 120240 A 1940 C13    DATA    '      '       WORK 2 FILE NAME                      00 01920
005603 120240 A
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005604 120240 A
005605 120240 A 1941 C14     DATA     '  '          WORK 2 KEY                                    00 01921
005606 130260 A 1942 C15     DATA     '0000'       WORK 3 LOGICAL UNIT NUMBER                    00 01922
005607 130260 A
005610 120240 A 1943 C16     DATA     '      '     WORK 3 FILE NAME                              00 01923
005611 120240 A
005612 120240 A
005613 120240 A 1944 C17     DATA     '  '          WORK 3 KEY                                    00 01924
005614 130260 A 1945 C18     DATA     '0000'       CTL FLD 1 START COLUMN                        00 01925
005615 130260 A
005616 130260 A 1946 C19     DATA     '0000'       CTL FLD 1 END COLUMN                          00 01926
005617 130260 A
005620 120240 A 1947 C20     DATA     '  '          CTL FLD 1 SEQ INDICATOR                       00 01927
005621 130260 A 1948 C21     DATA     '0000'       CTL FLD 2 START COLUMN                        00 01928
005622 130260 A
005623 130260 A 1949 C22     DATA     '0000'       CTL FLD 2 END COLUMN                          00 01929
005624 130260 A
005625 120240 A 1950 C23     DATA     '  '          CTL FLD 2 SEQ INDICATOR                       00 01930
005626 130260 A 1951 C24     DATA     '0000'       CTL FLD 3 START COLUMN                        00 01931
005627 130260 A
005630 130260 A 1952 C25     DATA     '0000'       CTL FLD 3 END COLUMN                          00 01932
005631 130260 A
005632 120240 A 1953 C26     DATA     '  '          CTL FLD 3 SEQ INDICATOR                       00 01933
005633 130260 A 1954 C27     DATA     '0000'       CTL FLD 4 START COLUMN                        00 01934
005634 130260 A
005635 130260 A 1955 C28     DATA     '0000'       CTL FLD 4 END COLUMN                          00 01935
005636 130260 A
005637 120240 A 1956 C29     DATA     '  '          CTL FLD 4 SEQ INDICATOR                       00 01936
005640 130260 A 1957 C30     DATA     '0000'       CTL FLD 5 START COLUMN                        00 01937
005641 130260 A
005642 130260 A 1958 C31     DATA     '0000'       CTL FLD 5 END COLUMN                          00 01938
005643 130260 A
005644 120240 A 1959 C32     DATA     '  '          CTL FLD 5 SEQ INDICATOR                       00 01939
005645 130260 A 1960 C33     DATA     '0000'       CTL FLD 6 START COLUMN                        00 01940
005646 130260 A
005647 130260 A 1961 C34     DATA     '0000'       CTL FLD 6 END COLUMN                          00 01941
005650 130260 A
005651 120240 A 1962 C35     DATA     '  '          CTL FLD 6 SEQ INDICATOR                       00 01942
005652 120240 A 1963 C36     DATA     '    '        INEXIT RESPONSE                               00 01943
005653 120240 A
005654 120240 A 1964 C37     DATA     '    '        OUTEXIT RESPONSE                              00 01944
005655 120240 A
                1965 *                                                                            00 01945
                1966 * SORT CONTROL CARD SEARCH CONSTANTS                                         00 01946
                1967 *                                                                            00 01947
005656 151717 A 1968 SA1     DATA     'SORT'                                                        00 01948
005657 151324 A
005660 142716 A 1969 SA2     DATA     'ENDSORT '                                                    00 01949
005661 142323 A
005662 147722 A
005663 152240 A
005664 144716 A 1970 SA3     DATA     'INPUT=( '                                                    00 01950
005665 150325 A
005666 152275 A
005667 124240 A
005670 147725 A 1971 SA4     DATA     'OUTPUT=('                                                    00 01951
005671 152320 A
005672 152724 A
005673 136650 A
005674 153717 A 1972 SA5     DATA     'WORK1=( '                                                    00 01952
005675 151313 A
005676 130675 A
005677 124240 A
005700 153717 A 1973 SA6     DATA     'WORK2=( '                                                    00 01953
005701 151313 A
005702 131275 A
005703 124240 A
005704 153717 A 1974 SA7     DATA     'WORK3=( '                                                    00 01954
005705 151313 A
005706 131675 A
005707 124240 A
005710 151717 A 1975 SA8     DATA     'SORTKEY=( '                                                  00 01955
005711 151324 A
005712 145705 A
005713 154675 A
005714 124240 A
005715 144716 A 1976 SA9     DATA     'INEXIT= '                                                    00 01956
005716 142730 A
005717 144724 A
005720 136640 A
005721 147725 A 1977 SA10    DATA     'OUTEXIT='                                                    00 01957
005722 152305 A
005723 154311 A
005724 152275 A
       000355 A 1978 V$DSTB  EQU      0355                                                        *00 01958
       000463 A 1979 RHW     EQU      0463                                                        *00 01959
       000462 A 1980 LHW     EQU      0462                                                      F  ********
       000421 A 1981 BS0     EQU      ONE                                                       F  ********
       000422 A 1982 BS1     EQU      TWO                                                       F  ********
       000400 A 1983 V$LUT1  EQU      0400        START LUN ADDR FOR JCP/OPCOM ASSIGNABLE         00 01960
       000401 A 1984 V$LUT2  EQU      0401        START LUN ADDR FOR UNASSIBNABLE                 00 01961
       000402 A 1985 V$LUT3  EQU      0402        START LUN ADDR FOR OPCOM ASSIGNABLE             00 01962
                1986 *                                                                            00 01963
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                    1987 *   RMD - DETERMINE IF THE LOGICAL UNIT IS ON AN RMD                                  00 01964
                    1988 *                                                                                     00 01965
                    1989 *   CALLING SEQUENCE                                                                  00 01966
                    1990 *        A REGISTER CONTAINS LUN                                                      00 01967
                    1991 *        JMPM     RMD                                                                 00 01968
                    1992 *   RETURN CONDITIONS                                                                 00 01969
                    1993 *        A REGISTER = 0 IF LUN ON RMD                                                 00 01970
                    1994 *                                                                                     00 01971
005725 000000 A     1995 RMD      ENTR                                                                         00 01972
005726 002000 A     1996          CALL     DNAME         GET DEVICE NAME                                       00 01973
005727 005744 R
005730 004350 A     1997          LSRA     8                                                                   00 01974
005731 006140 A     1998          SUBI     0304          D ?                                                   00 01975
005732 000304 A
005733 001000 A     1999          JMP*     RMD           RETURN - A REG = 0 IF RMD                             00 01976
005734 105725 R
                    2000 *                                                                                     00 01977
                    2001 *   LP - DETERMINE IF THE LOGICAL UNIT IS A LINE PRINTER                              00 01978
                    2002 *                                                                                     00 01979
                    2003 *   CALLING SEQUENCE                                                                  00 01980
                    2004 *        A REGISTER CONTAINS LUN                                                      00 01981
                    2005 *        JMPM     LP                                                                  00 01982
                    2006 *   RETURN CONDITIONS                                                                 00 01983
                    2007 *        A REGISTER = 0 IF LINE PRINTER                                               00 01984
                    2008 *                                                                                     00 01985
005735 000000 A     2009 LP       ENTR                                                                         00 01986
005736 002000 A     2010          CALL     DNAME         GET DEVICE NAME                                       00 01987
005737 005744 R
005740 006140 A     2011          SUBI     'LP'          LP ?                                                  00 01988
005741 146320 A
005742 001000 A     2012          JMP*     LP            RETURN - A REG = 0 IF LP                              00 01989
005743 105735 R
                    2013 *                                                                                     00 01990
                    2014 *   DNAME - GET DEVICE NAME                                                           00 01991
                    2015 *                                                                                     00 01992
                    2016 *   CALLING SEQUENCE                                                                  00 01993
                    2017 *        A REGISTER CONTAINS LUN                                                      00 01994
                    2018 *        CALL     DNAME                                                               00 01995
                    2019 *   RETURN CONDITIONS                                                                 00 01996
                    2020 *        A REGISTER CONTAINS FIRST WORD OF DNAME OR 0 IF LUN NOT 0-255                00 01997
                    2021 *                                                                                     00 01998
005744 000000 A     2022 DNAME    ENTR                                                                         00 01999
005745 006030 A     2023          LDXI     V$LUT1        GET PTR TO PART1 OF LUN TABLE                         00 02000
005746 000400 A
005747 125000 A     2024          ADD      0,X           PLUS LUN TABLE PTR                                    00 02016
005750 005012 A     2025          TAB                                                                          00 02017
005751 016000 A     2026          LDA      0,B           GET CURRENT DST ENTRY NO.                             00 02018
005752 150463 A     2027          ANA      RHW                                                                 00 02019
005753 005311 A     2028          DAR                    CONVERT                                               00 02020
005754 054034 A     2029          STA      DSAVE         TO                                                    00 02021
005755 004201 A     2030          ASLA     1             DISPLACEMENT                                          00 02022
005756 124032 A     2031          ADD      DSAVE         IN TABLE                                              00 02023
005757 120355 A     2032          ADD      V$DSTB        ADD TABLE BASE                                        00 02024
005760 005012 A     2033          TAB                                                                          00 02025
005761 016001 A     2034          LDA      1,B           GET DEVICE NAME - FIRST WORD                          00 02026
005762 006130 A     2035          ERAI     'SP'            IS IT A SPOOLER                                F  ********
005763 151720 A
005764 001010 A     2036          JAZ      DNM3            -YES-                                          F  ********
005765 005771 R
005766 016001 A     2037          LDA      1,B             -NO-                                           F  ********
005767 001000 A     2038          JMP*     DNAME           RETURN                                         F  ********
005770 105744 R
005771 016000 A     2039 DNM3     LDA      0,B             DEVICE NUMBER (BITS 12-4)                      F  ********
005772 004352 A     2040          LSRA     10              POSITION MSB OF UNIT NUMBER                    F  ********
005773 150467 A     2041          ANA      SEVEN                                                          F  ********
005774 120402 A     2042          ADD      V$LUT3          PLUS SPOOLER BASE                              F  ********
005775 005114 A     2043          INCR     014                                                            F  ********
005776 015000 A     2044          LDA      0,X                                                            F  ********
005777 150463 A     2045          ANA      RHW                                                            F  ********
006000 005311 A     2046          DAR                                                                     F  ********
006001 054007 A     2047          STA      DSAVE                                                          F  ********
006002 004201 A     2048          ASLA     1                                                              F  ********
006003 124005 A     2049          ADD      DSAVE                                                          F  ********
006004 120355 A     2050          ADD      V$DSTB                                                         F  ********
006005 005014 A     2051          TAX                                                                     F  ********
006006 015001 A     2052          LDA      1,1                                                            F  ********
006007 001000 A     2053          JMP*     DNAME                                                          F  ********
006010 105744 R
006011 000000 A     2054 DSAVE    DATA     0                                                                 00 02028
                    2055 *                                                                                     00 02029
                    2056 *   ATOB - ASCII TO BINARY CONVERSION ROUTINE                                          00 02030
                    2057 *                                                                                     00 02031
                    2058 *   CALLING SEQUENCE                                                                  00 02032
                    2059 *        JMPM     ATOB                                                                00 02033
                    2060 *        DATA     (PTR TO ASCII WORDS)                                                00 02034
                    2061 *        DATA     NUMBER OF WORDS TO BE CONVERTED - 1 TO 3                            00 02035
                    2062 *                                                                                     00 02036
                    2063 *   RETURN CONDITIONS                                                                 00 02037
                    2064 *        BINARY RESULT REPLACES FIRST ASCII WORD                                      00 02038
                    2065 *        A REGISTER = -1 IF OVERFLOW ERROR,  0 OTHERWISE                              00 02039
                    2066 *                                                                                     00 02040
006012 000000 A     2067 ATOB     ENTR                                                                         00 02041
006013 006027 A     2068          LDBE     *-1              GET PARAMETER PTR                                  00 02042
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006014 006012 R
006015 036000 A 2069          LDX     0,B         GET ASCII WORD PTR                                  00 02043
006016 016001 A 2070          LDA     1,B         SAVE NUMBER                                         00 02044
006017 054041 A 2071          STA     ACNT         OF WORDS TO BE CONVERTED                           00 02045
006020 005002 A 2072          TZB                                                                     00 02046
006021 015000 A 2073 ALP      LDA     0,X         GET WORD FOR CONVERSION                             00 02047
006022 004244 A 2074          LRLA    4           GET RID OF ASCII ZONE BITS                          00 02048
006023 004354 A 2075          LSRA    12          SHIFT NUMBER TO LOW ORDER                           00 02049
006024 160471 A 2076          MUL     TEN         MULTIPLY BY 10 AND ADD NEXT DIGIT                   00 02050
006025 001016 A 2077          JANZ    AERR        ERROR IF RESULT GREATER THAN 1 WORD                 00 02051
006026 006045 R
006027 015000 A 2078          LDA     0,X         GET NEXT DIGIT                                      00 02052
006030 004254 A 2079          LRLA    12          GET RID OF ASCII ZONE BITS                          00 02053
006031 004354 A 2080          LSRA    12          SHIFT NUMBER TO LOW ORDER                           00 02054
006032 160471 A 2081          MUL     TEN         MULTIPLY BY 10 AND ADD NEXT DIGIT                   00 02055
006033 001016 A 2082          JANZ    AERR        ERROR IF RESULT GREATER THAN 1 WORD                 00 02056
006034 006045 R
006035 014023 A 2083          LDA     ACNT        GET CNT                                             00 02057
006036 005311 A 2084          DAR             -1                                                      00 02058
006037 054021 A 2085          STA     ACNT                                                            00 02059
006040 001010 A 2086          JAZ     ARTN        RETURN IF 0                                         00 02060
006041 006050 R
006042 005144 A 2087          IXR             BUMP TO NEXT CONVERT WORD                               00 02061
006043 001000 A 2088          JMP     ALP                                                             00 02062
006044 006021 R
006045 005301 A 2089 AERR     DECR    1           ERROR EXIT, RETURN CODE = -1                        00 02063
006046 001000 A 2090          JMP     ARET                                                            00 02064
006047 006053 R
006050 006037 A 2091 ARTN     LDXE*   ATOB        GET PTR                                             00 02065
006051 106012 R
006052 065000 A 2092          STB     0,X         STORE RESULT                                        00 02066
006053 006047 A 2093 ARET     INRE    ATOB                                                            00 02067
006054 006012 R
006055 006047 A 2094          INRE    ATOB                                                            00 02068
006056 006012 R
006057 001000 A 2095          JMP*    ATOB        RETURN                                              00 02069
006060 106012 R
006061 000000 A 2096 ACNT     DATA    0                                                               00 02070
               2097 *                                                                                 00 02071
               2098 *  SIGC - OBTAIN LOCATION AND SIZE OF AVAILABLE WORKSPACE                         00 02072
               2099 *                                                                                 00 02073
               2100 *  CALLING SEQUENCE                                                               00 02074
               2101 *       JMPM    SIGC                                                              00 02075
               2102 *       DATA    LOCATION OF AVAILABLE SPACE                                       00 02076
               2103 *       DATA    SIZE IN WORDS                                                     00 02077
               2104 *                                                                                 00 02078
     000301 A  2105 V$CPL    EQU     0301          PRIORITY LEVEL                                     *00 02079
     000317 A  2106 V$LLUP   EQU     0317          TOP OF BACKGROUND                                  *00 02080
     000415 A  2107 V$BFC    EQU     0415          TO OF FOREGROUND                                   *00 02081
006062 000000 A 2108 SIGC     ENTR                                                                    00 02082
006063 020317 A 2109          LDB     V$LLUP        B=TOP OF BACKGROUND                               *00 02083
006064 010301 A 2110          LDA     V$CPL         GET PRIORITY LEVEL                                *00 02084
006065 150441 A 2111          ANA     BR0         STRIP OFF BIT 0                                     00 02085
006066 001010 A 2112          JAZ     SIGC1       IF 0 OR 1 MUST BE BACKGROUND                        00 02086
006067 006072 R
006070 006020 A 2113          LDBI    ENDSIG        B=TOP OF SORT PROGRAM                             00 02087
006071 006177 R
006072 005021 A 2114 SIGC1    TBA                   A= TOP OF AVAILABLE WORKSPACEUND                 *00 02088
006073 005111 A 2115          IAR             PLUS 1                                                  00 02089
006074 006140 A 2116          SUBI    SINI          MINUS BEGINNING OF INITIALIZATION ROUTINE         00 02090
006075 001367 R
006076 005012 A 2117          TAB             SAVE LENGTH IN B REG                                    00 02091
006077 006010 A 2118          LDAI    SINI          GET START OF INITIALIZATION ROUTINE               00 02092
006100 001367 R
006101 006057 A 2119          STAE*   SIGC        STORE LOCATION IN CALL                              00 02093
006102 106062 R
006103 006047 A 2120          INRE    SIGC         POINT TO SIZE CELL                                 00 02094
006104 006062 R
006105 006067 A 2121          STBE*   SIGC        STORE NUMBER OF WORDS AVAILABLE                     00 02095
006106 106062 R
006107 006047 A 2122          INRE    SIGC         COMPUTE RETURN                                     00 02096
006110 006062 R
006111 001000 A 2123          JMP*    SIGC         RETURN                                             00 02097
006112 106062 R
               2124 *                                                                                  F ********
006113 000000 A 2125 FORMOD   ENTR                    CHECK FOR FOREGROUND MODIFICATIONS               F ********
               2126 *                                                                                  F ********
006114 001010 A 2127          JAZ*    FORMOD        NO MODIFICATIONS                                   F ********
006115 106113 R
006116 054060 A 2128          STA     FORFLG        SAVE FLAG WORD                                     F ********
006117 150421 A 2129          ANA     BS0           SAVE FINAL MERGE BIT                               F ********
006120 004251 A 2130          LRLA    9             MOVE TO BIT 9                                      F ********
006121 006030 A 2131          LDXI    SRTC                                                             F ********
006122 004443 E
006123 055260 A 2132          STA     SWCH,X        SAVE IN SWITCH                                     F ********
006124 014052 A 2133          LDA     FORFLG        GET FLAG                                           F ********
006125 150422 A 2134          ANA     BS1           SAVE PARAMETER FLAG                                F ********
006126 001010 A 2135          JAZ*    FORMOD        EXIT IF OFF                                        F ********
006127 106113 R
006130 006017 A 2136          LDAE    DSCF+3        MODIFY OPEN "SI"                                   F ********
006131 001375 R
006132 154043 A 2137          ANA     MS10                                                             F ********
006133 116000 A 2138          ORA     0,B                                                              F ********
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006134 006057 A 2139          STAE    OSCF+3                                  F ********
006135 001375 R
006136 006017 A 2140          LDAE    RSCR+3      MODIFY READ "SI"            F ********
006137 001417 R
006140 154035 A 2141          ANA     MS10                                    F ********
006141 115000 A 2142          ORA     0,1                                     F ********
006142 006057 A 2143          STAE    RSCR+3                                  F ********
006143 001417 R
006144 006030 A 2144          LDXI    SIFCB       MODIFY FCB                  F ********
006145 001420 E
006146 015002 A 2145          LDA     2,1                                     F ********
006147 150462 A 2146          ANA     LHW                                     F ********
006150 116001 A 2147          ORA     1,2                                     F ********
006151 055002 A 2148          STA     2,1          KEY                        F ********
006152 016002 A 2149          LDA     2,2                                     F ********
006153 055000 A 2150          STA     0,1          LENGTH                     F ********
006154 016003 A 2151          LDA     3,2                                     F ********
006155 055007 A 2152          STA     7,1          NAME1                      F ********
006156 016004 A 2153          LDA     4,2                                     F ********
006157 055010 A 2154          STA     8,1              2                      F ********
006160 016005 A 2155          LDA     5,2                                     F ********
006161 055011 A 2156          STA     9,1              3                      F ********
006162 006030 A 2157          LDXI    WRT5                                    F ********
006163 000000 E
006164 015004 A 2158          LDA     4,1                                     F ********
006165 154010 A 2159          ANA     MS10                                    F ********
006166 055004 A 2160          STA     4,1                                     F ********
006167 006017 A 2161          LDAE    SICB+3      SKIP ECHO                   F ********
006170 004743 R
006171 154004 A 2162          ANA     MS10                                    F ********
006172 006057 A 2163          STAE    SICB+3                                  F ********
006173 004743 R
006174 001000 A 2164          JMP*    FORMOD                                  F ********
006175 106113 R
006176 177700 A 2165 MS10     DATA    0177700                                 F ********
006177 000000 A 2166 FORFLG   DATA    0                                       F ********
       006177 R 2167 ENDSIG   EQU     *-1         TOP OF THE SORT PROGRAM        00 02098
                2168          END                                             00 02099
ENTRY NAMES
001367 R SINI     000010 R SRT1     000000 R XIT2
EXTERNAL NAMES
000441 E BTOA     000404 E CLR5     003017 E COMP     004301 E CTLS
000000 E GOFCB    002474 E IFCA     002477 E IFCB     001062 E IFRD
000474 E LU5      000463 E LU5B     003570 E MOVE     002520 E OFCA
002523 E OFCB     002531 E S1CA     002534 E S1CB     000321 E S1CLS
002542 E S2CA     002545 E S2CB     000323 E S2CLS    002553 E S3CA
002556 E S3CB     006145 E SIFCB    006122 E SRTC     004276 E TLFC
000000 E V$EXEC   000000 E V$IOC    000000 E V$IOST   006163 E WRT5
000073 E XIT1     001043 E XSF1     001051 E XSF2
SYMBOLS
000001 A ACCP     006061 R ACNT     006045 R AERR     006021 R ALP
006053 R ARET     006050 R ARTN     006012 R ATOB     000002 A B
004730 R BLNK     000441 A BR0      000455 A BR12     000460 A BR15
000445 A BR4      000421 A BS0      000422 A BS1      000435 A BS12
000440 A BS15     000423 A BS2      000424 A BS3      000425 A BS4
000431 A BS8      000441 E BTOA     005272 R BUFL     005273 R BUFLB
005550 R C1       005574 R C10      005577 R C11      005600 R C12
005602 R C13      005605 R C14      005606 R C15      005610 R C16
005613 R C17      005614 R C18      005616 R C19      005552 R C2
005620 R C20      005621 R C21      005623 R C22      005625 R C23
005626 R C24      005630 R C25      005632 R C26      005633 R C27
005635 R C28      005637 R C29      005555 R C3       005640 R C30
005642 R C31      005644 R C32      005645 R C33      005647 R C34
005651 R C35      005652 R C36      005654 R C37      005556 R C4
005561 R C5       005563 R C6       005566 R C7       005567 R C8
005572 R C9       004704 R CBSW     000045 A CKE1     000046 A CKE2
000047 A CKE3     000044 A CKEY     004736 R CKLP     002376 R CL1
002406 R CL2      002416 R CL3      002426 R CL4      002436 R CL5
000404 E CLR5     000017 A CMBF     004724 R CMMK     004723 R CMSB
004722 R CMSW     004726 R COMA     003017 E COMP     000043 A CTLC
000050 A CTLF     000040 A CTLI     000041 A CTLP     004301 E CTLS
004703 R CWSW     000217 A DCB5     000222 A DILU     000003 A DLTD
005744 R DNAME    005771 R DNM3     006011 R DSAVE    000221 A DSI
001737 R ECPT     000424 A EIGHT    006177 R ENDSIG   000146 R EOF
000256 R EOF1     000210 R EOF2     000200 R EOF2A    000250 R EOF3
000433 R EOF4     000220 R EOF5     000233 R EOF6     000342 R EOF9
000246 R EOFF     000247 R EOFR     000374 R EOM1     000444 R EOM3
000501 R EOS1     000502 R EOS5     000772 R ERR06    000744 R ERR6
000767 R ERRMSG   000746 R ERRMV    004734 R FCNT     004721 R FEBL
004720 R FEWL     000465 A FIVE     006177 R FORFLG   006113 R FORMOD
000423 A FOUR     004717 R FSBL     000220 A FSIO     000011 A FSOB
000223 A FSOI     004716 R FSWL     000000 E GOFCB    002474 E IFCA
002477 E IFCB     001062 E IFRD     000015 A INBF     000000 A INPT
000005 A INRL     000002 A INST     000037 A IPRC     005371 R ITB1
005405 R ITB2     005421 R ITB3     005432 R ITB4     005443 R ITB5
005454 R ITB6     005542 R ITB7     005545 R ITB8     000660 R KEYW
000042 A LCNT     000462 A LHW      001407 R LINK     000005 A LO
005735 R LP       000261 A LPSW     000474 E LU5      000463 E LU5B
005274 R MBEG     000010 A MBLH     000262 A MBUF     000024 A MFLH
005270 R MINR     003570 E MOVE     000633 R MP1      005267 R MREM
006176 R MS10     000503 R MSG1     000534 R MSG2     000420 A MT
000030 A NCTL     000461 A NEG      000213 A OCAB     000214 A OCAE
002520 E OFCA     002523 E OFCB     002473 R OIN      000421 A ONE
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002517 R OOUT    000004 A ORCT    001372 R OSCF    000006 A OTRL
000016 A OUBF    004732 R PARN    000040 A RA0     000000 A RA1
000060 A RB0     000020 A RB1     000463 A RHW     005725 R RMD
001414 R RSCR    002531 E S1CA    002534 E S1CB    000321 E S1CLS
000225 A S1IO    002542 E S2CA    002545 E S2CB    000323 E S2CLS
000236 A S2IO    002553 E S3CA    002556 E S3CB    000247 A S3IO
005656 R SA1     005721 R SA10    005660 R SA2     005664 R SA3
005670 R SA4     005674 R SA5     005700 R SA6     005704 R SA7
005710 R SA8     005715 R SA9     000211 A SALP    000212 A SAOP
000210 A SASP    000020 A SBEG    000010 A SBLK    002756 R SC1
003174 R SC10    003236 R SC11    003112 R SC12    003333 R SC13
003343 R SC14    003350 R SC15    003267 R SC16    003402 R SC17
003406 R SC18    003703 R SC19    003016 R SC2     003512 R SC20
003424 R SC21    003457 R SC23    003452 R SC24    003600 R SC26
003435 R SC27    003567 R SC28    003546 R SC29    003103 R SC3
003561 R SC30    003615 R SC31    003632 R SC32    003644 R SC33
003656 R SC34    003670 R SC35    003634 R SC37    003713 R SC38
003720 R SC39    003063 R SC4     003727 R SC40    003751 R SC42
003745 R SC43    003765 R SC44    003774 R SC45    004002 R SC46
003054 R SC5     003254 R SC8     003213 R SC9     002743 R SCAN
004706 R SCBE    004702 R SCBS    004711 R SCCN    004700 R SCEB
002635 R SCER    003070 R SCERR   003405 R SCERZ   004677 R SCEW
003131 R SCGO    004715 R SCLP    003356 R SCMA    000113 A SCPT
003073 R SCRT    003077 R SCRT1   004676 R SCSB    004675 R SCSW
000122 A SCTL    000114 A SCTP    000022 A SCUR    004707 R SCW1
004710 R SCW2    004705 R SCWE    004701 R SCWS    000021 A SEND
002713 R SERROR  000467 A SEVEN   000215 A SFAC    000202 A SFAL
000205 A SFAO    000177 A SFAS    001001 R SFB0    001026 R SFB1
001036 R SFB2    001010 R SFB3    001042 R SFB4    001050 R SFB5
000216 A SFFC    000034 A SFIB    000032 A SFPT    003130 R SGGO
000002 A SI      001504 R SI0     001506 R SI1     002270 R SI10
002321 R SI11    002605 R SI1E    001533 R SI2     001547 R SI2A
002613 R SI2E    001523 R SI3     002621 R SI3E    001555 R SI4
001756 R SI4A    001565 R SI4B    002006 R SI4K    001671 R SI4W1B
001675 R SI4W2A  001735 R SI4W2B  001741 R SI4W3A  002002 R SI4W3B
002230 R SI5     004151 R SI50    004170 R SI50A   004216 R SI51
004235 R SI52    004250 R SI52A   004263 R SI52B   004271 R SI53
004272 R SI54    004306 R SI55    004335 R SI55A   004441 R SI56
004343 R SI57    004411 R SI58    004421 R SI59    002237 R SI5A
002140 R SI6     004463 R SI60    004502 R SI61    004470 R SI62
004512 R SI63    004513 R SI64    004536 R SI64A   004544 R SI65
004573 R SI67    004601 R SI68    002147 R SI6A    002201 R SI6A0
002202 R SI6A1   002217 R SI6B    002222 R SI6D    002221 R SI6T
002220 R SI6X    002223 R SI7     004652 R SI72    002254 R SI8
004744 R SIBF    005264 R SIBL    004740 R SICB    005262 R SICC
005256 R SICF    005255 R SICP    004055 R SIF1    004030 R SIF2
004020 R SIFC    006145 E SIFCB   004003 R SIFW    006062 R SIGC
006072 R SIGC1   002571 R SIIE    005261 R SILG    005265 R SIMB
005263 R SIML    005266 R SIMM    005254 R SIMP    001401 R SIN0
001367 R SINI    002577 R SIOE    000224 A SIOI    002714 R SIS1
002717 R SIS2    005260 R SITB    005257 R SITW    004074 R SIWF
000466 A SIX     003354 R SLES    000007 A SLGH    000175 A SLPT
005271 R SMIN    000604 R SMO1    000667 R SMO2    000573 R SMOV
000031 A SND1    000023 A SNUM    000176 A SOPT    000012 A SOUT
000245 R SPAD    000013 A SPCT    000014 A SPWT    000027 R SR1
000030 R SR2     000040 R SR3     000050 R SR3A    002563 R SRET
002566 R SRET1   001100 R SRI1    001106 R SRI2    001111 R SRI3
001056 R SRIO    000162 R SROT    000010 R SRT1    006122 E SRTC
001125 R SS1     001352 R SS10    001240 R SS11    001330 R SS13
001343 R SS14    001136 R SS2     001140 R SS3     001172 R SS4
001222 R SS5     001230 R SS6     001251 R SS7     001273 R SS8
001315 R SS9     001366 R SSBF    001114 R SSEQ    001365 R SSLO
000174 A SSPT    002727 R ST01    002731 R ST02    002733 R ST03
002735 R ST04    002737 R ST05    002741 R ST06    002627 R ST08E
000035 A STM1    000036 A STM2    000033 A STOT    002504 R STSIC
002530 R STSOC   002701 R SW1     000260 A SWCH    000735 R SWEX
000732 R SWER7   004150 R SWF1    004102 R SWF2    004117 R SWF3
004141 R SWF4    004735 R SWIT    000025 A SWK1    000026 A SWK2
000027 A SWK3    002672 R SWM1    000671 R SWRI    000726 R SWRT
005275 R TB1     005303 R TB10    005303 R TB2     005311 R TB3
005317 R TB4     005325 R TB5     005333 R TB6     005341 R TB7
005347 R TB8     005355 R TB9     000471 A TEN     000464 A THREE
004276 E TLFC    000033 A TSEQ    000422 A TWO     000125 R UEX1
000137 R UEX2    000064 R USER    000072 R USR1    000415 A V$BFC
000301 A V$CPL   000355 A V$DSTB  000000 E V$EXEC  000000 E V$IOC
000000 E V$IOST  000317 A V$LLUP  000400 A V$LUT1  000401 A V$LUT2
000402 A V$LUT3  006163 E WRT5    000001 A X       000073 E XIT1
000000 R XIT2    001043 E XSF1    001051 E XSF2    000420 A ZERO
  0 ERRORS ASSEMBLY COMPLETE
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  20  ACCP     207   250   359
   0  ACNT    2071
   0  AERR    2077  2082
2067  ATOB     796   797   803   804   810   826   843   862   863
               864   865   866   867   868   869   870   871   872
               873
  94  B        313   315   339   340   343   344   346   347   349
               350   356   358   475   488   552   556   639   640
               643   645   648   659   652   654   758   760   763
               908   910   913   915   918   921   950   959  1070
              1072  1079  1081  1139  1143  1145  1152  1164  1174
              1178  1183  1186  1197  1216  1244  1245  1247  1248
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                1250  1251  1271  1272  1281  1286  1294  1299  1300
                1305  1326  1327  1331  1361  1362  1367  1406  1414
                1415  1429  1431  1435  1442  1444  1446  1449  1450
                1467  1469  1474  1480  1515  1517  1526  1528  1530
                1531  1533  1538  1540  1542  1639  1640  1643  1644
                1647  1665  1692  1694  1696  1706  1708  1710  2026
                2034  2037  2039  2069  2070
1833  BLNK      1248  1250
 119  BR0        204   253
 121  BR12      1025  1038
 120  BR4        885   956
 117  BS12      1028
 113  BS2        955
 114  BS3        260
 115  BS4        943
 116  BS8        964
   0  BTBA       134   363   380
1856  BUFL      1561  1568  1597  1743  1765
1857  BUFLB     1563  1588  1595  1612  1617  1695
1928  C1         796   880  1887
1937  C10       1896
1938  C11       1897
1939  C12        826   827  1898
1940  C13       1899
1941  C14       1900
1942  C15        843   844  1901
1943  C16       1902
1944  C17       1903
1945  C18        862  1607  1904
1946  C19        863  1905
1929  C2        1888
1947  C20       1906
1948  C21        864  1907
1949  C22        865  1908
1950  C23       1909
1951  C24        866  1910
1952  C25        867  1911
1953  C26       1912
1954  C27        868  1913
1955  C28        869  1914
1956  C29       1915
1930  C3        1889
1957  C30        870  1916
1958  C31        871  1917
1959  C32       1918
1960  C33        872  1919
1961  C34        873  1920
1962  C35       1921
1963  C36       1922
1964  C37       1923
1931  C4         797  1556  1890
1932  C5         803   973  1891
1933  C6        1892
1934  C7        1893
1935  C8         804   976  1558  1560  1894
1936  C9         810   811  1895
1818  CBSW      1125  1128  1135  1155  1157  1160
  58  CKE1       417   426   447
  59  CKE2       446
  60  CKE3       578
  57  CKEY       416
1837  CKLP      1304  1320  1322  1366  1393  1395
1009  CL1        969   972  1019
1010  CL2        979   996  1033
1011  CL3        982  1001  1006
1012  CL4        988  1002  1007
1013  CL5        997  1003  1008
   0  CLR5       140   366
  35  CMBF       209   245   252
1831  CMMK      1244
1830  CMSB      1239  1242  1253  1260  1262  1265  1398  1400  1404
                1427
1829  CMSW      1237  1243  1256  1266  1402  1425
1832  COMA      1245  1247
   0  COMP       134   656  1147
  56  CTLC       412  1686
  53  CTLI       414
  54  CTLP       415   418   421   422   424   425   428   429   431
                432   434
   0  CTLS       141  1605
1817  CWSW      1123  1126  1131  1161
  81  DILU      1020
  22  DLTB       241   248
2022  DNAME     1996  2010  2038  2053
2039  DNMS      2036
2054  DSAVE     2029  2031  2047  2049
  80  DSI        200
1838  ECPT      1306  1309  1319  1368  1371  1392
 131  EIGHT      376
 256  EOF        199
 318  EOF1       268
 282  EOF2       287
 276  EOF2A      272
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307 EOF3 298
375 EOF4 387
288 EOF5 284
296 EOF6 303
345 EOF9 337
305 EOFF 277 283 297
306 EOFR 290 301
365 EOM1 364
382 EOM3 375 377 381
391 EOS1 372 383 384
392 EOS5 374 386
496 ERR06 483 492 495
490 ERR6 201
495 ERRMSG 493
492 ERRMV 491
1835 FCNT 1241 1267 1277 1279 1292 1333 1338 1347
1828 FEBL 1205 1213 1225 1233 1238 1290 1356 1428
1827 FEWL 1202 1210 1222 1230 1236 1288 1354 1426
128 FIVE 786 1671 1677
0 FORMOD 742
127 FOUR 373 486 1513
1826 FSBL 1194 1212
79 FSIO 821 838 856
29 FSOB 1590 1768
1825 FSWL 1191 1201 1209 1221 1229
0 GOFCB 142
0 IFCA 135 1030
0 IFCB 136 1009 1023 1031
0 IFRD 139 572 573
33 INBF 208 225 251 971 1567
19 INPT 202 370
24 INRL 1584
21 INST 243 360
1887 ITB1 883 969 1572 1575 1582 1872 1872
1891 ITB2 979 1570 1573 1589 1873 1873
1895 ITB3 815 1001 1874 1874
1898 ITB4 831 1002 1875 1875
1901 ITB5 849 1003 1876 1876
1904 ITB6 1877 1877
1922 ITB7 949 1878 1878
1923 ITB8 958 1879 1879
445 KEYW 443
55 LCNT 413 437 440
748 LINK 745 747
96 LO 761
2009 LP 974 2012
88 LPSW 978
0 LU5 140 368 389
0 LU5B 140 367 388
1358 MBEG 981 1744 1746
28 MBLH 1005
89 MBUF 1740
40 MFLH 217 289 618 621 624 668 1722 1730 1750
1770 1799 1808
1854 MINR 1784 1790
0 MOVE 134 365 367 382 388 435 492 682 693
704 1067 1083 1296 1358
435 MP1 420 423 427 430 433
1853 MREM 1753 1759 1764 1774 1782 1792 1795 1797 1805
393 MSG1 365 367
394 MSG2 382 388
111 MT 112 113 114 115 116 117 118 119 120
121 122 123 124 125 126 127 128 129
130 131 132
44 NCTL 628 637 1687
74 OCAB 1016
75 OCAE 1018
0 OFCA 135 1040
0 OFCB 136 1010 1036 1041
1030 OIN 1022
124 ONE 1181 1981
1040 OOUT 1035
25 OTRL 1592
34 OUBF 227 244 1569 1600
1834 PARN 1251
102 RA0 818 835 853 947 948
103 RA1 817 833 834 851 852 1767
104 RB0 1587 1593 1596 1742
105 RB1 1586 1594
1979 RHW 2027 2045
1995 RMD 812 828 845 881 1021 1034 1999
749 RSCR 705 767
0 S1CA 135 1043
0 S1CB 136 820 1011 1044
0 S1CLS 138 333
84 S1IO 547
0 S2CA 135 1045
0 S2CB 136 837 1012 1046
0 S2CLS 138 334
0 S3CA 135 1047
0 S3CB 136 855 1013 1048
1968 SA1 1870
1977 SA10 1879

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1969   $A2      1871
1970   $A3      1872
1971   $A4      1873
1972   $A5      1874
1973   $A6      1875
1974   $A7      1876
1975   $A8      1877
1976   $A9      1878
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  27   $BLK      715   985   991   998  1809
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1208   $C10     1199
1228   $C11     1218
1177   $C12     1149
1260   $C13     1255  1258
1264   $C14     1261
1267   $C15     1263
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1283   $C17     1278  1313  1315  1383  1385  1390
1286   $C18     1280
1398   $C19     1282  1284  1324  1397
1147   $C2      1127  1129  1144  1146  1148  1180  1190  1193
1325   $C20     1287
1296   $C21     1289  1291  1293  1295
1310   $C23     1318
1307   $C24     1323
1360   $C26     1297
1298   $C27     1359
1358   $C28     1334  1337  1343  1346  1353  1355  1357
1345   $C29     1335
1173   $C3      1207  1215  1227  1235
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1392   $C35     1381
1378   $C37     1386  1388  1391
1402   $C38     1399
1405   $C39     1401
1163   $C4      1153  1154
1410   $C40     1407
1423   $C42     1416
1420   $C43     1418
1433   $C44     1424
1439   $C45     1436
1444   $C46     1453
1159   $C5      1156
1236   $C8      1175  1432
1216   $C9      1196
1119   $CAN      775   782   794   801   808   824   841   859   874
           877  1142  1151  1163  1171  1172  1173  1177  1270
          1298  1325  1360  1405  1452
1820   $CBE      793  1137  1254
1816   $CBS      781  1124
1823   $CCN     1139
1814   $CEB      780  1206  1214  1226  1234
1064   $CER      777   788   800   807   823   840   858   861   876
           879  1052  1054  1056  1058  1060  1062  1068  1077
          1086  1580  1626  1736  1757
1166   $CERR    1169  1259  1419  1451
1285   $CERZ    1121  1168  1283
1813   $CEW      778  1203  1211  1223  1231
1187   $CGD     1179  1185
1824   $CLP     1141  1150
1270   $CMA     1246
  62   $CPT      634
1168   $CRT     1165  1176  1422  1448
1171   $CRT1    1167
1812   $CSB      792  1195
1811   $CSW      790  1192
  64   $CTL      269
  38   $CUR      211   216   218   266   279   292   311   318   322
           419   725  1602
1821   $CW1     1134  1140  1308  1316  1317  1332  1342  1352  1370
          1378  1379  1443  1447
1822   $CW2      784   785
1819   $CWE      766   771   791  1130  1257
1815   $CWS      779  1122
  37   $END      210   320   626   670  1804
1087   $ERROR    967  1049  1085
 130   $EVEN     490  1674  2041
  69   $FAL      986   987   992
  70   $FAO      994   995  1000  1015  1017
  68   $FAS      983   984   990
 524   $FB0      213   307   553   557
 540   $FB1      527
 547   $FB2      531   532
 529   $FB3      539
 550   $FB4      546
 554   $FB5      549
  49   $FIB      316   530   535   538   541
  46   $FPT      327   331   466   485   551   555
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773	SI1	772								
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979	SI11	975								
1056	SI1E	1044	1044	1044	1044					
782	SI2	773								
788	SI2A	750	750							
1058	SI2E	1046	1046	1046	1046					
778	SI3	776								
1060	SI3E	1048	1048	1048	1048					
790	SI4	783								
847	SI4A	795	798	802	805	809	813	825	829	842
794	SI4B	789								
859	SI4K	853	857							
823	SI4W1B	814	817							
824	SI4W2A	818	822							
840	SI4W2B	830	833	834						
841	SI4W3A	835	839							
858	SI4W3B	848	851	852						
945	SI5	882	886							
1555	SI50	966	1627	1737	1758	1810				
1564	SI50A	1566	1724	1727	1745	1747				
1575	SI51	1571								
1582	SI52	1574	1576	1579						
1589	SI52A	1586	1587							
1596	SI52B	1593	1594							
1599	SI53	1596								
1600	SI54	1598								
1609	SI55	1683								
1626	SI55A	1614	1616	1619	1624					
1684	SI56	1611	1682							
1628	SI57	1625								
1664	SI58	1658	1660							
1670	SI59	1667								
949	SI5A	947	1063							
900	SI6	816	832	850	884	936				
1699	SI60	1690								
1713	SI61	1698								
1705	SI62	1700								
1719	SI63	1717								
1720	SI64	1718								
1739	SI65	1735								
1757	SI67	1776	1779							
1759	SI68	1756								
906	SI6A	934								
925	SI6AD	911	916	919	922					
926	SI6A1	924								
937	SI6B	904	906	929	931					
940	SI6D	932								
939	SI6T	902	926	928	935					
938	SI6X	905	907							
941	SI7	887								
1793	SI72	1783	1791							
958	SI8	952								
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1850	SIBL	1733	1760	1763	1777	1780	1787	1793		
1839	SICB	744	746	751	761	765	769			
1848	SICC	1679	1680	1684						
1344	SICF	1608	1609	1664	1676	1678				
1843	SICP	1606	1636	1673	1675					
1481	SIF1	1472	1477							
1468	SIF2	1497								
1462	SIFC	969	979	1463	1481	1482	1483	1494		
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1492	SIFW	1001	1002	1003	1493					
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1052	SIIE	1031	1031	1031						
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1849	SIML	1697	1704	1711	1712	1716				
1852	SIMM	1786	1789							
1842	SIMP	1604	1633	1670	1672	1688				
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1269	SLES	1249	1252							
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449	SMO2	438								
410	SMOV	215	449							
45	SND1	276	321	673	697	1802				
39	SNUM	351	1798							
0	SORT	1								
30	SOUT	361								

304 SPAD 271 274 295
31 SPCT 615 707 708 712
32 SPWT 353 709 1806
202 SR1 198
203 SR2 221
210 SR3 246 247 249 255
215 SR3A 212
1049 SRET 968 1053 1055 1057 1059 1061
1051 SRET1 750 750 762 762 762 762
580 SRI1 584 586
583 SRI2 576 576
585 SRI3 576 576
571 SRID 195 580 581 582
265 SROT 239 259 317
194 SRT1 133 222 242 390 1739
0 SRTC 134 197 233 256 265 278 288 291 309
329 335 369 411 436 445 465 471 484
525 577 613 657 683 694 705 718 723
819 836 854 941 945 953 962 970 977
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673 SS11 662 666
707 SS13 671
717 SS14 714
628 SS2 672
630 SS3 659
656 SS4 642 644 647 649 651 653 655 658 661
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664 SS5 660
667 SS6 633 663 665 706
682 SS7 674 676 678 680 681
693 SS8 685 687 689 691 692
704 SS9 696 698 700 702 703
728 SSBF 617 713 716 720
612 SSEQ 214 308 726
727 SSLO 623 641
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1095 ST08 1062
1062 ST08E 948
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51 STM2 336 534 537 544 548
47 STOT 526 528 529 545
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1042 STSOC 1041
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482 SWER7 470 470
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1515 SWF2 1525
1526 SWF3 1521
1543 SWF4 1535
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42 SWK2 625 646 667 669 686 695
43 SWK3 629 630 632 635
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480 SWRT 473
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1872 TB3 794 800 903 1052
1873 TB4 801 807 1054
1874 TB5 808 823 1056
1875 TB6 824 840 1058
1876 TB7 841 858 940 1060
1877 TB8 859 861
1878 TB9 874 876
132 TEN 1523 2076 2081
126 THREE 178 231 1430 1445 1752
0 TLFC 141 1603
135 TWO 1632 1651 1709 1734 1755 1982
243 UEX1 238
250 UEX2 240
223 USER 206 220 263
229 USR1 224 226 228 230 232 236
1978 V$DSTB 2032 2050
1983 V$LUT1 2023
1985 V$LUT3 2042
0 WRT5 144
93 X 200 202 203 205 207 208 209 210 211
216 217 218 219 225 227 234 237 241
243 244 245 248 250 251 252 254 257
261 266 267 269 276 281 285 289 294

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  537   538   541   542   544   545   547   548   551
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  624   625   626   628   629   630   632   634   635
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  684   686   688   695   697   699   707   708   709
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  856   909   912   914   917   920   942   944   946
  954   957   963   965   971   978   983   984   985
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 1801  1802  1804  1806  1808  1809  2024  2044  2073
 2078
    0  XIT1     134   229
  176  XIT2     133   177   179   180
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    0  XSF2     137   314   330   342   348   357   554
  112  ZERO     275
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```
000050 000000 A
000051 000000 A
000052 000000 A
000053 000000 A
000054 000000 A
000055 000000 A    59          DATA    0                                                    02 00057
                   60 FCB5     FCB                                                          02 00058
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000057 000000 A
000060 000000 A
000061 000000 A
000062 000000 A
000063 000000 A
000064 000000 A
000065 000000 A
000066 000000 A
000067 000000 A
000070 000000 A    61          DATA    0                                                    02 00059
                   62 FCB6     FCB                                                          02 00060
000071 000000 A
000072 000000 A
000073 000000 A
000074 000000 A
000075 000000 A
000076 000000 A
000077 000000 A
000100 000000 A
000101 000000 A
000102 000000 A
000103 000000 A    63          DATA    0                                                    02 00061
                   64 FCB7     FCB                                                          02 00062
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000105 000000 A
000106 000000 A
000107 000000 A
000110 000000 A
000111 000000 A
000112 000000 A
000113 000000 A
000114 000000 A
000115 000000 A
000116 000000 A    65          DATA    0                                                    02 00063
       000117 R    66 FCBPTT   EQU     *                                                    02 00064
000117 000002 R    67          DATA    FCB1        FCB POINTER TABLE                        02 00065
000120 000015 R    68          DATA    FCB2                                                 02 00066
000121 000030 R    69          DATA    FCB3                                                 02 00067
000122 000043 R    70          DATA    FCB4                                                 02 00068
000123 000056 R    71          DATA    FCB5                                                 02 00069
000124 000071 R    72          DATA    FCB6                                                 02 00070
000125 000104 R    73          DATA    FCB7                                                 02 00071
000126 000000 A    74 FCBPT    DATA    0                                                    02 00072
000127 000000 A    75 WRFLG    DATA    0                                                    02 00073
000130 000000 A    76 TEMP     DATA    0                                                    02 00074
000131 000000 A    77 TMPA     DATA    0                                                    02 00075
000132 000000 A    78 TMPB     DATA    0                                                    02 00076
000133 000000 A    79 TMPC     DATA    0                                                    02 00077
000134 000000 A    80 TMPX     DATA    0                                                    02 00078
000135 000000 A    81 TMPY     DATA    0                                                    02 00079
000136 000000 A    82 CNT1     DATA    0           COUNT ON ACCUMULATOR                     02 00080
000137 000000 A    83 CNT2     DATA    0           COUNT ON MULTIPLICAND                    02 00081
000140 000000 A    84 CARY     DATA    0           CARRY FROM AN ARITHMETIC OPERATION       02 00082
000141 000000 A    85 RECF     DATA    0           RECORD FIELD POINTER LOCATION            02 00083
000142 000000 A    86 RECP     DATA    0           RECORD POINTER                           02 00084
000143 000000 A    87 REND     DATA    0           NEG IS LAST RECORD IN READ               02 00085
000144 000000 A    88 TABP     DATA    0           TABLE POINTER                            02 00086
000145 000000 A    89 FPTR     DATA    0           LOCATION IN DATA LIST POINTER TABLE      02 00087
000146 000000 A    90 MPPT     DATA    0,0         POSITION IN MULTIPLIER                   02 00088
000147 000000 A
000150 000000 A    91 MCPT     DATA    0,0         POSITION IN MULTIPLICAND                 02 00089
000151 000000 A
000152 000000 A    92 DMPT     DATA    0,0         POSITION IN ACCUMULATOR                  02 00090
000153 000000 A
000154             93 DMBF     BSS     7           DIVISION AND MULTIPLICATION BUFFER       02 00091
000163 000000 A    94 ALFG     DATA    0           INDICATES SPECIAL CHARACTER FOUND        02 00092
       000130 R    95 TMP      SET     TEMP                                                 02 00093
       000131 R    96 TMP1     SET     TMPA                                                 02 00094
       000132 R    97 TMP2     SET     TMPB                                                 02 00095
000164 000164 R    98 TMPXX    DATA    TMPXX                                                02 00096
000165 120240 A    99 NA       DATA    '  '        BLANK                                    02 00097
000166 120240 A   100           DATA    '  ',.  ',.  .                                      02 00098
000167 120240 A
000170 120240 A
                  101 *                                                                    02 00099
000171 000260 A   102 ZERO     DATA    0260                                              C  02 00100
000172 000000 A   103 WBIT     DATA    0                                                    02 00101
000173 004350 A   104 SHFS     DATA    004350,004340  LOGICAL SHIFT RIGHT A REG 8,0 PLACES  02 00102
000174 004340 A
       000174 R   105 SHF0     EQU     SHFS+1                                               02 00103
000175 177400 A   106 FSBTS    DATA    0177400,0377   FIRST 8 BITS, SECOND 8 BITS           02 00104
000176 000377 A
000177             107 CRBF     BSS     120         CARD READ/PUNCH BUFFER                   02 00105
       000366 R    108 ITMTBL   EQU     *-1                                                  02 00106
000367 011106 R    109          DATA    ADRG,XORGR,XDATA,EXREF,ADRG,0,EXREF                  02 00107
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000370 011121 R
000371 011471 R
000372 011124 R
000373 011106 R
000374 000000 A
000375 011124 R
000376 001032 R   110 XSTAB   DATA    STAB+1                                                  02 00108
                  111 *       HOLLERITH/ASCII CONSTANTS                                     02 00109
000377 002000 A   112 H011    DATA    02000       11 PUNCH                                    02 00110
000400 000240 A   113 B       DATA    0240        ' '                                         02 00111
000401 000303 A   114 C       DATA    0303        'C'                                         02 00112
000402 000322 A   115 R       DATA    0322        'R'                                         02 00113
000403 000255 A   116 M       DATA    0255        '-'                                         02 00114
       000404 R   117 RTAB    EQU     *                                                       02 00115
000404 007777 A   118 MSKC    DATA    07777       HOLLERITH CHARACTER MASK                    02 00116
000405 001777 A   119 MSKD    DATA    01777       HOLLERITH DIGIT MASK                        02 00117
000406 006000 A   120 MSKZ    DATA    06000       HOLLERITH ZONE MASK                         02 00118
000407 000000 A   121 LCBF    DATA    0,0,0,0     FROM LCB                                    02 00119
000410 000000 A
000411 000000 A
000412 000000 A
000413 000000 A   122 FROM    DATA    0           FROM INDEX                                  02 00120
000414 000000 A   123 LCBT    DATA    0,0,0,0     TO LCB                                      02 00121
000415 000000 A
000416 000000 A
000417 000000 A
000420 000000 A   124 TO      DATA    0           TO INDEX                                    02 00122
000421 000000 A   125 SVTO    DATA    0           SAVE 'TO' INDEX                             02 00123
                  126 *       SHIFT CONSTANTS                                               02 00124
000422 004141 A   127 SBR1    LSRB    1                                                       02 00125
000423 004142 A   128 SBR2    LSRB    2                                                       02 00126
000424 004340 A   129 SAR0    LSRA    0                                                       02 00127
000425 004240 A   130 SAL0    LRLA    0                                                       02 00128
000426 004250 A   131 SAL8    LRLA    8                                                       02 00129
000427 006117 A   132 ERAI    DATA    06117       FIRST WORD OF EXTENDED -OR- INSTRUCTION     02 00130
                  133 *       ADDRESS CONSTANTS                                             02 00131
000430 000407 R   134 FRMA    DATA    LCBF                                                    02 00132
000431 000414 R   135 TOA     DATA    LCBT                                                    02 00133
000432 000730 R   136 LXA     DATA    LCBX                                                    02 00134
000433 000711 R   137 INPA    DATA    INTP                                                    02 00135
000434 000176 R   138 ADRA    DATA    RBUF        *** RBUF*2+1                                02 00136
000435 000177 R   139 ADRB    DATA    RBUF+1                                                  02 00137
000436 000176 R   140 ADRC    DATA    RBUF        *** RBUF*2+2                                02 00138
000437 007624 R   141 ADRD    DATA    CPAS,PRNT                                               02 00139
000440 007675 R
000441 000754 R   142 ATB2    DATA    TBL2        *** TBL2*2                                  02 00140
                  143 *                                                                     02 00141
                  144 * COMMAND TRANSFER VECTOR                                             02 00142
                  145 *               OPERATIONAL COMMANDS HAVE BIT 0 SET                   02 00143
                  146 *                                                                     02 00144
       000442 R   147 CTAB    EQU     *                                                       02 00145
                  148 *   TYPE 0                                                            02 00146
000442 105724 R   149         DATA    (STOP)*     0                                         02 00147
000443 105731 R   150         DATA    (PERI)*     1                                         02 00148
000444 105735 R   151         DATA    (RET)*      2                                         02 00149
000445 105754 R   152         DATA    (POST)*     3                                         02 00150
000446 000002 A   153 D2      DATA    02                                                    02 00151
000447 000003 A   154 D3      DATA    03                                                    02 00152
000450 000004 A   155 D4      DATA    04                                                    02 00153
000451 000005 A   156 D5      DATA    05                                                    02 00154
000452 000006 A   157 D6      DATA    06                                                    02 00155
000453 000007 A   158 D7      DATA    07                                                    02 00156
000454 000010 A   159 D10     DATA    010                                                   02 00157
000455 000011 A   160 D11     DATA    011                                                   02 00158
000456 000012 A   161 D12     DATA    012                                                   02 00159
000457 000013 A   162 D13     DATA    013                                                   02 00160
000460 000014 A   163 D14     DATA    014                                                   02 00161
000461 000015 A   164 D15     DATA    015                                                   02 00162
                  165 *   TYPE 1                                                            02 00163
000462 002415 R   166         DATA    INT         0   NO-OPERATION                          02 00164
000463 004501 R   167         DATA    ADDS        1                                         02 00165
000464 004501 R   168         DATA    ADDS        2                                         02 00166
000465 004766 R   169         DATA    MULC        3                                         02 00167
000466 004636 R   170         DATA    DIVL        4                                         02 00168
000467 004636 R   171         DATA    DIVL        5                                         02 00169
000470 003746 R   172         DATA    GLEX        6                                         02 00170
000471 003746 R   173         DATA    GLEX        7                                         02 00171
000472 003746 R   174         DATA    GLEX        8                                         02 00172
000473 003725 R   175         DATA    GLNS        9                                         02 00173
000474 003725 R   176         DATA    GLNS        10                                        02 00174
000475 003725 R   177         DATA    GLNS        11                                        02 00175
000476 004451 R   178         DATA    ADNL        12                                        02 00176
000477 004451 R   179         DATA    ADNL        13                                        02 00177
000500 004451 R   180         DATA    ADNL        14                                        02 00178
000501 004451 R   181         DATA    ADNL        15                                        02 00179
                  182 *   TYPE 2                                                            02 00180
000502 000016 A   183 D16     DATA    016                                                   02 00181
000503 006055 R   184         DATA    XLFR        1                                         02 00182
000504 006070 R   185         DATA    XLTO        2                                         02 00183
000505 000017 A   186 D17     DATA    017                                                   02 00184
000506 000020 A   187 D20     DATA    020                                                   02 00185
000507 000022 A   188         DATA    022                                                   02 00186
000510 000026 A   189 D26     DATA    026                                                   02 00187
```

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000511 000027 A   190 027      DATA     027                                                    02 00188
000512 000030 A   191 030      DATA     030                                                    02 00189
000513 000032 A   192 032      DATA     032                                                    02 00190
000514 000033 A   193 033      DATA     033                                                    02 00191
000515 000040 A   194 040      DATA     040                                                    02 00192
000516 000047 A   195 047      DATA     047                                                    02 00193
000517 000050 A   196 050      DATA     050                                                    02 00194
000520 000060 A   197 060      DATA     060                                                    02 00195
000521 000067 A   198          DATA     067                                                    02 00196
                  199 *   TYPE 3                                                              02 00197
000522 004413 R   200          DATA     LDI          0                                         02 00198
000523 004444 R   201          DATA     AONN         1                                         02 00199
000524 004444 R   202          DATA     AONN         2                                         02 00200
000525 004444 R   203          DATA     AONN         3                                         02 00201
000526 004444 R   204          DATA     AONN         4                                         02 00202
000527 000077 A   205 077      DATA     077                                                    02 00203
000530 104376 R   206          DATA     (STI)*       6                                         02 00204
000531 104376 R   207          DATA     (STI)*       7                                         02 00205
000532 104376 R   208          DATA     (STI)*       8                                         02 00206
000533 104376 R   209          DATA     (STI)*       9                                         02 00207
000534 000000 A   210          DATA     0                                                      02 00208
000535 005763 R   211          DATA     SK4F        11                                         02 00209
000536 000100 A   212 0100     DATA     0100                                                   02 00210
000537 000106 A   213 0106     DATA     0106                                                   02 00211
000540 000107 A   214 0107     DATA     0107                                                   02 00212
000541 000110 A   215 0110     DATA     0110                                                   02 00213
                  216 *   TYPE 4                                                              02 00214
000542 004066 R   217          DATA     LDN          0                                         02 00215
000543 004477 R   218          DATA     ADD          1                                         02 00216
000544 004477 R   219          DATA     ADD          2                                         02 00217
000545 004764 R   220          DATA     MUL          3                                         02 00218
000546 004634 R   221          DATA     DIV          4                                         02 00219
000547 004634 R   222          DATA     DIV          5                                         02 00220
000550 003737 R   223          DATA     GLE          6                                         02 00221
000551 003737 R   224          DATA     GLE          7                                         02 00222
000552 003737 R   225          DATA     GLE          8                                         02 00223
000553 003720 R   226          DATA     GLEN         9                                         02 00224
000554 003720 R   227          DATA     GLEN        10                                         02 00225
000555 003720 R   228          DATA     GLEN        11                                         02 00226
000556 006051 R   229          DATA     UNFR        12                                         02 00227
000557 006064 R   230          DATA     UNTO        13                                         02 00228
000560 000400 A   231 0400     DATA     0400                                                   02 00229
000561 177776 A   232 0M2      DATA     -2                                                     02 00230
                  233 *   TYPE 5                                                              02 00231
000562 106010 R   234          DATA     (BRU)*       2- 0                                      02 00232
000563 106010 R   235          DATA     (BRUR)*      2- 1                                      02 00233
000564 005777 R   236          DATA     BRT          2- 2                                      02 00234
000565 005777 R   237          DATA     BRTR         2- 3                                      02 00235
000566 005774 R   238          DATA     BRF          2- 4                                      02 00236
000567 005774 R   239          DATA     BRFR         2- 5                                      02 00237
000570 106036 R   240          DATA     (PER)*       2- 6                                      02 00238
000571 106036 R   241          DATA     (PERR)*      2- 7                                      02 00239
000572 106043 R   242          DATA     (CALL)*      2- 8                                      02 00240
000573 106135 R   243          DATA     (MVTO)*      2- 9                                      02 00241
000574 106135 R   244          DATA     (MVTO)*      2-10                                      02 00242
000575 106271 R   245          DATA     (ADTO)*      2-11                                      02 00243
000576 106633 R   246          DATA     (ENTO)*      2-12                                      02 00244
000577 106714 R   247          DATA     (DETO)*      2-13                                      02 00245
000600 106767 R   248          DATA     (LOOK)*      2-14                                      02 00246
000601 106613 R   249          DATA     (GTX)*       2-15                                      02 00247
                  250 * TYPE 6                                                                02 00248
000602 107154 R   251          DATA     ($READ)*     3- 0                                      02 00249
000603 107507 R   252          DATA     (WRIT)*      3- 1                                      02 00250
000604 107575 R   253          DATA     (SKIP)*      3- 2                                      02 00251
000605 107743 R   254          DATA     (SPCE)*      3- 3                                      02 00252
000606 000120 A   255 0120     DATA     0120                                                   02 00253
000607 000137 A   256 0137     DATA     0137                                                   02 00254
000610 000147 A   257 0147     DATA     0147                                                   02 00255
000611 110137 R   258          DATA     (TYPE)*      3- 7                                      02 00256
000612 000177 A   259 0177     DATA     0177                                                   02 00257
000613 106610 R   260          DATA     (SF)*        3- 9                                      02 00258
000614 106602 R   261          DATA     (SFI)*       3-10                                      02 00259
000615 106077 R   262          DATA     (SAVX)*      3-11                                      02 00260
000616 106122 R   263          DATA     (SIMX)*      3-12                                      02 00261
000617 000200 A   264 0200     DATA     0200                                                   02 00262
000620 105267 R   265          DATA     (UNLD)*      3-14                                      02 00263
000621 105264 R   266          DATA     (UNLN)*      3-15                                      02 00264
                  267 *        CONSTANTS FOR NUMERIC OPERATIONS                              02 00265
        000512 R  268 NLEN     EQU      030         DATA NUML                                  02 00266
        000450 R  269 NUMB     EQU      04          DATA NWRD                                  02 00267
        000455 R  270 NDEC     EQU      011         DATA NUMD                                  02 00268
        000452 R  271 NLST     EQU      06          DATA NUML/NWRD                             02 00269
        000451 R  272 NLS1     EQU      05          DATA NUML/NWRD-1                           02 00270
        000511 R  273 NLE1     EQU      027         DATA NUML-1                                02 00271
        000505 R  274 NINT     EQU      017         DATA NUML-NUMD                             02 00272
        000502 R  275 NIN1     EQU      016         NUML-NUMD-1                                02 00273
000622 010000 A   276 NSGN     DATA     010000      NORMALIZED NUMERIC SIGN                    02 00274
                  277 *        INSTRUCTION CONSTANTS                                         02 00275
000623 000131 A   278 MOVC     DATA     0131        MOVE COMMAND                               02 00276
000624 000132 A   279 MOVZ     DATA     0132        MOVE ZONE COMMAND                          02 00277
                  280 *        BIT MASKS                                                     02 00278
000625 077777 A   281 MSK0     DATA     077777      ALL BUT BIT 0                              02 00279
000626 100000 A   282 BIT0     DATA     0100000                                                02 00280
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                000176 R   283 BYT1    EQU     F8BTS+1                                                          02 00281
                000175 R   284 BYT0    EQU     F8BTS                                                            02 00282
000627          040000 A   285 BIT1    DATA    040000          IMPLIED FIELD BIT                                02 00283
000630          020000 A   286 BIT2    DATA    020000          NUMERIC FIELD BIT                                02 00284
                000622 R   287 BIT3    EQU     NSGN                                                             02 00285
000631          140000 A   288 MSKA    DATA    0140000         BITS 0 AND 1                                     02 00286
000632          004000 A   289 MSKD    DATA    04000           COMPARE INDICATOR IN FDL                         02 00287
                000405 R   290 MSOP    EQU     MSKD            OPERAND MASK                                     02 00288
                000404 R   291 WMSK    EQU     MSKC            DIGIT MASK FOR 1ST WORD OF ENTRY                 02 00289
                000505 R   292 DMSK    EQU     017             DIGIT MASK                                       02 00290
000633          177760 A   293 RMSK    DATA    0177760         RIGHT HAND DIGIT MASK                            02 00291
                           294 *       LOGICAL CONSTANTS                                                        02 00292
                000626 R   295 TRUE    EQU     BIT0                                                             02 00293
                000626 R   296 SIGN    EQU     BIT0                                                             02 00294
                000506 R   297 BWRD    EQU     020             BITS PER WORD                                    02 00295
                           298 *                                                                                02 00296
000634          000000 A   299 INTA    DATA    0               TEMP                                             02 00297
000635          000000 A   300 INTB    DATA    0               TEMP                                             02 00298
000636          100000 A   301 IND     DATA    0100000         INDICATORS                                       02 00299
                           302         DUP     7                                                                02 00300
000637          000000 A   303         DATA    0                                                                02 00301
000640          000000 A   303         DATA    0                                                                02 00301
000641          000000 A   303         DATA    0                                                                02 00301
000642          000000 A   303         DATA    0                                                                02 00301
000643          000000 A   303         DATA    0                                                                02 00301
000644          000000 A   303         DATA    0                                                                02 00301
000645          000000 A   303         DATA    0                                                                02 00301
000646          120240 A   304 BLNK    DATA    '  '                                                            02 00302
000647          000000 A   305 UNSG    DATA    0               FIRST NON-ZERO DIGIT                             02 00303
000650          000000 A   306 ZIND    DATA    0                                                                02 00304
000651          000000 A   307 NIND    DATA    0                                                                02 00305
000652          000000 A   308 UNEC    DATA    0                                                                02 00306
000653          000000 A   309 UNNO    DATA    0                                                                02 00307
000654          000000 A   310 DCNT    DATA    0                                                                02 00308
000655          000000 A   311 CCNT    DATA    0                                                                02 00309
000656          000000 A   312 REOF    DATA    0               ZERO IS LC                                       02 00310
000657          127652 A   313 CEOF    DATA    '/*'            LAST CARD CHARACTERS                             02 00311
000660          000000 A   314 RECS    DATA    0               INDICATOR TO SELECT RECORD (0=FALSE)             02 00312
000661          000000 A   315 RECG    DATA    0               TEMP                                             02 00313
                000176 R   316 RBUF    EQU     CRBF-1                                                           02 00314
000662          000000 A   317 CBRA    DATA    0               TEMP FOR CBRK                                    02 00315
000663          000000 A   318 CBRC    DATA    0               TEMP FOR CBRK                                    02 00316
000664          177777 A   319 FTSW    DATA    -1              FIRST TIME SWITCH                                02 00317
                           320 *                                                                                02 00318
                           321 * FIELD DIRECTIVE TABLE                                                         02 00319
                           322 *                                                                                02 00320
000665          100666 R   323 BIAD    DATA    (*+1)*                                                           02 00321
000666          006462 R   324         DATA    PFD1            0  NOP                                           02 00322
000667          006524 R   325         DATA    PFGR            1  GREATER                                       02 00323
000670          006525 R   326         DATA    PFLE            2  LESS                                          02 00324
000671          006521 R   327         DATA    PFEQ            3  EQUAL                                         02 00325
000672          006505 R   328         DATA    PFCO            4  CONTROL                                       02 00326
000673          000000 A   329 AUDP    DATA    0               PREVIOUS CHAR                                    02 00327
000674          000000 A   330 AUDI    DATA    0               AUDIT INDICATOR RESULTS                          02 00328
000675          000000 A   331 CMPI    DATA    0               RESULT OF A COMPARE                              02 00329
000676          006532 R   332         DATA    PFAU            8  AUDIT                                         02 00330
000677          000000 A   333 HIND    DATA    0                                                                02 00331
000700          000000 A   334 LNGT    DATA    0               NUMBER OF DIGITS IN AN OPERATION                 02 00332
000701          000000 A   335 WQTR    DATA    0               DIGIT POSITION                                   02 00333
000702          000000 A   336 DPOS    DATA    0               IMPLIED DECIMAL POSITION                         02 00334
000703          000704 R   337 IXE1    DATA    IXE2            *** IXE2*2  BYTE LOCATION OF DUMMY FIELD        02 00335
000704          000000 A   338 IXE2    DATA    0               DUMMY FIELD                                      02 00336
                           339 *                                                                                02 00337
                           340 * SYSTEM COMMUNICATION                                                          02 00338
                           341 *                                                                                02 00339
000705          000000 A   342 BIAF    DATA    0               0600 SET BY COMPILER - FIELD TABLE BIAS          02 00340
000706          000000 A   343 BIAA    DATA    0               0601 SET BY COMPILER - ADDRESS TABLE BIAS        02 00341
000707          000000 A   344 BIAG    DATA    0               0602 SET BY COMPILER - GENIC START               02 00342
000710          000000 A   345 PEND    DATA    0               0603 SET BY COMPILER - LIST END+6                02 00343
000711          000000 A   346 INTP    DATA    0               SET BY LOADER (FIRST GENIC BYTE)                 02 00344
000712          000000 A   347 TMPR    DATA    0                "            (TEMPORARY)                        02 00345
000713          000000 A   348 WSTA    DATA    0                "            (WORKLIST START)                   02 00346
000714          000000 A   349 WO      DATA    0                "            (WORKLIST BOTTOM)                  02 00347
000715          000000 A   350 LINE    DATA    0               LINES/PAGE                                       02 00348
000716          000000 A   351 LCNT    DATA    0               CURRENT LINE COUNT                               02 00349
000717          001031 R   352 BIAC    DATA    STAB            CALL TABLE BIAS                                  02 00350
                000705 R   353 BIAR    EQU     BIAF            RECORD TABLE BIAS                                02 00351
                000705 R   354 BIAT    EQU     BIAF            TABLE TABLE BIAS                                 02 00352
000720          000636 R   355 BIAI    DATA    IND             INDICATOR TABLE BIAS                             02 00353
000721          000441 R   356 CMMD    DATA    CTAB            COMMAND BIAS                                     02 00354
000722          000000 A   357 INTC    DATA    0               CURRENT COMMAND                                  02 00355
000723          000000 A   358 INTH    DATA    0               CURRENT BYTE LOCATION                            02 00356
000724          000000 A   359 INTO    DATA    0               CURRENT OPERAND                                  02 00357
000725          000001 A   360 SFFG    DATA    1             SET FIELD PREVIOUS FLAG                    D.1     02 00358
000726          000000 A   361 RETI    DATA    0               RETURN IMMEDIATE INDICATOR                       02 00359
000727          000001 A   362 PSTI    DATA    1               POST INDICATOR                                   02 00360
000730          000000 A   363 LCBX    DATA    0,0             DUMMY LCB                                        02 00361
000731          000000 A
000732          000000 A   364 LFRO    DATA    0               LAST FROM FIELD                                  02 00362
000733          000000 A   365 LFRI    DATA    0                                                                02 00363
000734          000000 A   366 BYTF    DATA    0               FROM BYTE                                        02 00364
000735          000000 A   367 BYTT    DATA    0               TO BYTE                                          02 00365
000736          000000 A   368 TLUK    DATA    0                                                                02 00366
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        000720 R  369 INDP    EQU     BIAI                                                    02 00367
000737  000001 A  370 BIDT    DATA    1,10,100,1000                                           02 00368
000740  000012 A
000741  000144 A
000742  001750 A
                  371 *                                                                     02 00369
                  372 * ADDITION TABLE                                                      02 00370
                  373 *                                                                     02 00371
000743  000000 A  374 TBL1    DATA    0,10,20,30,40,50,60,70,80  INDEX INTO TABLE 2          02 00372
000744  000012 A
000745  000024 A
000746  000036 A
000747  000050 A
000750  000062 A
000751  000074 A
000752  000106 A
000753  000120 A
                  375 *                                                                     02 00373
                  376 * MULTIPLACATION TABLE                                              02 00374
                  377 *                                                                     02 00375
                  378 TBFM    FORM    4,4,4,4                                             02 00376
000754  000020 A  379 TBL2    TBFM    0,0,1,0       THIS TABLE IS FOR MULTIPLICATION      02 00377
000755  020060 A  380         TBFM    2,0,3,0                                             02 00378
000756  040120 A  381         TBFM    4,0,5,0                                             02 00379
000757  060160 A  382         TBFM    6,0,7,0                                             02 00380
000760  100220 A  383         TBFM    8,0,9,0                                             02 00381
000761  000040 A  384         TBFM    0,0,2,0                                             02 00382
000762  040140 A  385         TBFM    4,0,6,0                                             02 00383
000763  100001 A  386         TBFM    8,0,0,1                                             02 00384
000764  020501 A  387         TBFM    2,1,4,1                                             02 00385
000765  060601 A  388         TBFM    6,1,8,1                                             02 00386
000766  000060 A  389         TBFM    0,0,3,0                                             02 00387
000767  060220 A  390         TBFM    6,0,9,0                                             02 00388
000770  020521 A  391         TBFM    2,1,5,1                                             02 00389
000771  100422 A  392         TBFM    8,1,1,2                                             02 00390
000772  041162 A  393         TBFM    4,2,7,2                                             02 00391
000773  000100 A  394         TBFM    0,0,4,0                                             02 00392
000774  100041 A  395         TBFM    8,0,2,1                                             02 00393
000775  060402 A  396         TBFM    6,1,0,2                                             02 00394
000776  041202 A  397         TBFM    4,2,8,2                                             02 00395
000777  021543 A  398         TBFM    2,3,6,3                                             02 00396
001000  000120 A  399         TBFM    0,0,5,0                                             02 00397
001001  000521 A  400         TBFM    0,1,5,1                                             02 00398
001002  001122 A  401         TBFM    0,2,5,2                                             02 00399
001003  001523 A  402         TBFM    0,3,5,3                                             02 00400
001004  002124 A  403         TBFM    0,4,5,4                                             02 00401
001005  000140 A  404         TBFM    0,0,6,0                                             02 00402
001006  020601 A  405         TBFM    2,1,8,1                                             02 00403
001007  041003 A  406         TBFM    4,2,0,3                                             02 00404
001010  061444 A  407         TBFM    6,3,2,4                                             02 00405
001011  102105 A  408         TBFM    8,4,4,5                                             02 00406
001012  000160 A  409         TBFM    0,0,7,0                                             02 00407
001013  040422 A  410         TBFM    4,1,1,2                                             02 00408
001014  101123 A  411         TBFM    8,2,5,3                                             02 00409
001015  022224 A  412         TBFM    2,4,9,4                                             02 00410
001016  062466 A  413         TBFM    6,5,3,6                                             02 00411
001017  000200 A  414         TBFM    0,0,8,0                                             02 00412
001020  060502 A  415         TBFM    6,1,4,2                                             02 00413
001021  021404 A  416         TBFM    2,3,0,4                                             02 00414
001022  102145 A  417         TBFM    8,4,6,5                                             02 00415
001023  043047 A  418         TBFM    4,6,2,7                                             02 00416
001024  000220 A  419         TBFM    0,0,9,0                                             02 00417
001025  100562 A  420         TBFM    8,1,7,2                                             02 00418
001026  061524 A  421         TBFM    6,3,5,4                                             02 00419
001027  042466 A  422         TBFM    4,5,3,6                                             02 00420
001030  023430 A  423         TBFM    2,7,1,8                                             02 00421
                  424         EJEC                                                        02 00422
001031  000012 A  425 STAB    DATA    10                                                  02 00423
001032  142730 A  426         DATA    'EXIT  '      EXIT MUST BE FIRST ENTRY IN STAB      02 00424
001033  144724 A
001034  120240 A
001035  002024 R  427         DATA    EXIT                                                02 00425
001036  151305 A  428         DATA    'READ  '                                            02 00426
001037  140704 A
001040  120240 A
001041  001337 R  429         DATA    READ                                                02 00427
001042  153722 A  430         DATA    'WRITE '                                            02 00428
001043  144724 A
001044  142640 A
001045  001345 R  431         DATA    WRITE                                               02 00429
001046  153705 A  432         DATA    'WEOF  '                                            02 00430
001047  147706 A
001050  120240 A
001051  001463 R  433         DATA    WEOF                                                02 00431
001052  151305 A  434         DATA    'REWIND'                                            02 00432
001053  153711 A
001054  147304 A
001055  001532 R  435         DATA    REWIND                                              02 00433
001056  151713 A  436         DATA    'SKIPR '                                            02 00434
001057  144720 A
001060  151240 A
001061  001601 R  437         DATA    SKIPR                                               02 00435
001062  147720 A  438         DATA    'OPEN  '                                            02 00436
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001063 142716 A                                                                                                  02 00437
001064 120240 A                                                                                                  02 00438
001065 001102 R   439          DATA    OPEN                                                                      02 00439
001066 141714 A   440          DATA    'CLOSE '                                                                  02 00440
001067 147723 A                                                                                                  02 00441
001070 142640 A                                                                                                  02 00442
001071 001256 R   441          DATA    CLOSE                                                                     02 00443
001072 142301 A   442          DATA    'DATE  '                                                                  02 00444
001073 152305 A                                                                                                  02 00445
001074 120240 A                                                                                                  02 00446
001075 001674 R   443          DATA    DATE                                                                      02 00447
001076 152311 A   444          DATA    'TIME  '                                                                  02 00448
001077 146705 A                                                                                                  02 00449
001100 120240 A                                                                                                  02 00450
001101 001746 R   445          DATA    TIME                                                                      02 00451
                  446          EJEC                                                                              02 00452
                  447 *                                                                                          02 00453
                  448 *                                                                                          02 00454
                  449 ***********************************************************************************       02 00455
                  450 *                                                                                          02 00456
                  451 *              VORTEX IOCS INTERFACE                                                       02 00457
                  452 *              CALLED THROUGH RPG 'CALL' STATEMENT                                         02 00458
                  453 *                                                                                          02 00459
                  454 ***********************************************************************************       02 00460
                  455 *                                                                                          02 00461
                  456 *                                                                                          02 00462
                  457 *                                                                                          02 00463
                  458 *                                                                                          02 00464
                  459 *                                                                                          02 00465
                  460 *        NAME    OPEN                                                                      02 00466
                  461 *        CALL:   CALL OPEN,U,LUN,FILENAME,KEY,SIZE,ACCESS,MODE,EXCEPTION                   02 00467
                  462 *                                                                                          02 00468
                  463 *                                                                                          02 00469
        001102 R  464 OPEN    EQU     *                                                                         02 00470
001102 006010 A   465          LDAI    OPEN                                                                      02 00471
001103 001102 R                                                                                                  02 00472
001104 057000 I   466          STA     RCND            INITIALIZE TO NON-NEGATIVE                                02 00473
001105 002000 A   467          CALL    ARGUX           INITIALIZE CALL ERROR MESSAGE                             02 00474
001106 002265 R                                                                                                  02 00475
001107 002000 A   468          CALL    ARGU                                                                      02 00476
001110 002257 R                                                                                                  02 00477
001111 002000 A   469          CALL    FETN            GET NUMERIC ARGUMENT (U)                                  02 00478
001112 002315 R                                                                                                  02 00479
001113 057000 I   470          STA     U               SAVE RPG UNIT NUMBER                                      02 00480
001114 002000 A   471          CALL    UCHK            CHECK IF VALID                                            02 00481
001115 002237 R                                                                                                  02 00482
001116 006025 A   472          LDBE    FCBPTT,1        GET POINTER TO FCB                                        02 00483
001117 000117 R                                                                                                  02 00484
001120 067000 I   473          SIB     FCBPT                                                                     02 00485
001121 002000 A   474          CALL    ARGU                                                                      02 00486
001122 002257 R                                                                                                  02 00487
001123 002000 A   475          CALL    FETN            GET NUMERIC ARGUMENT (LUN)                                02 00488
001124 002315 R                                                                                                  02 00489
001125 057000 I   476          STA     LUN             SAVE VORTEX LOGICAL UNIT NUMBER                           02 00490
001126 140431 A   477          SUB     BSS                                                                       02 00491
001127 001002 A   478          JAP     ARGERR          INVALID LUN                                               02 00492
001130 002253 R                                                                                                  02 00493
001131 037000 I   479          LDX     FCBPT                                                                     02 00494
001132 015012 A   480          LDA     10,1                                                                      02 00495
001133 001016 A   481          JANZ    ARGERR          IF NON-ZERO, CURRENTLY OPENED                             02 00496
001134 002253 R                                                                                                  02 00497
001135 017000 I   482          LDA     LUN                                                                       02 00498
001136 055012 A   483          STA     10,1                                                                      02 00499
001137 002000 A   484          CALL    ARGU                                                                      02 00500
001140 002257 R                                                                                                  02 00501
001141 002000 A   485          CALL    FETR            GET POINTER TO FILE NAME                                  02 00502
001142 002343 R                                                                                                  02 00503
001143 027000 I   486          LDB     FCBPT                                                                     02 00504
001144 037000 I   487          LDX     FRMP                                                                      02 00505
001145 017000 I   488          LDA     FTMP                                                                      02 00506
001146 055000 A   489          STA     0,1             PUT BYTE POINTER IN FCB                                   02 00507
001147 002000 A   490          CALL    STF                                                                       02 00508
001150 002371 R                                                                                                  02 00509
001151 056007 A   491          STA     7,2             MOVE FILE NAME TO FCB                                     02 00510
001152 002000 A   492          CALL    STF                                                                       02 00511
001153 002371 R                                                                                                  02 00512
001154 056010 A   493          STA     8,2                                                                       02 00513
001155 002000 A   494          CALL    STF                                                                       02 00514
001156 002371 R                                                                                                  02 00515
001157 056011 A   495          STA     9,2                                                                       02 00516
001160 002000 A   496          CALL    ARGU                                                                      02 00517
001161 002257 R                                                                                                  02 00518
001162 002000 A   497          CALL    FETR            GET POINTER TO PROTECT KEY                                02 00519
001163 002343 R                                                                                                  02 00520
001164 037000 I   498          LDX     FRMP                                                                      02 00521
001165 017000 I   499          LDA     FTMP                                                                      02 00522
001166 055000 A   500          STA     0,1                                                                       02 00523
001167 002000 A   501          CALL    CBAI                                                                      02 00524
001170 002721 R                                                                                                  02 00525
001171 027000 I   502          LDB     FCBPT                                                                     02 00526
001172 056002 A   503          STA     2,2             STORE IN FCB                                              02 00527
001173 002000 A   504          CALL    ARGU                                                                      02 00528
001174 002257 R
```

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001175 002000 A  505          CALL    FETN        GET RECORD SIZE (IN BYTES)                    02 00503
001176 002315 R
001177 004341 A  506          LSRA    1           CONVERT TO WORDS                              02 00504
001200 027000 I  507          LDB     FCBPT                                                     02 00505
001201 056000 A  508          STA     0,2         SAVE IN FCB                                   02 00506
001202 002000 A  509          CALL    ARGU                                                      02 00507
001203 002257 R
001204 002000 A  510          CALL    FETN        GET ACCESS METHOD                             02 00508
001205 002315 R
001206 057000 I  511          STA     TMPXX                                                     02 00509
001207 140422 A  512          SUB     TWO         CHECK IF < 2                                  02 00510
001210 001002 A  513          JAP     ARGERR                                                    02 00511
001211 002253 R
001212 017000 I  514          LDA     TMPXX                                                     02 00512
001213 004210 A  515          ASLA    8           POSITION ACCESS METHOD FIELD                  02 00513
001214 027000 I  516          LDB     FCBPT                                                     02 00514
001215 116002 A. 517          ORA     2,2         OR IN PROTECT KEY                             02 00515
001216 056002 A  518          STA     2,2         INSERT ACCESS METHOD/KEY IN FCB               02 00516
001217 002000 A  519          CALL    ARGU                                                      02 00517
001220 002257 R
001221 002000 A  520          CALL    FETN        GET MODE FOR OPEN CALL                        02 00518
001222 002315 R
001223 057000 I  521          STA     TMPXX                                                     02 00519
001224 140422 A  522          SUB     TWO                                                       02 00520
001225 001002 A  523          JAP     ARGERR      CHECK IF < 2                                  02 00521
001226 002253 R
001227 017000 I  524          LDA     TMPXX                                                     02 00522
001230 004214 A  525          ASLA    12          POSITION MODE FIELD                           02 00523
001231 006110 A  526          ORAI    03000       OR IN WAIT BIT, OPCODE                        02 00524
001232 003000 A
001233 117000 I  527          ORA     LUN         AND LOGICAL UNIT NUMBER                       02 00525
001234 054005 A  528          STA     XOPEN+3     STORE IN OPEN REQUEST BLOCK                   02 00526
001235 017000 I  529          LDA     FCBPT                                                     02 00527
001236 054004 A  530          STA     XOPEN+4     PUT FCB ADDRESS IN REQUEST BLOCK              02 00528
                 531 XOPEN    OPEN    0,0,0,0     OPEN FILE                                     02 00529
001237 006505 A
001240 000404 A
001241 100000 A
001242 003000 A
001243 000000 A
001244 000000 A
001245 000000 A
001246 006010 A  532          LDAI    XOPEN                                                     02 00530
001247 001237 R
001250 002000 A  533          CALL    STAT        CHECK STATUS                                  02 00531
001251 002063 R
001252 002000 A  534          CALL    EXCP        UPDATE EXCEPTION FIELD                        02 00532
001253 002114 R
001254 001000 A  535          JMP     INT         RETURN TO INTERPRETER                         02 00533
001255 002415 R
                 536 *                                                                         02 00534
                 537 *                                                                         02 00535
                 538 *        NAME:   CLOSE                                                    02 00536
                 539 *        CALL    CALL CLOSE,U,MODE,EXCEPTION                              02 00537
                 540 *                                                                         02 00538
                 541 *                                                                         02 00539
        001256 R 542 CLOSE    EQU     *                                                        02 00540
001256 006010 A  543          LDAI    CLOSE                                                     02 00541
001257 001256 R
001260 057000 I  544          STA     REND        INITIALIZE TO NON-NEGATIVE                    02 00542
001261 002000 A  545          CALL    ARGUX       INITIALIZE CALL ERROR MESSAGE                 02 00543
001262 002265 R
001263 002000 A  546          CALL    ARGU                                                      02 00544
001264 002257 R
001265 002000 A  547          CALL    FETN        GET MUMERIC ARGUMENT (U)                      02 00545
001266 002315 R
001267 057000 I  548          STA     U           SAVE RPG UNIT NUMBER                          02 00546
001270 002000 A  549          CALL    U@HK        CHECK IF VALID                                02 00547
001271 002237 R
001272 006025 A  550          LDBE    FCBPTT,1    GET POINTER TO FCB                            02 00548
001273 000117 R
001274 067000 I  551          STB     FCBPT                                                     02 00549
001275 002000 A  552          CALL    ARGU                                                      02 00550
001276 002257 R
001277 002000 A  553          CALL    FETN        GET MODE FOR CLOSE CALL                       02 00551
001300 002315 R
001301 057000 I  554          STA     TMPXX                                                     02 00552
001302 140422 A  555          SUB     TWO         CHECK IF < 2                                  02 00553
001303 001002 A  556          JAP     ARGERR                                                    02 00554
001304 002253 R
001305 027000 I  557          LDB     FCBPT       GET POINTER TO FCB                            02 00555
001306 017000 I  558          LDA     TMPXX                                                     02 00556
001307 004214 A  559          ASLA    12          POSITION MODE FIELD                           02 00557
001310 006110 A  560          ORAI    03400       OR IN WAIT BIT, OPCODE                        02 00558
001311 003400 A
001312 006116 A  561          ORAE    10,2        AND LOGICAL UNIT NUMBER FROM FCB EXTENSION    02 00559
001313 000012 A
001314 054006 A  562          STA     XCLOSE+3                                                  02 00560
001315 064006 A  563          STB     XCLOSE+4    PUT FCB ADDRESS IN REQUEST BLOCK              02 00561
001316 005001 A  564          TZA                                                               02 00562
001317 056012 A  565          STA     10,2        REMOVE LUN FROM FCB EXTENSION                 02 00563
                 566 XCLOSE   CLOSE   0,0,0,0     CLOSE FILE                                    02 00564
001320 006505 A
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001321 000404 A
001322 100000 A
001323 003400 A
001324 000000 A
001325 000000 A
001326 000000 A
001327 006010 A  567          LDAI    XCLOSE                                                  02 00565
001330 001320 R
001331 002000 A  568          CALL    STAT            CHECK STATUS                            02 00566
001332 002063 R
001333 002000 A  569          CALL    EXCP            UPDATE EXCEPTION FIELD                  02 00567
001334 002114 R
001335 001000 A  570          JMP     INT             RETURN TO INTERPRETER                   02 00568
001336 002415 R
                 571 *                                                                        02 00569
                 572 *                                                                        02 00570
                 573 *        NAME:   READ                                                    02 00571
                 574 *        CALL:   CALL READ,U,RECORD,SIZE,RECORD NUMBER,EXCEPTION         02 00572
                 575 *                                                                        02 00573
                 576 *                                                                        02 00574
      001337 R   577 READ     EQU     *                                                       02 00575
001337 005001 A  578          TZA                                                             02 00576
001340 057000 I  579          STA     WRFLG           SET WRITE/READ FLAG TO READ             02 00577
001341 006010 A  580          LDAI    READ                                                    02 00578
001342 001337 R
001343 001000 A  581          JMP     WRIT1                                                   02 00579
001344 001351 R
                 582 *                                                                        02 00580
                 583 *                                                                        02 00581
                 584 *        NAME:   WRITE                                                   02 00582
                 585 *        CALL:   CALL WRITE,U,RECORD,SIZE,RECORD NUMBER,EXCEPTION        02 00583
                 586 *                                                                        02 00584
      001345 R   587 WRITE    EQU     *                                                       02 00585
001345 010431 A  588          LDA     BS8                                                     02 00586
001346 057000 I  589          STA     WRFLG           SET WRITE/READ FLAG TO WRITE            02 00587
001347 006010 A  590          LDAI    WRITE                                                   02 00588
001350 001345 R
001351 057000 I  591 WRIT1    STA     REND            INITIALIZE TO NON-NEGATIVE              02 00589
001352 002000 A  592          CALL    ARGUX           INITIALIZE CALL ERROR MESSAGE           02 00590
001353 002265 R
001354 002000 A  593          CALL    ARGU                                                    02 00591
001355 002257 R
001356 002000 A  594          CALL    FETN            GET NUMERIC ARGUMENT (U)                02 00592
001357 002315 R
001360 057000 I  595          STA     U                                                       02 00593
001361 002000 A  596          CALL    UCHK            CHECK IF VALID                          02 00594
001362 002237 R
001363 006025 A  597          LDBE    FCBPTT,1        GET POINTER TO FCB                      02 00595
001364 000117 R
001365 067000 I  598          STB     FCBPT                                                   02 00596
001366 016012 A  599          LDA     10,2            CONDITIONALLY GET LUN FROM FCB EXTENSION 02 00597
001367 001010 A  600          JAZ     WRIT2                                                   02 00598
001370 001372 R
001371 057000 I  601          STA     U               AND UPDATE RPG UNIT NUMBER              02 00599
      001372 R   602 WRIT2    EQU     *                                                       02 00600
001372 002000 A  603          CALL    ARGU                                                    02 00601
001373 002257 R
001374 002000 A  604          CALL    FETR            GET ADDRESS ARGUMENT (RECORD ADDRESS)   02 00602
001375 002343 R
001376 027000 I  605          LDB     FCBPT                                                   02 00603
001377 056001 A  606          STA     1,2             STORE IN FCB                            02 00604
001400 002000 A  607          CALL    ARGU                                                    02 00605
001401 002257 R
001402 002000 A  608          CALL    FETN            GET RECORD SIZE (IN BYTES)              02 00606
001403 002315 R
001404 004341 A  609          LSRA    1               CONVERT TO WORDS                        02 00607
001405 027000 I  610          LDB     FCBPT                                                   02 00608
001406 056000 A  611          STA     0,2             SAVE IN FCB                             02 00609
001407 002000 A  612          CALL    ARGU                                                    02 00610
001410 002257 R
001411 002000 A  613          CALL    FETN            GET RECORD NUMBER                       02 00611
001412 002315 R
001413 027000 I  614          LDB     FCBPT                                                   02 00612
001414 001010 A  615          JAZ     WRIT3           IF ZERO, ASSUME SEQUENTIAL ACCESS       02 00613
001415 001417 R
001416 056003 A  616          STA     3,2             IF DIRECT ACCESS, PUT RECORD NUMBER IN FCB 02 00614
      001417 R   617 WRIT3    EQU     *                                                       02 00615
001417 010435 A  618          LDA     BS12            MODE BIT                                02 00616
001420 117000 I  619          ORA     WRFLG           OR IN OPCODE                            02 00617
001421 117000 I  620          ORA     U               AND LUN                                 02 00618
001422 054024 A  621          STA     XWRIT+3         STORE IN REQUEST BLOCK                  02 00619
001423 064024 A  622          STB     XWRIT+4         PUT FCB ADDRESS IN REQUEST BLOCK        02 00620
001424 017000 I  623          LDA     WRFLG           WRITE?                                  02 00621
001425 001010 A  624          JAZ     XWRIT                                                   02 00622
001426 001444 R
001427 017000 I  625          LDA     U               YES, CHECK IF CARD PUNCH                02 00623
001430 002000 A  626          CALL    DEVTST                                                  02 00624
001431 010203 R
001432 140422 A  627          SUB     TWO                                                     02 00625
001433 001016 A  628          JANZ    XWRIT                                                   02 00626
001434 001444 R
001435 027000 I  629          LDB     FCBPT           YES, OUTPUT FROM BUFFER                 02 00627
001436 017000 I  630          LDA     ADRB                                                    02 00628
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001437 036001 A  631          LDX     1,2       GET RECORD ADDRESS                          02 00629
001440 056001 A  632          STA     1,2       PUT CARD BUFFER ADDRESS IN FCB              02 00630
001441 026000 A  633          LDB     0,2       GET RECORD LENGTH                           02 00631
001442 002000 A  634          CALL    MOBF      BLANK OUT AND FILL                          02 00632
001443 010033 R
                 635 XWRIT    WRITE   0,0,0,1   WRITE/READ ASCII RECORD                   02 00633
001444 006505 A
001445 000404 A
001446 100000 A
001447 010400 A
001450 000000 A
001451 000000 A
001452 000000 A
001453 006010 A  636          LDAI    XWRIT                                               02 00634
001454 001444 R
001455 002000 A  637          CALL    STAT      CHECK STATUS                              02 00635
001456 002063 R.
001457 002000 A  638          CALL    EXCP      UPDATE EXCEPTION FIELD                    02 00636
001460 002114 R
001461 001000 A  639          JMP     INT       RETURN TO INTERPRETER                     02 00637
001462 002415 R
                 640 *                                                                    02 00638
                 641 *                                                                    02 00639
                 642 *        NAME:   WEOF                                                02 00640
                 643 *        CALL:   CALL WEOF,U,EXCEPTION                               02 00641
                 644 *                                                                    02 00642
                 645 *                                                                    02 00643
      001463 R   646 WEOF     EQU     *                                                   02 00644
001463 006010 A  647          LDAI    WEOF                                                02 00645
001464 001463 R
001465 057000 I  648          STA     REND      INITIALIZE TO NON-NEGATIVE                02 00646
001466 002000 A  649          CALL    ARGUX     INITIALIZE CALL ERROR MESSAGE             02 00647
001467 002265 R
001470 002000 A  650          CALL    ARGU                                                02 00648
001471 002257 R
001472 002000 A  651          CALL    FETN      GET NUMERIC ARGUMENT (U)                  02 00649
001473 002315 R
001474 057000 I  652          STA     U                                                   02 00650
001475 002000 A  653          CALL    UCHK      CHECK IF VALID                            02 00651
001476 002237 R
001477 006025 A  654          LDBE    FCBPTT,1  GET POINTER TO FCB                        02 00652
001500 000117 R
001501 067000 I  655          STB     FCBPT                                               02 00653
001502 016012 A  656          LDA     10,2      CONDITIONALLY GET LUN FROM FCB EXTENSION  02 00654
001503 001010 A  657          JAZ     WEOF1                                               02 00655
001504 001506 R
001505 057000 I  658          STA     U         AND UPDATE RPG UNIT NUMBER                02 00656
      001506 R   659 WEOF1    EQU     *                                                   02 00657
001506 064010 A  660          STB     WEOF2+4   PUT FCB ADDRESS IN WEOF REQUEST BLOCK     02 00658
001507 014006 A  661          LDA     WEOF2+3                                             02 00659
001510 150462 A  662          ANA     LHW                                                 02 00660
001511 117000 I  663          ORA     U                                                   02 00661
001512 054003 A  664          STA     WEOF2+3   PUT LUN IN REQUEST BLOCK                  02 00662
                 665 WEOF2    WEOF    0,0,0     WRITE END OF FILE                         02 00663
001513 006505 A
001514 000404 A
001515 100000 A
001516 001000 A
001517 000000 A
001520 000000 A
001521 000000 A
001522 006010 A  666          LDAI    WEOF2                                               02 00664
001523 001513 R
001524 002000 A  667          CALL    STAT      CHECK STATUS                              02 00665
001525 002063 R
001526 002000 A  668          CALL    EXCP      UPDATE EXCEPTION FIELD                    02 00666
001527 002114 R
001530 001000 A  669          JMP     INT       RETURN TO INTERPRETER                     02 00667
001531 002413 R
                 670 *                                                                    02 00668
                 671 *                                                                    02 00669
                 672 *        NAME:   REWIND                                              02 00670
                 673 *        CALL:   CALL REWIND,U,EXCEPTION                             02 00671
                 674 *                                                                    02 00672
                 675 *                                                                    02 00673
      001532 R   676 REWIND   EQU     *                                                   02 00674
001532 006010 A  677          LDAI    REWIND                                              02 00675
001533 001532 R
001534 057000 I  678          STA     REND      INITIALIZE TO NON-NEGATIVE                02 00676
001535 002000 A  679          CALL    ARGUX     INITIALIZE CALL ERROR MESSAGE             02 00677
001536 002265 R
001537 002000 A  680          CALL    ARGU                                                02 00678
001540 002257 R
001541 002000 A  681          CALL    FETN      GET NUMERIC ARGUMENT (U)                  02 00679
001542 002315 R
001543 057000 I  682          STA     U                                                   02 00680
001544 002000 A  683          CALL    UCHK      CHECK IF VALID                            02 00681
001545 002237 R
001546 006025 A  684          LDBE    FCBPTT,1  GET POINTER TO FCB                        02 00682
001547 000117 R
001550 067000 I  685          STB     FCBPT                                               02 00683
001551 016012 A  686          LDA     10,2      CONDITIONALLY GET LUN FROM FCB EXTENSION  02 00684
001552 001010 A  687          JAZ     REW1                                                02 00685
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001553 001555 R
001554 057000 I   688          STA     U               AND UPDATE RPG UNIT NUMBER                      02 00686
       001555 R   689 REW1     EQU     *                                                               02 00687
001555 064010 A   690          STB     REW2+4          PUT FCB ADDRESS IN REWIND REQUEST BLOCK         02 00688
001556 014006 A   691          LDA     REW2+3                                                          02 00689
001557 150462 A   692          ANA     LHW                                                             02 00690
001560 117000 I   693          ORA     U               PUT LUN IN REQUEST BLOCK                        02 00691
001561 054003 A   694          STA     REW2+3                                                          02 00692
                  695 REW2     REW     0,0,0           REWIND                                          02 00693
001562 006505 A
001563 000404 A
001564 100000 A
001565 001400 A
001566 000000 A
001567 000000 A
001570 000000 A
001571 006010 A   696          LDAI    REW2                                                            02 00694
001572 001562 R
001573 002000 A   697          CALL    STAT            CHECK STATUS                                    02 00695
001574 002063 R
001575 002000 A   698          CALL    EXCP            UPDATE EXCEPTION FIELD                          02 00696
001576 002114 R
001577 001000 A   699          JMP     INT             RETURN TO INTERPRETER                           02 00697
001600 002415 R
                  700 *                                                                                02 00698
                  701 *                                                                                02 00699
                  702 *        NAME:   SKIPR                                                           02 00700
                  703 *        CALL:   CALL SKIPR,U,RECORD COUNT,DIRECTION,EXCEPTION                   02 00701
                  704 *                                                                                02 00702
                  705 *                                                                                02 00703
       001601 R   706 SKIPR    EQU     *                                                               02 00704
001601 006010 A   707          LDAI    SKIPR                                                           02 00705
001602 001601 R
001603 057000 I   708          STA     REND            INITIALIZE TO NON-NEGATIVE                      02 00706
001604 002000 A   709          CALL    ARGUX           INITIALIZE ERROR CALL                           02 00707
001605 002265 R
001606 002000 A   710          CALL    ARGU                                                            02 00708
001607 002257 R
001610 002000 A   711          CALL    FETN            GET NUMERIC ARGUMENT (U)                        02 00709
001611 002315 R
001612 057000 I   712          STA     U                                                               02 00710
001613 002000 A   713          CALL    UCHK            CHECK IF VALID                                  02 00711
001614 002237 R
001615 006025 A   714          LDBE    FCBPTT,1        GET POINTER TO FCB                              02 00712
001616 000117 R
001617 067000 I   715          STB     FCBPT                                                           02 00713
001620 016012 A   716          LDA     10,2            CONDITIONALLY GET LUN FROM FCB EXTENSION        02 00714
001621 001010 A   717          JAZ     SKIPR1                                                          02 00715
001622 001624 R
001623 057000 I   718          STA     U                                                               02 00716
       001624 R   719 SKIPR1    EQU     *                                                               02 00717
001624 064023 A   720          STB     SKIPR3+4        PUT FCB ADDRESS IN SREC REQUEST BLOCK           02 00718
001625 002000 A   721          CALL    ARGU                                                            02 00719
001626 002257 R
001627 002000 A   722          CALL    FETN            GET SKIP RECORD COUNT                           02 00720
001630 002315 R
001631 057000 I   723          STA     TMPXX                                                           02 00721
001632 002000 A   724          CALL    ARGU                                                            02 00722
001633 002257 R
001634 002000 A   725          CALL    FETN            GET SKIP DIRECTION                              02 00723
001635 002315 R
001636 001010 A   726          JAZ     SKIPR2                                                          02 00724
001637 001641 R
001640 010435 A   727          LDA     BS12            GET MODE BIT (REVERSE)                          02 00725
       001641 R   728 SKIPR2    EQU     *                                                               02 00726
001641 110433 A   729          ORA     PS10            ADD OPCODE                                      02 00727
001642 117000 I   730          ORA     U               AND LUN                                         02 00728
001643 054003 A   731          STA     SKIPR3+3                                                        02 00729
                  732 SKIPR3   SREC    0,0,0           SKIP RECORD                                     02 00730
001644 006505 A
001645 000404 A
001646 100000 A
001647 002000 A
001650 000000 A
001651 000000 A
001652 000000 A
001653 006010 A   733          LDAI    SKIPR3                                                          02 00731
001654 001644 R
001655 002000 A   734          CALL    STAT            CHECK STATUS                                    02 00732
001656 002063 R
001657 017000 I   735          LDA     TMPXX                                                           02 00733
001660 005311 A   736          DAR                                                                     02 00734
001661 057000 I   737          STA     TMPXX                                                           02 00735
001662 001010 A   738          JAZ     SKIPR4          TERMINATE IF REQUIRED NUMBER SKIPPED            02 00736
001663 001670 R
001664 001020 A   739          JBNZ    SKIPR4          OR IF ABNORMAL STATUS                           02 00737
001665 001670 R
001666 001000 A   740          JMP     SKIPR3                                                          02 00738
001667 001644 R
       001670 R   741 SKIPR4    EQU     *                                                               02 00739
001670 002000 A   742          CALL    EXCP            UPDATE EXCEPTION FIELD                          02 00740
001671 002114 R
001672 001000 A   743          JMP     INT             RETURN TO INTERPRETER                           02 00741
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001673 002415 R
                    744 *                                                                                  02 00742
                    745 *                                                                                  02 00743
                    746 *       NAME:   DATE                                                               02 00744
                    747 *       CALL:   CALL DATE,RECORD-FIELD                                             02 00745
                    748 *                                                                                  02 00746
                    749 *                                                                                  02 00747
        001674 R    750 DATE    EQU     *                                                              C   02 00748
001674 006010 A     751         LDAI    DATE                                                           C   02 00749
001675 001674 R
001676 057000 I     752         STA     REND        INITIALIZE TO NON-NEGATIVE                         C   02 00750
001677 002000 A     753         CALL    ARGUX       INITIALIZE CALL ERROR MESSAGE                      C   02 00751
001700 002265 R
001701 002000 A     754         CALL    ARGU                                                           C   02 00752
001702 002257 R
001703 002000 A     755         CALL    FETR        GET POINTER TO FIELD                               C   02 00753
001704 002343 R
001705 037000 I     756         LDX     TOA                                                            C   02 00754
001706 014445 A     757         LDA     FTMP                                                           C   02 00755
001707 055000 A     758         STA     0,1         PUT BYTE POINTER IN LCB                            C   02 00756
001710 006010 A     759         LDAI    0177774     -4                                                 C   02 00757
001711 177774 A
001712 054031 A     760         STA     DATEX       LOOP INDEX (I)                                     C   02 00758
001713 005301 A     761         DECR    01                                                             C   02 00759
001714 054030 A     762         STA     DATESW      SET TO -1                                          C   02 00760
001715 034026 A     763 DATE1   LDX     DATEX                                                          C   02 00761
001716 015074 A     764         LDA     V$DATE+4,1  GET WORD(I)                                        C   02 00762
001717 024025 A     765         LDB     DATESW                                                         C   02 00763
001720 001020 A     766         JBZ     DATE2       LEFT BYTE?                                         C   02 00764
001721 001730 R
001722 044022 A     767         INR     DATESW      YES, TOGGLE SWITCH                                 C   02 00765
001723 004350 A     768         LSRA    8           POSITION                                           C   02 00766
001724 002000 A     769         CALL    PBAI        STORE BYTE(I)                                      C   02 00767
001725 002740 R
001726 001000 A     770         JMP     DATE1       LOOP                                               C   02 00768
001727 001715 R
001730 005302 A     771 DATE2   DECR    02                                                             C   02 00769
001731 064013 A     772         STB     DATESW      TOGGLE SWITCH                                      C   02 00770
001732 150463 A     773         ANA     RHW         EXTRACT RIGHT BYTE                                 C   02 00771
001733 002000 A     774         CALL    PBAI        STORE BYTE(I)                                      C   02 00772
001734 002740 R
001735 014006 A     775         LDA     DATEX                                                          C   02 00773
001736 005111 A     776         IAR                 I=I+1                                              C   02 00774
001737 054004 A     777         STA     DATEX                                                          C   02 00775
001740 001016 A     778         JANZ    DATE1       I=0?                                               C   02 00776
001741 001715 R
001742 001000 A     779         JMP     INT         YES, EXIT TO INTERPETER                            C   02 00777
001743 002415 R
001744 000000 A     780 DATEX   DATA    0                                                              C   02 00778
001745 000000 A     781 DATESW  DATA    0                                                              C   02 00779
                    782 *                                                                                  02 00780
                    783 *                                                                                  02 00781
                    784 *       NAME:   TIME                                                               02 00782
                    785 *       CALL:   CALL TIME,RECORD-FIELD                                             02 00783
                    786 *                                                                                  02 00784
                    787 *                                                                                  02 00785
        001746 R    788 TIME    EQU     *                                                                  02 00786
001746 006010 A     789         LDAI    TIME                                                           C   02 00787
001747 001746 R
001750 057000 I     790         STA     REND        INITIALIZE FOR NON-NEGATIVE                        C   02 00788
001751 002000 A     791         CALL    ARGUX       INITIALIZE CALL ERROR                              C   02 00789
001752 002265 R
001753 002000 A     792         CALL    ARGU                                                           C   02 00790
001754 002257 R
001755 002000 A     793         CALL    FETR        GET POINTER TO FIELD                               C   02 00791
001756 002343 R
001757 037000 I     794         LDX     TOA                                                            C   02 00792
001760 014373 A     795         LDA     FTMP                                                           C   02 00793
001761 055000 A     796         STA     0,1         PUT BYTE POINTER IN LCB                            C   02 00794
001762 020344 A     797         LDB     V$TMN       GET TIME IN MINUTES                                C   02 00795
001763 005001 A     798         TZA                                                                    C   02 00796
001764 177000 I     799         DIV     TBL1+6      CONVERT TO HOURS                                   C   02 00797
001765 057000 I     800         STA     TEMP        SAVE MINUTES                                       C   02 00798
001766 005021 A     801         TBA                                                                    C   02 00799
001767 002000 A     802         CALL    BIDE        CONVERT TO DECIMAL                                 C   02 00800
001770 003036 R
001771 067000 I     803         STB     TMPB        SAVE UNITS POSITION                                C   02 00801
001772 005021 A     804         TBA                                                                    C   02 00802
001773 004344 A     805         LSRA    4                                                              C   02 00803
001774 117000 I     806         ORA     ZERO        MAKE ASCII                                         C   02 00804
001775 002000 A     807         CALL    PBAI        STORE TENS POSITION                                C   02 00805
001776 002740 R
001777 017000 I     808         LDA     TMPB        UNITS                                              C   02 00806
002000 150472 A     809         ANA     BM17                                                           C   02 00807
002001 117000 I     810         ORA     ZERO        MAKE ASCII                                         C   02 00808
002002 002000 A     811         CALL    PBAI        STORE UNITS POSITION                               C   02 00809
002003 002740 R
002004 017000 I     812         LDA     TEMP        GET MINUTES                                        C   02 00810
002005 002000 A     813         CALL    BIDE        CONVERT TO DECIMAL                                 C   02 00811
002006 003036 R
002007 067000 I     814         STB     TMPB        SAVE UNITS POSITION                                C   02 00812
002010 005021 A     815         TBA                                                                    C   02 00813
002011 004344 A     816         LSRA    4                                                              C   02 00814
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002012 117000 I   817          ORA     ZERO        MAKE ASCII                                  C   02 00815
002013 002000 A   818          CALL    PBAI        STORE TENS POSITION                         C   02 00816
002014 002740 R
002015 017000 I   819          LDA     TMPB        UNITS                                       C   02 00817
002016 150472 A   820          ANA     BM17                                                    C   02 00818
002017 117000 I   821          ORA     ZERO        MAKE ASCII                                  C   02 00819
002020 002000 A   822          CALL    PBAI        STORE UNITS POSITION                        C   02 00820
002021 002740 R
002022 001000 A   823          JMP     INT         EXIT TO INTERPRETER                         C   02 00821
002023 002415 R
                  824 *                                                                            02 00822
                  825 *                                                                            02 00823
                  826 *        NAME:   EXIT                                                        02 00824
                  827 *        CALL:   CALL EXIT                                                   02 00825
                  828 *                                                                            02 00826
                  829 *                                                                            02 00827
       002024 R   830 EXIT     EQU     *                                                           02 00828
002024 006010 A   831          LDAI    13                                                      C   02 00829
002025 000015 A
002026 002000 A   832          CALL    DEVTST      CHECK IF 13 IS A RMD                        C   02 00830
002027 010203 R
002030 005311 A   833          DAR                                                             C   02 00831
002031 001016 A   834          JANZ    EXX1        JUMP IF NOT                                 C   02 00832
002032 002042 R
                  835          CLOSE   FCB13,13,0,1  CLOSE/UPDATE PI FILE                      C   02 00833
002033 006505 A
002034 000404 A
002035 100000 A
002036 013415 A
002037 007173 R
002040 000000 A
002041 000000 A
       002042 R   836 EXX1     EQU     *                                                       C   02 00834
                  837          CLOSE   FCB14,14,0,1  AND PO                                  C   02 00835
002042 006505 A
002043 000404 A
002044 100000 A
002045 013416 A
002046 007663 R
002047 000000 A
002050 000000 A
                  838          CLOSE   FCB15,15,0,1  AND LO                                  C   02 00836
002051 006505 A
002052 000404 A
002053 100000 A
002054 013417 A
002055 007731 R
002056 000000 A
002057 000000 A
                  839          EXIT                  RETURN TO VORTEX RTE                    C   02 00837
002060 006505 A
002061 000406 A
002062 000200 A
                  840 *                                                                            02 00838
                  841 *                                                                            02 00839
                  842 *        I/O STATUS CALL                                                     02 00840
                  843 *                                                                            02 00841
                  844 *        ENTER:  AREG=ADDRESS OF I/O REQUEST BLOCK                           02 00842
                  845 *        EXIT :  IF NORMAL STATUS, BREG=0                                    02 00843
                  846 *                IF ABNORMAL STATUS, BREG=STATUS CODE                        02 00844
                  847 *                                    AREG=LOGICAL UNIT NUMBER                02 00845
                  848 *                                    XREG=ADDRESS OF REQUEST BLOCK           02 00846
                  849 *        STATUS CODE : 020=I/O ERROR                                         02 00847
                  850 *                      040=END OF FILE,BEGINNING OF DEVICE OR TAPE           02 00848
                  851 *                      060=END OF DEVICE OR TAPE                             02 00849
                  852 *                                                                            02 00850
002063 000000 A   853 STAT     ENTR    0                                                           02 00851
002064 054002 A   854          STA     STAT1+2                                                     02 00852
                  855 STAT1    STAT    0,EX1,EX2,EX3,STAT1                                         02 00853
002065 006505 A
002066 000373 A
002067 000000 A
002070 002077 R
002071 002105 R
002072 002110 R
002073 002063 R
002074 005002 A   856          TZB                                                             02 00854
002075 001000 A   857          JMP*    STAT          RETURN                                    02 00855
002076 102063 R
002077 020425 A   858 EX1      LDB     BS4           I/O ERROR                                 02 00856
002100 005014 A   859 EX4      TAX                                                             02 00857
002101 015003 A   860          LDA     3,1           GET LUN FROM I/O REQUEST BLOCK            02 00858
002102 150463 A   861          ANA     BM377                                                   02 00859
002103 001000 A   862          JMP*    STAT                                                    02 00860
002104 102063 R
002105 020426 A   863 EX2      LDB     BS5           END OF FILE                               02 00861
002106 001000 A   864          JMP     EX4                                                     02 00862
002107 002100 R
002110 006020 A   865 EX3      LDBI    060           END OF DEVICE                             02 00863
002111 000060 A
002112 001000 A   866          JMP     EX4                                                     02 00864
002113 002100 R
                  867 *                                                                            02 00865
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                    868 *                                                                                  02 00866
                    869 *       UPDATE EXCEPTION FIELD WITH I/O STATUS CODE                                02 00867
                    870 *                                                                                  02 00868
002114 000000 A     871 EXCP    ENTR    0                                                                  02 00869
002115 067000 I     872         STB     TMPXX           SAVE STATUS CODE                                   02 00870
002116 002000 A     873         CALL    ARGU                                                               02 00871
002117 002257 R
002120 002000 A     874         CALL    GETR            GET FIELD ADDRESS                                  02 00872
002121 010102 R
002122 005014 A     875         TAX                                                                        02 00873
002123 027000 I     876         LDB     TMPXX                                                              02 00874
002124 002000 A     877         CALL    STBCD           STORE BCD NUMBER                                   02 00875
002125 002355 R
002126 017000 I     878         LDA     REND                                                       E.2******** E.2********
002127 001002 A     879         JAP     ARGERR                                                     E.2******** E.2********
002130 002253 R
002131 001000 A.    880         JMP*    EXCP                                                               02 00876
002132 102114 R
                    881 *                                                                                  02 00877
                    882 * POST I/O ERROR MESSAGE                                                           02 00878
        002133 R    883 $ER     EQU     *                                                                  02 00879
002133 006030 A     884         LDXI    0130261                                                            02 00880
002134 130261 A
002135 004144 A     885         LSRB    4                                                                  02 00881
002136 005322 A     886         DBR             TEST I/O ERROR TYPE                                        02 00882
002137 001020 A     887         JBZ     $ER1                                                               02 00883
002140 002146 R
002141 005144 A     888         IXR                                                                        02 00884
002142 005322 A     889         DBR                                                                        02 00885
002143 001020 A     890         JBZ     $ER1                                                               02 00886
002144 002146 R
002145 005144 A     891         IXR                                                                        02 00887
002146 074045 A     892 $ER1    STX     RPM1+2                                                             02 00888
002147 002000 A     893         CALL    OBTA            CONVERT LUN TO ASCII                               02 00889
002150 010314 R
002151 006110 A     894         ORAI    0126000                                                            02 00890
002152 126000 A
002153 054041 A     895         STA     RPM1+3                                                             02 00891
002154 064041 A     896         STB     RPM1+4                                                             02 00892
002155 006010 A     897         LDAI    RPM1                                                               02 00893
002156 002212 R
002157 006057 A     898 $ER2    STAE    FCB15+1         UPDATE MESSAGE POINTER IN FCB              C       02 00894
002160 007732 R
002161 002000 A     899         CALL    EWR             POST ERROR MESSAGE                         C       02 00895
002162 002174 R
002163 001000 A     900         JMP     EXIT                                                       C       02 00896
002164 002024 R
                    901 *                                                                                  02 00897
        002163 R    902 $ER3    EQU     *                                                                  02 00898
002165 006110 A     903         ORAI    0130260                                                            02 00899
002166 130260 A
002167 054033 A     904         STA     RPM2+2          CONSTRUCT ERROR CODE                               02 00900
002170 006010 A     905         LDAI    RPM2                                                               02 00901
002171 002221 R
002172 001000 A     906         JMP     $ER2                                                               02 00902
002173 002157 R
                    907 *                                                                                  02 00903
002174 000000 A     908 EWR     ENTRY                                                              C       02 00904
002175 006010 A     909         LDAI    7                                                          C       02 00905
002176 000007 A
002177 006057 A     910         STAE    FCB15                                                      C       02 00906
002200 007731 R
                    911 EWR1    WRITE   FCB15,15,0,1    WRITE RECORD ASCII                         C       02 00907
002201 006505 A
002202 000404 A
002203 100000 A
002204 010417 A
002205 007731 R
002206 000000 A
002207 000000 A
002210 001000 A     912         JMP*    EWR                                                                02 00908
002211 102174 R
002212 120322 A     913 RPM1    DATA    ' RT 01,000     '                                                  02 00909
002213 152240 A
002214 130261 A
002215 126260 A
002216 130260 A
002217 120240 A
002220 120240 A
002221 120322 A     914 RPM2    DATA    ' RT            '                                                  02 00910
002222 152240 A
002223 120240 A
002224 120240 A
002225 120240 A
002226 120240 A
002227 120240 A
002230 120322 A     915 RPM3    DATA    ' RT 10, XXXXXX'                                                   02 00911
002231 152240 A
002232 130660 A
002233 126240 A
002234 154330 A
002235 154330 A
002236 154330 A
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                        916 *                                                                                   02 00912
                        917 *                                                                                   02 00913
                        918 *                                                                                   02 00914
                        919 *                                                                                   02 00915
                        920 *                                                                                   02 00916
                        921 *       CHECK RANGE OF RPG UNIT NUMBER                                              02 00917
                        922 *                                                                                   02 00918
002237 000000 A   923 UCHK    ENTR    0                                                                        02 00919
002240 006140 A   924         SUBI    16                                                                       02 00920
002241 000020 A
002242 001004 A   925         JAN     ARGERR                                                                   02 00921
002243 002253 R
002244 005014 A   926         TAX                                                                              02 00922
002245 006140 A   927         SUBI    7                                                                        02 00923
002246 000007 A
002247 001004 A   928         JAN*    UCHK                                                                     02 00924
002250 102237 R
002251 001000 A   929         JMP     ARGERR                                                                   02 00925
002252 002253 R
       002253 R   930 ARGERR  EQU     *                                                                        02 00926
002253 006010 A   931         LDAI    RPM3            GO LOG ERROR MESSAGE                                     02 00927
002254 002230 R
002255 001000 A   932         JMP     $ER2                                                                     02 00928
002256 002157 R
                        933 *                                                                                   02 00929
002257 000000 A   934 ARGU    ENTR    0                                                                        02 00930
002260 017000 I   935         LDA     NEND            ANY MORE ARGUMENTS?                                      02 00931
002261 001004 A   936         JAN     ARGERR          NO, LOG ERROR                                            02 00932
002262 002253 R
002263 001000 A   937         JMP*    ARGU            YES, RETURN                                              02 00933
002264 102257 R
                        938 *                                                                                   02 00934
                        939 *                                                                                   02 00935
                        940 *                                                                                   02 00936
002265 000000 A   941 ARGUX   ENTR    0                                                                        02 00937
002266 057000 I   942         STA     TMPXX                                                                    02 00938
002267 006030 A   943         LDXI    STAB+4          SEARCH FOR NAME OF CALLED ROUTINE                        02 00939
002270 001035 R
002271 015000 A   944 ARGU1   LDA     0,1             PICKUP ADDRESS FROM STAB                                 02 00940
002272 147000 I   945         SUB     TMPXX                                                                    02 00941
002273 001010 A   946         JAZ     ARGU2           MATCH?                                                   02 00942
002274 002302 R
002275 005041 A   947         TXA                                                                              02 00943
002276 120423 A   948         ADD     FOUR            NO, INCREMENT ADDRESS POINTER                            02 00944
002277 005014 A   949         TAX                                                                              02 00945
002300 001000 A   950         JMP     ARGU1           AND CONTINUE                                             02 00946
002301 002271 R
002302 005344 A   951 ARGU2   DXR                                                                              02 00947
002303 015000 A   952         LDA     0,1                                                                      02 00948
002304 057000 I   953         STA     RPM3+6          MOVE ASCII ROUTINE NAME                                  02 00949
002305 005344 A   954         DXR                                                                              02 00950
002306 015000 A   955         LDA     0,1                                                                      02 00951
002307 057000 I   956         STA     RPM3+5          TO ERROR MESSAGE                                         02 00952
002310 005344 A   957         DXR                                                                              02 00953
002311 015000 A   958         LDA     0,1                                                                      02 00954
002312 057000 I   959         STA     RPM3+4                                                                   02 00955
002313 001000 A   960         JMP*    ARGUX           RETURN                                                   02 00956
002314 102265 R
                        961 *                                                                                   02 00957
                        962 *       FETCH NUMERIC ARGUMENT                                                      02 00958
                        963 *       ENTER:  CALL FETN                                                           02 00959
                        964 *       EXIT:   A=BINARY EQUIVALENT OF 6 WORD                                       02 00960
                        965 *                 RPG BCD CONSTANT (32768 MAX VALUE).                               02 00961
                        966 *                 NEXT ARGUMENT IN CALL IS NUMBER CONVERTED.                        02 00962
                        967 *                                                                                   02 00963
002315 000000 A   968 FETN    ENTR                                                                             02 00964
002316 002000 A   969         CALL    GETR            GET ADDRESS                                              02 00965
002317 010102 R
002320 054022 A   970         STA     FETR                                                             D       02 00966
002321 005014 A   971         TAX                                                                              02 00967
002322 015002 A   972         LDA     2,1             GET DIGITS 7,6,5,4                               D       02 00968
002323 157000 I   973         ANA     FBITS+1         SAVE 5,4                                         D       02 00969
002324 002000 A   974         CALL    BEDI               CONVERT TO BINARY                                 D   02 00970
002325 003057 R
002326 005012 A   975         TAB                     BINARY TO B                                      D       02 00971
002327 005001 A   976         TZA                     ZERO TO A                                        D       02 00972
002330 006160 A   977         MULI    1000            * 1000                                           D       02 00973
002331 001750 A
002332 034010 A   978         LDX     FETR            GET ADDRESS                                      D       02 00974
002333 064007 A   979         STB     FETR            SAVE THOUSANDS                                   D       02 00975
002334 015003 A   980         LDA     3,1             GET LOW-ORDER 3 BCD DIGITS + FIRST FRACTIO               02 00976
002335 004341 A   981         LSRA    4               SHIFT OFF FRACTION                                       02 00977
002336 002000 A   982         CALL    BEBI            CONVERT TO BINARY                                        02 00978
002337 003057 R
002340 124002 A   983         ADD     FETR            ADD THOUSANDS                                    D       02 00979
002341 001000 A   984         RETU*   FETN            EXIT                                                     02 00980
002342 102315 R
                        985 *                                                                                   02 00981
                        986 *       FETCH RECORD ARGUMENT                                                       02 00982
                        987 *       ENTER:  CALL FETR                                                           02 00983
                        988 *       EXIT:   A=ADDRESS OF START OF RECORD                                        02 00984
                        989 *                                                                                   02 00985
002343 000000 A   990 FETR    ENTR                                                                             02 00986
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002344 002000 A   991          CALL    GETR          GET ADDRESS                                                  02 00987
002345 010102 R
002346 005014 A   992          TAX                                                                                02 00988
002347 015001 A   993          LDA     1,1           GET BYTE ADDRESS OF FIRST FIELD IN RECORD                    02 00989
002350 054003 A   994          STA     FTMP                                                                       02 00990
002351 004341 A   995          LSRA    1             FORM WORD ADDRESS                                            02 00991
002352 001000 A   996          RETU*   FETR          EXIT                                                         02 00992
002353 102343 R
002354 000000 A   997 FTMP     DATA    0                                                                          02 00993
                  998 *                                                                                         02 00994
                  999 *        STORE BCD NUMBER                                                                 02 00995
                 1000 *        ENTER:  B=BCD NUMBER                                                             02 00996
                 1001 *                X=POINT TO WORD 1 OF 6 WORD BCD NUMBER                                   02 00997
                 1002 *        EXIT:   NUMBER STORED INTO WORD 3, ZEROS STORED INTO  1-2,4-6                    02 00998
                 1003 *                                                                                         02 00999
002355 000000 A  1004 STBCD    ENTR                                                                             02 01000
002356 006010 A  1005          LDAI    060000                                                                   02 01001
002357 060000 A
002360 055000 A  1006          STA     0,1           SIGN + D1-3                                                02 01002
002361 005001 A  1007          TZA                                                                              02 01003
002362 055001 A  1008          STA     1,1           D4-D7                                                      02 01004
002363 055002 A  1009          STA     2,1           D8-D11                                                     02 01005
002364 065003 A  1010          STB     3,1           D12-D15 (ONLY SIGNIFICANT VALUES)                          02 01006
002365 055004 A  1011          STA     4,1           D16-D19                                                    02 01007
002366 055005 A  1012          STA     5,1           D20-D23                                                    02 01008
002367 001000 A  1013          RETU*   STBCD         EXIT                                                       02 01009
002370 102355 R
                 1014 *                                                                                         02 01010
                 1015 *                                                                                         02 01011
                 1016 *                                                                                         02 01012
                 1017 *                                                                                         02 01013
                 1018 *                                                                                         02 01014
                 1019 *                                                                                         02 01015
002371 000000 A  1020 STF      ENTR    0                                                                        02 01016
002372 064013 A  1021          STB     DTMP+1                                                                   02 01017
002373 002000 A  1022          CALL    GBAI          GET CHAR FROM NAME STRING                                  02 01018
002374 002721 R
002375 004250 A  1023          LRLA    8                                                                        02 01019
002376 054006 A  1024          STA     DTMP                                                                     02 01020
002377 002000 A  1025          CALL    GBAI                                                                     02 01021
002400 002721 R
002401 114003 A  1026          DRA     DTMP                                                                     02 01022
002402 024003 A  1027          LDB     DTMP+1                                                                   02 01023
002403 001000 A  1028          JMP*    STF                                                                      02 01024
002404 102371 R
002405 000000 A  1029 DTMP     DATA    0,0                                                                      02 01025
002406 000000 A
                 1030          EJECT                                                                            02 01026
                 1031 *        INDICATORS                                                                       02 01027
002407 000000 A  1032 IOV      DATA    0             OV INDICATOR                                               02 01028
       000001 A  1033 IC1      EQU     1                                                                        02 01029
       000457 R  1034 IX1      EQU     013           OVERFLOW INDICATOR                                         02 01030
       000460 R  1035 IX2      EQU     014           MODE VIOLATION INDICATOR                                   02 01031
       000024 A  1036 IG       EQU     20                                                                       02 01032
       000025 A  1037 IE       EQU     21                                                                       02 01033
       000026 A  1038 IL       EQU     22                                                                       02 01034
       000027 A  1039 IP       EQU     23                                                                       02 01035
       000030 A  1040 IZ       EQU     24                                                                       02 01036
       000031 A  1041 IM       EQU     25                                                                       02 01037
       000513 R  1042 IPRE     EQU     032           POUND DITTO INDICATOR                                      02 01038
       000514 R  1043 IF       EQU     033           FIRST INDICATOR                                            02 01039
002410 000034 A  1044 ILC      DATA    034           LAST CARD INDICATOR                                        02 01040
       000035 A  1045 I1       EQU     29                                                                       02 01041
       000177 A  1046 I99      EQU     127                                                                      02 01042
002411 177077 A  1047 MSI1     DATA    0177077       NOT P,Z,M                                                  02 01043
002412 170777 A  1048 MSI2     DATA    0170777       NOT G,E,L                                                  02 01044
002413 001000 A  1049 MSKL     DATA    01000         L INDICATOR                                                02 01045
                 1050          EJEC                                                                             02 01046
                 1051 ********************************************************************************       02 01047
                 1052 *                                                                                         02 01048
                 1053 *  RUN-TIME INTERPRETER                                                                   02 01049
                 1054 *        JUMPS TO COMMAND SUBROUTINES                                                     02 01050
                 1055 *        ENTRY    INT = NORMAL                                                            02 01051
                 1056 *                 INTS = RESET SFFG                                                       02 01052
                 1057 *        EXIT     INTP = NEXT GENIC BYTE LOCATION                                         02 01053
                 1058 *                 INTC = COMMAND DISPLACEMENT                                             02 01054
                 1059 *                 INTH = CURRENT GENIC BYTE LOCATION                                      02 01055
                 1060 *                 INTD = A-REG = B-REG = OPERAND                                          02 01056
                 1061 *                 TYPE 4 , LCBF SET WITH FIELD DATA                                       02 01057
                 1062 *                                                                                         02 01058
                 1063 ********************************************************************************       02 01059
002414 047000 I  1064 INTS     INR     SFFG                                                                     02 01060
002415 037000 I  1065 INT      LDX     INPA                                                                     02 01061
002416 017000 I  1066          LDA     INTP                                                                     02 01062
002417 057000 I  1067          STA     INTH          CURRENT BYTE LOCATION                                      02 01063
002420 002000 A  1068          JMPM    GBAI          GET NEXT GENIC BYTE                                        02 01064
002421 002721 R
002422 147000 I  1069          SUB     0100          COMMAND CONSTANT                                           02 01065
002423 001002 A  1070          JAP     INT2          TYPE 4,5,6                                                 02 01066
002424 002455 R
002425 127000 I  1071          ADD     020           TYPE 0,1,2,3                                               02 01067
002426 001004 A  1072          JAN     INT1          TYPE 0,1,2                                                 02 01068
002427 002435 R
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002430 057000 I 1073          STA     INTA            TYPE 3                                  02 01069
002431 002000 A 1074          JMPM    GBAI            GET INDICATOR NUMBER                    02 01070
002432 002721 R
002433 005012 A 1075          TAB                                                             02 01071
002434 017000 I 1076          LDA     INTA                                                    02 01072
002435 127000 I 1077 INT1     ADD     060             RESTORE COMMAND                         02 01073
002436 057000 I 1078 INT4     STA     INTC                                                    02 01074
002437 067000 I 1079          STB     INTO            CURRENT OPERAND                         02 01075
002440 127000 I 1080          ADD     CMMD            COMMAND TABLE START                     02 01076
002441 005014 A 1081          TAX                                                             02 01077
002442 015000 A 1082          LDA     0,1             COMMAND TABLE ENTRY                     02 01078
002443 157000 I 1083          ANA     MSK0            SUBROUTINE LOCATION                     02 01079
002444 054007 A 1084          STA     INT5+1                                                  02 01080
002445 015000 A 1085          LDA     0,1                                                     02 01081
002446 157000 I 1086          ANA     BIT0            OPERATIONAL BIT                         02 01082
002447 004352 A 1087          LSRA    10                                                      02 01083
002450 117000 I 1088          ORA     IND+1           MERGE TO #" INDICATOR                   02 01084
002451 057000 I 1089          STA     IND+1                                                   02 01085
002452 005021 A 1090          TBA                                                             02 01086
002453 001000 A 1091 INT5     JMP*    0               GO TO COMMAND                           02 01087
002454 100000 A
002455 127000 I 1092 INT2     ADD     0100            TYPE 4,5,6                              02 01088
002456 004250 A 1093          LRLA    8                                                       02 01089
002457 057000 I 1094          STA     INTA            SAVE 1ST BYTE                           02 01090
002460 002000 A 1095          JMPM    GBAI            GET NEXT BYTE                           02 01091
002461 002721 R
002462 117000 I 1096          ORA     INTA                                                    02 01092
002463 004552 A 1097          LLSR    10              COMMAND IN A-REG                        02 01093
002464 004146 A 1098          LSRB    6               OPERAND IN B-REG                        02 01094
002465 147000 I 1099          SUB     040                                                     02 01095
002466 001002 A 1100          JAP     INT3            TYPE 5,6                                02 01096
002467 002477 R
002470 057000 I 1101          STA     INTA            TYPE 4                                  02 01097
002471 005021 A 1102          TBA                                                             02 01098
002472 067000 I 1103          STB     INTB                                                    02 01099
002473 002000 A 1104          JMPM    STO             SET TO LCB                              02 01100
002474 002523 R
002475 017000 I 1105          LDA     INTA                                                    02 01101
002476 027000 I 1106          LDB     INTB                                                    02 01102
002477 127000 I 1107 INT3     ADD     0120            RESTORE COMMAND + 060                   02 01103
002500 001000 A 1108          JMP     INT4                                                    02 01104
002501 002436 R
                1109          EJEC                                                            02 01105
                1110 *                                                                        02 01106
                1111 * SETUP 'FROM' LIST CONTROL BLOCK                                        02 01107
                1112 *       EXIT    LCBF SET                                                02 01108
                1113 *                                                                        02 01109
002502 000000 A 1114 SFRM     ENTRY                                                           02 01110
002503 037000 I 1115          LDX     FRMA            'FROM' LCB ADDRESS                      02 01111
002504 017000 I 1116          LDA     LFRO            GET LAST FROM FIELD NUMBER              02 01112
002505 001004 A 1117          JAN     SFR1            NEGATIVE IS LITERAL                     02 01113
002506 002513 R
002507 002000 A 1118          JMPM    SLCB            SET FIELD ADDRESS                       02 01114
002510 002547 R
002511 001000 A 1119          JMP*    SFRM                                                    02 01115
002512 102502 R
002513 127000 I 1120 SFR1     ADD     MSK0            GET LENGTH-1                            02 01116
002514 055001 A 1121          STA     1,1             COUNT                                   02 01117
002515 017000 I 1122          LDA     LFRI            DATA LOCATION                           02 01118
002516 055000 A 1123          STA     0,1                                                     02 01119
002517 005001 A 1124          TZA                     MOVE CONTROL WORD                       02 01120
002520 055003 A 1125          STA     3,1                                                     02 01121
002521 001000 A 1126          JMP*    SFRM                                                    02 01122
002522 102502 R
                1127 *                                                                        02 01123
                1128 * SET 'TO' LCB                                                           02 01124
                1129 *       ENTRY   A-REG = FIELD NUMBER                                    02 01125
                1130 *                                                                        02 01126
002523 000000 A 1131 STO      ENTRY                                                           02 01127
002524 037000 I 1132          LDX     TOA             ADDRESS OF 'TO' LCB                     02 01128
002525 002000 A 1133          JMPM    SLCB            SET                                     02 01129
002526 002547 R
002527 001000 A 1134          JMP*    STO                                                     02 01130
002530 102523 R
                1135 *                                                                        02 01131
                1136 * SET 'TO' LCB WITH 'FROM' FIELD                                        02 01132
                1137 *                                                                        02 01133
002531 000000 A 1138 STOF     ENTRY                                                           02 01134
002532 017000 I 1139          LDA     TO              EXCHANGE INDICES                        02 01135
002533 027000 I 1140          LDB     FROM                                                    02 01136
002534 067000 I 1141          STB     TO                                                      02 01137
002535 057000 I 1142          STA     FROM                                                    02 01138
002536 017000 I 1143          LDA     LFRO            FROM FIELD                              02 01139
002537 002000 A 1144          JMPM    STO             SET 'TO' LCB                            02 01140
002540 002523 R
002541 017000 I 1145          LDA     TO              EXCHANGE INDICES                        02 01141
002542 027000 I 1146          LDB     FROM                                                    02 01142
002543 067000 I 1147          STB     TO                                                      02 01143
002544 057000 I 1148          STA     FROM                                                    02 01144
002545 001000 A 1149          JMP*    STOF                                                    02 01145
002546 102531 R
                1150 *                                                                        02 01146
                1151 * SETUP LIST CONTROL BLOCK                                               02 01147
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                    1152 *       ENTRY   A-REG = FIELD NUMBER                                                  02 01148
                    1153 *               X-REG = LCB ADDRESS                                                   02 01149
                    1154 *       EXIT    LCB SET                                                               02 01150
                    1155 *               X-REG NOT CHANGED                                                     02 01151
                    1156 *                                                                                     02 01152
002547 000000 A     1157 SLCB    ENTRY                                                                         02 01153
002550 127000 I     1158         ADD     BIAF                                                                  02 01154
002551 057000 I     1159         STA     FPTR        LOCATION IN POINTER TABLE                                 02 01155
002552 005012 A     1160         TAB                                                                           02 01156
002553 016000 A     1161         LDA     0,2                                                                   02 01157
002554 055002 A     1162         STA     2,1         POINTER TO FIELD DATA LIST                                02 01158
002555 005012 A     1163         TAB                                                                           02 01159
002556 016000 A     1164         LDA     0,2                                                                   02 01160
002557 157000 I     1165         ANA     BYT1                                                                  02 01161
002560 055001 A     1166         STA     1,1                                                                   02 01162
                    1167 *                                                                                     02 01163
                    1168 * GET FIELD DATA LOCATION                                                             02 01164
                    1169 *       ENTRY   X-REG = POINTER TO LCB                                                02 01165
                    1170 *               B-REG = FIELD DATA LIST LOCATION                                      02 01166
                    1171 *                                                                                     02 01167
002561 016000 A     1172         LDA     0,2         FIELD CONTROL WORD                                        02 01168
002562 004241 A     1173         LRLA    1                                                                     02 01169
002563 157000 I     1174         ANA     MSKA                                                                  02 01170
002564 055003 A     1175         STA     3,1                                                                   02 01171
002565 001004 A     1176         JAN     GFD7        IMP OR CONST FIELD                                        02 01172
002566 002577 R
002567 004341 A     1177         LSRA    1                                                                     02 01173
002570 055003 A     1178         STA     3,1                                                                   02 01174
002571 016000 A     1179         LDA     0,2         DATA CONTROL WORD                                         02 01175
002572 001004 A     1180         JAN     GFD1        TABLE-FIELD                                               02 01176
002573 002607 R
002574 016001 A     1181         LDA     1,2         FIELD LOCATION                                            02 01177
002575 001000 A     1182         JMP     GFD3                                                                  02 01178
002576 002655 R
002577 004241 A     1183 GFD7    LRLA    1                                                                     02 01179
002600 001004 A     1184         JAN     GFD6                                                                  02 01180
002601 002603 R
002602 005122 A     1185         IBR                 ALPHA IMPLIED                                             02 01181
002603 005021 A     1186 GFD6    TBA                                                                           02 01182
002604 004201 A     1187         ASLA    1           BYTE ADDRESS OF DATA                                      02 01183
002605 001000 A     1188         JMP     GFD3                                                                  02 01184
002606 002655 R
002607 027000 I     1189 GFD1    LDB     FPTR        FIND TABLE TO WHICH FIELD BELONGS                         02 01185
002610 005322 A     1190 GFD4    DBR                                                                           02 01186
002611 016000 A     1191         LDA     0,2                                                                   02 01187
002612 001002 A     1192         JAP     GFD4        POSITIVE IS FIELD                                         02 01188
002613 002616 R
002614 157000 I     1193         ANA     MSK0                                                                  02 01189
002615 005012 A     1194         TAB                                                                           02 01190
002616 015004 A     1195         LDA     4,1         INDEX VALUE                                               02 01191
002617 001010 A     1196         JAZ     IXER        INDEX ERROR                                               02 01192
002620 002660 R
002621 146000 A     1197         SUB     0,2         TEST VS. MAX                                              02 01193
002622 001002 A     1198         JAP     IXER        INDEX OVER                                                02 01194
002623 002660 R
002624 126000 A     1199         ADD     0,2                                                                   02 01195
002625 146005 A     1200         SUB     5,2         HIGHEST INDEX                                             02 01196
002626 001004 A     1201         JAN     GFD9                                                                  02 01197
002627 002632 R
002630 015004 A     1202         LDA     4,1                                                                   02 01198
002631 056005 A     1203         STA     5,2         NEW HIGHEST                                               02 01199
002632 015004 A     1204 GFD9    LDA     4,1                                                                   02 01200
002633 146003 A     1205         SUB     3,2         LAST INDEX THIS TABLE                                     02 01201
002634 001010 A     1206         JAZ     GFD5        SAME                                                      02 01202
002635 002652 R
002636 126003 A     1207         ADD     3,2         NOT SAME                                                  02 01203
002637 056003 A     1208         STA     3,2         SET NEW INDEX                                             02 01204
002640 005311 A     1209         DAR                                                                           02 01205
002641 077000 I     1210         STX     TMPX                                                                  02 01206
002642 067000 I     1211         STB     TMPA        SAVE TABLE POINTER                                        02 01207
002643 026001 A     1212         LDB     1,2         LENGTH PER ENTRY                                          02 01208
002644 002000 A     1213         JMPM    BINX        COMPUTE DISPLACEMENT                                      02 01209
002645 003020 R
002646 005021 A     1214         TBA                                                                           02 01210
002647 027000 I     1215         LDB     TMPA                                                                  02 01211
002650 037000 I     1216         LDX     TMPX        BINX WIPES OUT X-REG                                      02 01212
002651 056004 A     1217         STA     4,2         SET NEW DISPLACEMENT                                      02 01213
002652 016004 A     1218 GFD5    LDA     4,2         DISPLACEMENT                                              02 01214
002653 025002 A     1219         LDB     2,1         FDL POINTER                                               02 01215
002654 126001 A     1220         ADD     1,2         ADD FIELD BIAS                                            02 01216
002655 055000 A     1221 GFD3    STA     0,1         DATA LOCATION                                             02 01217
002656 001000 A     1222         JMP*    SLCB                                                                  02 01218
002657 102547 R
002660 005001 A     1223 IXER    TZA                 INDEX ERROR--SETUP DUMMY LOC                              02 01219
002661 055001 A     1224         STA     1,1                                                                   02 01220
002662 017000 I     1225         LDA     IXE1        BYTE LOCATION                                             02 01221
002663 055000 A     1226         STA     0,1                                                                   02 01222
002664 017000 I     1227         LDA     BLNK        USE BLANKS                                                02 01223
002665 057000 I     1228         STA     IXE2                                                                  02 01224
002666 005024 A     1229         TBX                                                                           02 01225
002667 025007 A     1230         LDB     7,1         TABLE OVERFLOW INDICATOR                                  02 01226
002670 001020 A     1231         JBZ*    SLCB          NONE                                                    02 01227
002671 102547 R
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002672 017000 I 1232          LDA     TRUE                                                    02 01228
002673 002000 A 1233          JMPM    SIN                                                     02 01229
002674 003214 R
002675 001000 A 1234          JMP*    SLCB                                                    02 01230
002676 102547 R
                1235 *                                                                        02 01231
                1236 * PUT WORD TO LIST                                                       02 01232
                1237 *        ENTRY   B-REG = VALUE TO PUT TO LIST                          02 01233
                1238 *                                                                        02 01234
002677 000000 A 1239 PUTL     ENTRY                                                           02 01235
002700 017000 I 1240          LDA     WO                                                      02 01236
002701 005311 A 1241          DAR                     MAKE ROOM IN LIST                       02 01237
002702 057000 I 1242          STA     WO                                                      02 01238
002703 067000 I 1243          STB*    WO              STORE VALUE                             02 01239
002704 001000 A 1244          JMP*    PUTL                                                    02 01240
002705 102677 R
                1245 *                                                                        02 01241
                1246 * UNLOAD INTEGER FROM WORKLIST                                           02 01242
                1247 *        ENTRY   NUMERIC VALUE ON WORKLIST                             02 01243
                1248 *        EXIT    A-REG = BCD INTEGER EQUIVALENT                        02 01244
                1249 *                VALUE REMOVED FROM WORKLIST                           02 01245
                1250 *                                                                      02 01246
002706 000000 A 1251 UNLI     ENTRY                                                           02 01247
002707 037000 I 1252          LDX     WO                                                      02 01248
002710 015002 A 1253          LDA     2,1                                                     02 01249
002711 025003 A 1254          LDB     3,1                                                     02 01250
002712 004544 A 1255          LLSR    4                                                       02 01251
002713 005041 A 1256          TXA                                                             02 01252
002714 127000 I 1257          ADD     NLST                                                    02 01253
002715 057000 I 1258          STA     WO                                                      02 01254
002716 005021 A 1259          TBA                                                             02 01255
002717 001000 A 1260          JMP*    UNLI                                                    02 01256
002720 102706 R
                1261 *                                                                        02 01257
                1262 * GET BYTE AND INCREMENT                                                 02 01258
                1263 *        ENTRY   X-REG = LCB ADDRESS                                   02 01259
                1264 *        EXIT    A-REG = BYTE                                          02 01260
                1265 *                                                                        02 01261
002721 000000 A 1266 GBAI     ENTRY                                                           02 01262
002722 002000 A 1267          JMPM    GETB            GET BYTE                                02 01263
002723 002730 R
002724 002000 A 1268          JMPM    ILCB            INCREMENT                               02 01264
002725 003011 R
002726 001000 A 1269          JMP*    GBAI                                                    02 01265
002727 102721 R
                1270 *                                                                        02 01266
                1271 * GET NEXT BYTE                                                         02 01267
                1272 *        ENTRY   X-REG = LCB POINTER                                   02 01268
                1273 *        EXIT    X-REG = LCB POINTER                                   02 01269
                1274 *                A-REG = CURRENT BYTE                                  02 01270
                1275 *                                                                      02 01271
002730 000000 A 1276 GETB     ENTRY                                                           02 01272
002731 077000 I 1277          STX     TEMP            SAVE LCB POINTER                        02 01273
002732 002000 A 1278          JMPM    GETW            GET CURRENT WORD AND POSITION           02 01274
002733 002777 R
002734 157000 I 1279          ANA     BYT1                                                    02 01275
002735 037000 I 1280          LDX     TEMP                                                    02 01276
002736 001000 A 1281          JMP*    GETB                                                    02 01277
002737 102730 R
                1282 *                                                                        02 01278
                1283 * PUT BYTE AND INCREMENT                                                 02 01279
                1284 *        ENTRY   A-REG = BYTE TO PUT                                   02 01280
                1285 *                                                                        02 01281
002740 000000 A 1286 PBAI     ENTRY                                                           02 01282
002741 002000 A 1287          JMPM    PUTB            PUT BYTE                                02 01283
002742 002762 R
002743 002000 A 1288          JMPM    ILCB            STEP                                    02 01284
002744 003011 R
002745 001000 A 1289          JMP*    PBAI                                                    02 01285
002746 102740 R
                1290 *                                                                        02 01286
                1291 * PUT BYTE AND DECREMENT                                                 02 01287
                1292 *        ENTRY   A-REG = BYTE TO PUT                                   02 01288
                1293 *                                                                        02 01289
002747 000000 A 1294 PBAD     ENTRY                                                           02 01290
002750 002000 A 1295          JMPM    PUTB            PUT BYTE                                02 01291
002751 002762 R
002752 015000 A 1296          LDA     0,1                                                     02 01292
002753 005311 A 1297          DAR                     DECREMENT BYTE LOCATION                 02 01293
002754 055000 A 1298          STA     0,1                                                     02 01294
002755 025001 A 1299          LDB     1,1                                                     02 01295
002756 005322 A 1300          DBR                     DECREMENT COUNT                         02 01296
002757 065001 A 1301          STB     1,1                                                     02 01297
002760 001000 A 1302          JMP*    PBAD                                                    02 01298
002761 102747 R
                1303 *                                                                        02 01299
                1304 * PUT BYTE                                                               02 01300
                1305 *        ENTRY   A-REG = BYTE TO PUT IN FIELD                          02 01301
                1306 *                                                                        02 01302
002762 000000 A 1307 PUTB     ENTRY                                                           02 01303
002763 057000 I 1308          STA     TMPA            SAVE BYTE                               02 01304
002764 037000 I 1309          LDX     TDA             ALWAYS USE 'TD' LCB                     02 01305
002765 002000 A 1310          JMPM    GETW            GET CURRENT WORD                        02 01306
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002766 002777 R
002767 157000 I 1311          ANA     BYTO          MASK OUT OLD BYTE                    02 01307
002770 117000 I 1312          ORA     TMPA          IN GOES THE NEW                      02 01308
002771 003020 A 1313          XBZ     SAL8          POSITION                             02 01309
002772 000426 R
002773 055000 A 1314          STA     0,1                                                02 01310
002774 037000 I 1315          LDX     TOA                                                02 01311
002775 001000 A 1316          JMP*    PUTB                                               02 01312
002776 102762 R
                1317 *                                                                   02 01313
                1318 * GET CURRENT WORD AND POSITION                                     02 01314
                1319 *        ENTRY   X-REG = LCB POINTER                                02 01315
                1320 *        EXIT    A-REG = CURRENT WORD POSITIONED                    02 01316
                1321 *                                                                   02 01317
002777 000000 A 1322 GETW     ENTRY                                                      02 01318
003000 015000 A 1323          LDA     0,1           CURRENT BYTE LOCATION                02 01319
003001 005002 A 1324          TZB                                                        02 01320
003002 004541 A 1325          LLSR    1                                                  02 01321
003003 005014 A 1326          TAX                   CURRENT WORD LOCATION                02 01322
003004 015000 A 1327          LDA     0,1           CURRENT WORD                         02 01323
003005 003020 A 1328          XBZ     SAL8          POSITION WORD                        02 01324
003006 000426 R
003007 001000 A 1329          JMP*    GETW                                               02 01325
003010 102777 R
                1330 *                                                                   02 01326
                1331 * INCREMENT LCB                                                     02 01327
                1332 *        ENTRY   X-REG = LCB POINTER                                02 01328
                1333 *                                                                   02 01329
003011 000000 A 1334 ILCB     ENTRY                                                      02 01330
003012 045000 A 1335          INR     0,1           STEP BYTE LOCATION                   02 01331
003013 025001 A 1336          LDB     1,1           DECREMENT COUNT                      02 01332
003014 005322 A 1337          DBR                                                        02 01333
003015 065001 A 1338          STB     1,1                                                02 01334
003016 001000 A 1339          JMP*    ILCB                                               02 01335
003017 103011 R
                1340 *                                                                   02 01336
                1341 * BINARY MULTIPLY                                                   02 01337
                1342 *        ENTRY   A-REG = MULTIPLACAND                               02 01338
                1343 *                B-REG = MULTIPLIER                                 02 01339
                1344 *        EXIT    B-REG = PRODUCT                                    02 01340
                1345 *                                                                   02 01341
003020 000000 A 1346 BINX     ENTRY                                                      02 01342
003021 117000 I 1347          ORA     BIT0                                               02 01343
003022 057000 I 1348          STA     TEMP                                               02 01344
003023 005001 A 1349          TZA                                                        02 01345
003024 037000 I 1350          LDX     BWRD                                               02 01346
003025 004477 A 1351 BIN1     LLRL    31                                                 02 01347
003026 001040 A 1352          JXZ*    BINX                                               02 01348
003027 103020 R
003030 005344 A 1353          DXR                                                        02 01349
003031 001002 A 1354          JAP     BIN1                                               02 01350
003032 003025 R
003033 127000 I 1355          ADD     TEMP                                               02 01351
003034 001000 A 1356          JMP     BIN1                                               02 01352
003035 003025 R
                1357 *                                                                   02 01353
                1358 * CONVERT BINARY TO DECIMAL                                         02 01354
                1359 *        ENTRY   A-REG = BINARY INTEGER                             02 01355
                1360 *        EXIT    B-REG = DECIMAL INTEGER                            02 01356
                1361 *                                                                   02 01357
003036 000000 A 1362 BIDE     ENTRY                                                      02 01358
003037 005002 A 1363          TZB                                                        02 01359
003040 037000 I 1364          LDX     NUMB                                               02 01360
003041 001040 A 1365 BID1     JXZ*    BIDE                                               02 01361
003042 103036 R
003043 004044 A 1366          LRLB    4                                                  02 01362
003044 005344 A 1367          DXR                                                        02 01363
003045 006145 A 1368 BID2     SUBE    BIDT,1                                             02 01364
003046 000737 R
003047 005122 A 1369          IBR                                                        02 01365
003050 001002 A 1370          JAP     BID2                                               02 01366
003051 003045 R
003052 005322 A 1371          DBR                                                        02 01367
003053 006125 A 1372          ADDE    BIDT,1                                             02 01368
003054 000737 R
003055 001000 A 1373          JMP     BID1                                               02 01369
003056 003041 R
                1374 *                                                                   02 01370
                1375 * CONVERT DECIMAL TO BINARY                                        02 01371
                1376 *        ENTRY   A-REG = BCD INTEGER                                02 01372
                1377 *        EXIT    A-REG = BINARY EQUIVALENT                          02 01373
                1378 *                                                                   02 01374
003057 000000 A 1379 DEBI     ENTRY                                                      02 01375
003060 004554 A 1380          LLSR    12                                                 02 01376
003061 127000 I 1381          ADD     D50           CONSTANT BETWEEN 33 AND 55           02 01377
003062 057000 I 1382 DEB1     STA     TEMP                                               02 01378
003063 004242 A 1383          LRLA    2             D TIMES 4                            02 01379
003064 127000 I 1384          ADD     TEMP          D TIMES 5                            02 01380
003065 004241 A 1385          LRLA    1             D TIMES 10                           02 01381
003066 057000 I 1386          STA     TEMP                                               02 01382
003067 005001 A 1387          TZA                                                        02 01383
003070 004444 A 1388          LLRL    4                                                  02 01384
003071 127000 I 1389          ADD     TEMP          PREVIOUS + NEW D                     02 01385
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003072 001002 A 1390          JAP     DCB1                                                    02 01386
003073 003062 R
003074 144002 A 1391          SUB     DA              050 TIMES 1000                          02 01387
003075 001000 A 1392          JMP*    DEBI                                                    02 01388
003076 103057 R
003077 116100 A 1393 DA       DATA    0116100                                                 02 01389
                     1394 *                                                                   02 01390
                     1395 * MOVE WORDS                                                        02 01391
                     1396 *         ENTRY   X-REG = FROM LOCATION                             02 01392
                     1397 *                 B-REG = TO LOCATION                               02 01393
                     1398 *                 A-GET = COUNT (NEG IS LEFT TO RIGHT MOVE)         02 01394
                     1399 *                                                                   02 01395
003100 000000 A 1400 WMOV     ENTRY                                                           02 01396
003101 001010 A 1401 W001     JAZ*    WMOV                                                    02 01397
003102 103100 R
003103 057000 I 1402          STA     TEMP            COUNT                                   02 01398
003104 015000 A 1403          LDA     0,1             MOVE                                    02 01399
003105 056000 A 1404          STA     0,2               WORD                                  02 01400
003106 017000 I 1405          LDA     TEMP                                                    02 01401
003107 001004 A 1406          JAN     W002                                                    02 01402
003110 003116 R
003111 005144 A 1407          IXR                     STEP TO                                 02 01403
003112 005122 A 1408          IBR                       NEXT                                  02 01404
003113 005311 A 1409          DAR                         WORD                                02 01405
003114 001000 A 1410          JMP     W001                                                    02 01406
003115 003101 R
003116 005344 A 1411 W002     DXR                   STEP TO                                   02 01407
003117 005322 A 1412          DBR                     NEXT                                    02 01408
003120 005111 A 1413          IAR                       WORD                                  02 01409
003121 001000 A 1414          JMP     W001                                                    02 01410
003122 003101 R
                     1415 *                                                                   02 01411
                     1416 * INITIALIZE FOR NUMERIC SUBROUTINES                                02 01412
                     1417 *         ENTRY   A-REG = STARTING POSITION                         02 01413
                     1418 *                 B - REG = COUNT                                   02 01414
                     1419 *                                                                   02 01415
003123 000000 A 1420 INUM     ENTRY                                                           02 01416
003124 067000 I 1421          STB     LNGT                                                    02 01417
003125 004542 A 1422          LLSR    2                                                       02 01418
003126 127000 I 1423          ADD     W0                                                      02 01419
003127 004442 A 1424          LLRL    2                                                       02 01420
003130 005111 A 1425          IAR                                                             02 01421
003131 054025 A 1426          STA     LNUM                                                    02 01422
003132 002000 A 1427          JMPM    INCR                                                    02 01423
003133 003136 F
003134 001000 A 1428          JMP*    INUM                                                    02 01424
003135 103123 R
003136 000000 A 1429 INCR     ENTRY                                                           02 01425
003137 014017 A 1430          LDA     LNUM                                                    02 01426
003140 005311 A 1431          DAR                                                             02 01427
003141 054015 A 1432          STA     LNUM                                                    02 01428
003142 004542 A 1433          LLSR    2                                                       02 01429
003143 117000 I 1434          ORA     WBIT                                                    02 01430
003144 057000 I 1435          STA     TMPX                                                    02 01431
003145 004444 A 1436          LLRL    4                                                       02 01432
003146 157000 I 1437          ANA     D14                                                     02 01433
003147 005211 A 1438          CPA                                                             02 01434
003150 127000 I 1439          ADD     D15                                                     02 01435
003151 057000 I 1440          STA     WQTR                                                    02 01436
003152 017000 I 1441          LDA     LNGT                                                    02 01437
003153 005311 A 1442          DAR                                                             02 01438
003154 057000 I 1443          STA     LNGT                                                    02 01439
003155 001000 A 1444          JMP*    INCR                                                    02 01440
003156 103136 R
003157 000000 A 1445 LNUM     DATA    0                                                       02 01441
                     1446 *                                                                   02 01442
                     1447 * PUT ZERO NUMERIC VALUE ON WORKLIST                                02 01443
                     1448 *         EXIT    W0 = NEW POSITION OF WORKLIST                     02 01444
                     1449 *                 X-REG = W0                                        02 01445
                     1450 *                                                                   02 01446
003160 000000 A 1451 ZWRK     ENTRY                                                           02 01447
003161 017000 I 1452          LDA     W0              MAKE ROOM IN LIST                       02 01448
003162 147000 I 1453          SUB     NLST                                                    02 01449
003163 057000 I 1454          STA     W0                                                      02 01450
003164 005014 A 1455          TAX                                                             02 01451
003165 005001 A 1456          T2A                                                             02 01452
003166 055000 A 1457          STA     0,1                                                     02 01453
003167 055001 A 1458          STA     1,1                                                     02 01454
003170 055002 A 1459          STA     2,1                                                     02 01455
003171 055003 A 1460          STA     3,1                                                     02 01456
003172 055004 A 1461          STA     4,1                                                     02 01457
003173 055005 A 1462          STA     5,1                                                     02 01458
003174 001000 A 1463          JMP*    ZWRK                                                    02 01459
003175 103160 F
                     1464 *                                                                   02 01460
                     1465 * GET NUMERIC BYTE FROM LIST                                        02 01461
                     1466 *         ENTRY   LNGT = COUNT - 1                                  02 01462
                     1467 *                 TMPX = WORD POINTER                               02 01463
                     1468 *                 WQTR = SHIFT COUNT                                02 01464
                     1469 *         EXIT    A-REG = DIGIT                                     02 01465
                     1470 *                                                                   02 01466
003176 000000 A 1471 GNAI     ENTRY                                                           02 01467
003177 002000 A 1472          JMPM    INCR                                                    02 01468
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003200 003136 R
003201 001004 A 1473          JAN*    GNAI                                                    02 01469
003202 103176 R
003203 037000 I 1474          LDX     TMPX                                                    02 01470
003204 015000 A 1475          LDA     0,1                                                     02 01471
003205 002000 A 1476          JMPM    SFTR                                                    02 01472
003206 003635 R
003207 001000 A 1477          JMP*    GNAI                                                    02 01473
003210 103176 R
               1478           EJEC                                                            02 01474
003211 010470 A 1479 RTOF     LDA     NINE    WORK LIST OVERFLOW                              02 01475
003212 001000 A 1480          JMP     $ER3                                                    02 01476
003213 002165 R
003214 000000 A 1481 SIN      DATA    0       *STORE INDICATOR                *               02 01477
003215 157000 I 1482          ANA     TRUE                                                    02 01478
003216 057000 I 1483          STA     TEMP    *SAVE THE VALUE                 *               02 01479
003217 005001 A 1484          TZA                                                             02 01480
003220 004454 A 1485          LLRL    12      *GET WORD LOCATION & SHIFT      *               02 01481
003221 127000 I 1486          ADD     INDP                                                    02 01482
003222 005014 A 1487          TAX             * COUNT  FROM B-REGISTER        *               02 01483
003223 004154 A 1488          LSRB    12      *                               *               02 01484
003224 005021 A 1489          TBA             *SHIFT COUNT                    *               02 01485
003225 114012 A 1490          ORA     SDR0    FORM THE DOUBLE RIGHT SHIFT INST.               02 01486
003226 054002 A 1491          STA     *+3                                                     02 01487
003227 017000 I 1492          LDA     BIT0    FORM THE MASK                                   02 01488
003230 027000 I 1493          LDB     TEMP                                                    02 01489
003231 000000 A 1494          DATA    0       *                               *               02 01490
003232 005211 A 1495          CPA             *SET MASK                       *               02 01491
003233 155000 A 1496          ANA     0,1                                                     02 01492
003234 005031 A 1497          DATA    05031                                                   02 01493
003235 055000 A 1498          STA     0,1                                                     02 01494
003236 001000 A 1499          JMP*    SIN     *RETURN                         *               02 01495
003237 103214 R
003240 004540 A 1500 SDR0     LLSR    0                                                       02 01496
               1501 *                                                                         02 01497
               1502 *                                                                         02 01498
               1503 *                                                                         02 01499
003241 000000 A 1504 SUBQ     DATA    0       *                               *               02 01500
003242 037000 I 1505 SQ01     LDX     TMPX                                                    02 01501
003243 002000 A 1506          JMPM    POSI    *POSITION THE INPUT             *               02 01502
003244 003623 R
003245 147000 I 1507          SUB     TEMP    *SUBTRACT DIGIT                 *               02 01503
003246 147000 I 1508          SUB     CARY    *SUBTRACT CARY                  *               02 01504
003247 001004 A 1509          JAN     SQ05    *IF NEGATIVE, JUMP              *               02 01505
003250 003267 R
003251 057000 I 1510          STA     TMPA    *                               *               02 01506
003252 005001 A 1511          TZA             *RESET CARRY TO ZERO            *               02 01507
003253 057000 I 1512 SQ03     STA     CARY                                                    02 01508
003254 017000 I 1513          LDA     TMPX                                                    02 01509
003255 127000 I 1514          ADD     NLST    ENTRY SIZE                                      02 01510
003256 005014 A 1515          TAX             *SET POINTER TO LOWER BUFFER                    02 01511
003257 002000 A 1516          JMPM    POSO    *OUTPUT RESULT                  *               02 01512
003260 003647 R
003261 002000 A 1517          JMPM    INCR                                                    02 01513
003262 003136 R
003263 001002 A 1518          JAP     SQ01                                                    02 01514
003264 003242 R
003265 001000 A 1519          JMP*    SUBQ    *RETURN                         *               02 01515
003266 103241 R
003267 127000 I 1520 SQ05     ADD     D12     ADD 10 (CARRY)                                  02 01516
003270 057000 I 1521          STA     TMPA    *                               *               02 01517
003271 005101 A 1522          INCR    1       RESET CARRY TO ONE                              02 01518
003272 001000 A 1523          JMP     SQ03    *OUTPUT RESULT                  *               02 01519
003273 003253 R
               1524 *                                                                         02 01520
               1525 *                                                                         02 01521
               1526 *                                                                         02 01522
003274 000000 A 1527 ACRY     ENTRY                                                           02 01523
003275 017000 I 1528 AC00     LDA     CARY    *ADD THE CARRY INTO THE RES*                    02 01524
003276 001010 A 1529          JAZ*    ACRY                                                    02 01525
003277 103274 R
003300 017000 I 1530          LDA     CNT2    *THIS INDICATES PLACE IN AC*                    02 01526
003301 005311 A 1531          DAR             *                               *               02 01527
003302 001004 A 1532          JAN     M060    *IF NEGATIVE- OVERFLOW          *               02 01528
003303 005252 R
003304 057000 I 1533          STA     CNT2    *                               *               02 01529
003305 002000 A 1534          JMPM    INDM    *INCREMENT THE ACC POINTER      *               02 01530
003306 003702 R
003307 017000 I 1535          LDA*    DMPT+1  *THE WORD CONTAINING DIGIT      *               02 01531
003310 027000 I 1536          LDB     DMPT    *SHIFT COUNT                    *               02 01532
003311 067000 I 1537          STB     WQTR                                                    02 01533
003312 002000 A 1538          JMPM    SFTR    *ADJUST DIGIT                   *               02 01534
003313 003635 R
003314 127000 I 1539          ADD     CARY    *ADD THE CARY                   *               02 01535
003315 147000 I 1540          SUB     D12     IF ANOTHER CARRY,                               02 01536
003316 001002 A 1541          JAP     AC02    * PROPIGATE CARRY               *               02 01537
003317 003331 R
003320 005002 A 1542          TZB             *OTHERWISE SET CARRY 0          *               02 01538
003321 127000 I 1543          ADD     D12     RESET THE RESULT                                02 01539
003322 057000 I 1544 AC01     STA     TMPA                                                    02 01540
003323 067000 I 1545          STB     CARY    *                               *               02 01541
003324 037000 I 1546          LDX     DMPT+1                                                  02 01542
003325 002000 A 1547          JMPM    POSO    *OUTPUT THE RESULT              *               02 01543
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003326 003647 R
003327 001000 A 1548          JMP     AC00      *CONTINUE                    *                02 01544
003330 003275 R
003331 005102 A 1549 AC02     INCR    2         SET  THE CARRY TO ONE                         02 01545
003332 001000 A 1550          JMP     AC01      *OUTPUT THE RESULT           *                02 01546
003333 003322 R
                    1551 *                                                                    02 01547
                    1552 *                                                                    02 01548
                    1553 *                                                                    02 01549
003334 000000 A 1554 SETS     ENTRY             SETS THE SIGN OF THE MULTIPLY OR DIVIDE       02 01550
003335 037000 I 1555          LDX     W0        SET INDEX TO TOP OF WORK LIST                 02 01551
003336 015000 A 1556          LDA     0,1       FIRST WORD OF 2ND OPERAND                     02 01552
003337 025006 A 1557          LDB     6,1       FIRST WORD OF 1ST OPERAND                     02 01553
003340 004443 A 1558          LLRL    3         SHIFT SO SIGN IS IN FAR LEFT POSITION         02 01554
003341 001004 A 1559          JAN     SE01      JUMP IF FIRST NEGATIVE                        02 01555
003342 003350 R
003343 005021 A 1560          TBA                                                             02 01556
003344 001004 A 1561          JAN     SE02      SET NEGATIVE IF SECOND NEGATIVE               02 01557
003345 003353 R
003346 001000 A 1562          JMP*    SETS      RETURN ,SAME SIGN                             02 01558
003347 103334 R
003350 005021 A 1563 SE01     TBA                                                             02 01559
003351 001004 A 1564          JAN*    SETS      SAME SIGN, RETURN                             02 01560
003352 103334 R
003353 017000 I 1565 SE02     LDA     NSGN      SET THE SIGN OF THE RESULT                    02 01561
003354 057000 I 1566          STA     DMBF                                                    02 01562
003355 001000 A 1567          JMP*    SETS      RETURN                                        02 01563
003356 103334 R
                    1568 *                                                                    02 01564
                    1569 *                                                                    02 01565
                    1570 *                                                                    02 01566
003357 000000 A 1571 TWZE     ENTRY             DO NOT ALLOW A NEGATIVE ZERO                  02 01567
003360 037000 I 1572          LDX     W0                                                      02 01568
003361 015000 A 1573          LDA     0,1                                                     02 01569
003362 157000 I 1574          ANA     WMSK      MASK OFF THE SIGN                             02 01570
003363 115001 A 1575          ORA     1,1                                                     02 01571
003364 115002 A 1576          ORA     2,1                                                     02 01572
003365 115003 A 1577          ORA     3,1                                                     02 01573
003366 115004 A 1578          ORA     4,1                                                     02 01574
003367 115005 A 1579          ORA     5,1                                                     02 01575
003370 003010 A 1580          XAZ     T001                                                    02 01576
003371 003374 R
003372 001000 A 1581          JMP*    TWZE                                                  02 01577
003373 103357 R
003374 057000 I 1582 T001     STA*    W0                                                      02 01578
003375 000000 A 1583 XCHW     DATA    0         *THIS ROUTINE EXCHANGES THE*                  02 01579
003376 037000 I 1584          LDX     W0        *BOTTOM TWO NUMERIC ENTRIES*                  02 01580
003377 017000 I 1585          LDA     NLST      ON THE WORKLIST.                              02 01581
003400 057000 I 1586 XC01     STA     TEMP                                                    02 01582
003401 015000 A 1587          LDA     0,1                                                     02 01583
003402 025006 A 1588          LDB     6,1       *                                  *          02 01584
003403 055006 A 1589          STA     6,1       *                                  *          02 01585
003404 065000 A 1590          STB     0,1       *                                  *          02 01586
003405 017000 I 1591          LDA     TEMP      *                                  *          02 01587
003406 005311 A 1592          DAR               *                                  *          02 01588
003407 001010 A 1593          JAZ*    XCHW      *                                  *          02 01589
003410 103375 R
003411 005144 A 1594          IXR                                                             02 01590
003412 001000 A 1595          JMP     XC01      *                                  *          02 01591
003413 003400 R
                    1596 *                                                                    02 01592
                    1597 *                                                                    02 01593
                    1598 *                                                                    02 01594
003414 000000 A 1599 SFTL     DATA    0         *                                  *          02 01595
003415 017000 I 1600          LDA     NLS1      SET THE SHIFT COUNT 6                         02 01596
003416 057000 I 1601          STA     CMPI                                                    02 01597
003417 005041 A 1602          TXA                                                             02 01598
003420 127000 I 1603          ADD     NLS1      SET TO THE BOTTOM OF THE ENTRY                02 01599
003421 005014 A 1604          TAX                                                             02 01600
003422 005002 A 1605          TZB               *                                  *          02 01601
003423 015000 A 1606 SF01     LDA     0,1       *PICK UP THE FIRST WORD            *          02 01602
003424 004444 A 1607          LLRL    4         *SHIFT ONE DECIMAL PLACE           *          02 01603
003425 055000 A 1608          STA     0,1       *RETURN WORD                       *          02 01604
003426 017000 I 1609          LDA     CMPI                                                    02 01605
003427 005311 A 1610          DAR               *                                  *          02 01606
003430 001004 A 1611          JAN*    SFTL                                                    02 01607
003431 103414 R
003432 005344 A 1612          DXR               *OTHERWISE INCREMENT POINTE*                  02 01608
003433 057000 I 1613          STA     CMPI                                                    02 01609
003434 004054 A 1614          LRLB    12        *RESET DIGIT TO LEFT               *          02 01610
003435 001000 A 1615          JMP     SF01      *CONTINUE SHIFT                    *          02 01611
003436 003423 R
                    1616 *                                                                    02 01612
                    1617 *                                                                    02 01613
                    1618 *                                                                    02 01614
003437 000000 A 1619 SCPW     DATA    0         *SETUP FOR COMPARE ROUTINE *                  02 01615
003440 037000 I 1620          LDX     W0                                                      02 01616
003441 015000 A 1621          LDA     0,1                                                     02 01617
003442 157000 I 1622          ANA     WMSK      MASK OFF THE SIGN                             02 01618
003443 055000 A 1623          STA     0,1                                                     02 01619
003444 015006 A 1624          LDA     6,1                                                     02 01620
003445 157000 I 1625          ANA     WMSK      MASK OFF THE SIGN                             02 01621
003446 055006 A 1626          STA     6,1                                                     02 01622
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003447 001000 A 1627          JMP*    SCPW                                                  02 01623
003450 103437 R
                1628 *                                                                      02 01624
                1629 *                                                                      02 01625
                1630 *                                                                      02 01626
003451 000000 A 1631  CMPN    ENTRY                                                         02 01627
003452 005001 A 1632          TZA             INITIALIZE COMPARE RESULT TO =                02 01628
003453 057000 I 1633          STA     CMPI                                                  02 01629
003454 037000 I 1634          LDX     W0                                                    02 01630
003455 017000 I 1635          LDA     NLS1    SET THE COUNT ON THE NUMBER OF WORDS          02 01631
003456 057000 I 1636          STA     TEMP                                                  02 01632
003457 015000 A 1637  CM01     LDA     0,1     GET THE NEXT WORD                             02 01633
003460 004541 A 1638          LLSR    1                                                     02 01634
003461 057000 I 1639          STA     TMPY    SAVE IT                                       02 01635
003462 015006 A 1640          LDA     6,1     GET THE FIRST OPERANDS WPRD                   02 01636
003463 004541 A 1641          LLSR    1                                                     02 01637
003464 147000 I 1642          SUB     TMPY    FIND THE DIFFERENCE                           02 01638
003465 001010 A 1643          JAZ     CM02    TEST THE REST OF THE WORD IF EQUAL            02 01639
003466 003472 R
003467 057000 I 1644  CMID    STA     CMPI    SET THE COMPARE WORD                          02 01640
003470 001000 A 1645          JMP*    CMPN    RETURN                                        02 01641
003471 103451 R
003472 004441 A 1646  CM02    LLRL    1                                                     02 01642
003473 004157 A 1647          LSRB    15                                                    02 01643
003474 067000 I 1648          STB     TMPY    SET TO FIND DIFFERENCE                        02 01644
003475 147000 I 1649          SUB     TMPY                                                  02 01645
003476 001010 A 1650          JAZ     CM03    CONTINUE COMPARING IF EQUAL                   02 01646
003477 003502 R
003500 001000 A 1651          JMP     CMID    PLACE RESULT                                  02 01647
003501 003467 R
003502 017000 I 1652  CM03    LDA     TEMP                                                  02 01648
003503 005311 A 1653          DAR                                                           02 01649
003504 001004 A 1654          JAN*    CMPN                                                  02 01650
003505 103451 R
003506 057000 I 1655          STA     TEMP                                                  02 01651
003507 005144 A 1656          IXR                                                           02 01652
003510 001000 A 1657          JMP     CM01                                                  02 01653
003511 003457 R
                1658 *                                                                      02 01654
                1659 *                                                                      02 01655
                1660 *                                                                      02 01656
003512 000000 A 1661  NCPR    ENTRY           THE NUMERIC COMPARE ROUTINE                   02 01657
003513 005001 A 1662          TZA                                                           02 01658
003514 057000 I 1663          STA     DMBF    INITIALIZE THE BOTH NEGATIVE FLAG             02 01659
003515 037000 I 1664          LDX     W0                                                    02 01660
003516 015000 A 1665          LDA     0,1                                                   02 01661
003517 004243 A 1666          LRLA    3       IF THE SECOND OPERAND IS NEGATIVE,            02 01662
003520 001004 A 1667          JAN     NC15    JUMP                                          02 01663
003521 003550 R
003522 015006 A 1668          LDA     6,1                                                   02 01664
003523 057000 I 1669          STA     DMBF+1  SAVE VALUE                                    02 01665
003524 004243 A 1670          LRLA    3       IF THE FIRST OPERAND IS NEGATIVE,             02 01666
003525 001004 A 1671          JAN     NC20                                                  02 01667
003526 003560 R
003527 002000 A 1672  NC05    JMPM    SCPW    MASK OUT SIGN                                 02 01668
003530 003437 R
003531 002000 A 1673          JMPM    CMPN    COMPARE NUMERIC                               02 01669
003532 003451 R
003533 017000 I 1674          LDA     DMBF                                                  02 01670
003534 001010 A 1675          JAZ     NC10    IF NOT BOTH NEGATIVE, JUMP                    02 01671
003535 003543 R
003536 017000 I 1676          LDA     CMPI                                                  02 01672
003537 001010 A 1677          JAZ     NC10    IF THE RESULT IS =, DONT BOTHER               02 01673
003540 003543 R
003541 127000 I 1678          ADD     MSK0    INVERT THE RESULT                             02 01674
003542 057000 I 1679          STA     CMPI                                                  02 01675
003543 037000 I 1680  NC10    LDX     W0                                                    02 01676
003544 017000 I 1681          LDA     DMBF+1  RESTORE THE SIGN TO THE FIRST OPERAND         02 01677
003545 055006 A 1682          STA     6,1                                                   02 01678
003546 001000 A 1683          JMP*    NCPR                                                  02 01679
003547 103512 R
003550 015006 A 1684  NC15    LDA     6,1                                                   02 01680
003551 057000 I 1685          STA     DMBF+1                                                02 01681
003552 004243 A 1686          LRLA    3                                                     02 01682
003553 001002 A 1687          JAP     NC20    IF 1ST POSITIVE SET RESULT GREATER THAN       02 01683
003554 003560 R
003555 047000 I 1688          INR     DMBF    SETTHE BOTH NEGATIVE FLAG                     02 01684
003556 001000 A 1689          JMP     NC05                                                  02 01685
003557 003527 R
003560 057000 I 1690  NC20    STA     CMPI                                                  02 01686
003561 001000 A 1691          JMP*    NCPR                                                  02 01687
003562 103512 R
                1692 *                                                                      02 01688
                1693 *                                                                      02 01689
                1694 *                                                                      02 01690
003563 000000 A 1695  CMPR    ENTRY                                                         02 01691
003564 005001 A 1696          TZA             SET COMPARE WORD EQUAL                        02 01692
003565 057000 I 1697          STA     CMPI                                                  02 01693
003566 017000 I 1698  C000    LDA     LCBF+1  THE BYTE COUNT OF THE FIRST OPERAND           02 01694
003567 001002 A 1699          JAP     C001                                                  02 01695
003570 003577 R
003571 017000 I 1700          LDA     LCBT+1  THE BYTE COUNT OF THE 2ND OPERAND             02 01696
003572 001004 A 1701          JAN*    CMPR    RETURN IF LISTS EXHAUSTED                     02 01697
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003573 103563 R
003574 017000 I 1702          LDA     B          SET TO BLANK IF FIELD EXHAUSTED                02 01698
003575 001000 A 1703          JMP     C002                                                      02 01699
003576 003602 R
003577 037000 I 1704 C001     LDX     FRMA       SET TO DATA LIST                               02 01700
003600 002000 A 1705          JMPM    GBAI       GET THE BYTE AND INCREMENT                     02 01701
003601 002721 R
003602 057000 I 1706 C002     STA     BYTF                                                      02 01702
003603 017000 I 1707          LDA     LCBT+1                                                    02 01703
003604 001002 A 1708          JAP     C003                                                      02 01704
003605 003611 R
003606 017000 I 1709          LDA     B          SET TO BLANK IF FIELD EXHAUSTED                02 01705
003607 001000 A 1710          JMP     C004                                                      02 01706
003610 003614 R
003611 037000 I 1711 C003     LDX     TOA        GET THE BYTE IN THE SECOND OPERAND             02 01707
003612 002000 A 1712          JMPM    GBAI                                                      02 01708
003613 002721 R
003614 057000 I 1713 C004     STA     BYTT                                                      02 01709
003615 002000 A 1714          JMPM    CMP        COMPARE THE TWO BYTES                          02 01710
003616 006352 R
003617 001010 A 1715          JAZ     C000       IF IT WAS AN EQUAL RESULT CONTINUE             02 01711
003620 003566 R
003621 001000 A 1716          JMP*    CMPR       RETURN                                         02 01712
003622 103563 R
                      1717 *                                                                    02 01713
                      1718 *                                                                    02 01714
                      1719 *                                                                    02 01715
003623 000000 A 1720 POSI     DATA    0          *POSITION THE INPUT            *               02 01716
003624 015000 A 1721          LDA     0,1        *WORD CONTAINING DIGIT         *               02 01717
003625 002000 A 1722          JMPM    SFTR       *SHIFT TO FAR RIGHT            *               02 01718
003626 003635 R
003627 057000 I 1723          STA     TEMP       *SAVE RESULT                   *               02 01719
003630 015006 A 1724          LDA     6,1        *WORD CONTAINING DIGIT         *               02 01720
003631 002000 A 1725          JMPM    SFTR       *SHIFT TO FAR RIGHT            *               02 01721
003632 003635 R
003633 001000 A 1726          JMP*    POSI       *RETURN                        *               02 01722
003634 103623 R
                      1727 *                                                                    02 01723
                      1728 *                                                                    02 01724
                      1729 *                                                                    02 01725
003635 000000 A 1730 SFTR     DATA    0          *SHIFT DIGIT RIGHT             *               02 01726
003636 057000 I 1731          STA     TMPA       *THE DIGIT                     *               02 01727
003637 017000 I 1732          LDA     SAR0       THE INSTRUCTION LSRA                           02 01728
003640 117000 I 1733          ORA     WQTR       *THE AMOUNT TO SHIFT           *               02 01729
003641 054001 A 1734          STA     SFTR1      *  SET INSTR                                   02 01730
003642 017000 I 1735          LDA     TMPA       *  DIGIT                                       02 01731
003643 005000 A 1736 SFTR1    NOP                *                                              02 01732
003644 157000 I 1737          ANA     DMSK       MASK OUT ALL BUT THIS DIGIT                    02 01733
003645 001000 A 1738          JMP*    SFTR       *RETURN                        *               02 01734
003646 103635 R
                      1739 *                                                                    02 01735
                      1740 *                                                                    02 01736
                      1741 *                                                                    02 01737
003647 000000 A 1742 POSO     DATA    0          *OUTPUT DIGIT                  *               02 01738
003650 014014 A 1743          LDA     SDL0       FORM THE LLRL INSTRUCTION                      02 01739
003651 117000 I 1744          ORA     WQTR       THE SHIFT AMOUNT                               02 01740
003652 054006 A 1745          STA     PO02                                                      02 01741
003653 117000 I 1746          ORA     0100       FORM THE LLSR INSTRUCTION                      02 01742
003654 054001 A 1747          STA     PO01                                                      02 01743
003655 015000 A 1748          LDA     0,1        *LOAD WORD CONTAING DIGIT      *               02 01744
003656 000000 A 1749 PO01     DATA    0          *SHIFT TO RIGHT                *               02 01745
003657 157000 I 1750          ANA     RMSK       MASK OUT THE DIGIT                             02 01746
003660 117000 I 1751          ORA     TMPA       *PLACE DIGIT TO BE STORED      *               02 01747
003661 000000 A 1752 PO02     DATA    0          *SHIFT LEFT                    *               02 01748
003662 055000 A 1753          STA     0,1        *RETURN WORD TO LIST           *               02 01749
003663 001000 A 1754          JMP*    POSO       *RETURN                        *               02 01750
003664 103647 R
003665 004440 A 1755 SDL0     LLRL    0                                                         02 01751
                      1756 *                                                                    02 01752
                      1757 *                                                                    02 01753
                      1758 *                                                                    02 01754
003666 000000 A 1759 DRDM     ENTRY              INCREMENT THE ACCUMULATOR POINTERS              02 01755
003667 017000 I 1760          LDA     DMPT                                                      02 01756
003670 147000 I 1761          SUB     NUMB       SET TO NEXT DIGIT                              02 01757
003671 003004 A 1762          XAN     DR01                                                      02 01758
003672 003700 R
003673 003004 A 1763          XAN     DR02                                                      02 01759
003674 003701 R
003675 057000 I 1764          STA     DMPT                                                      02 01760
003676 001000 A 1765          JMP*    DRDM                                                      02 01761
003677 103666 R
003700 047000 I 1766 DR01     INR     DMPT+1
003701 017000 I 1767 DR02     LDA     D14        SET TO FIRST DIGIT                             02 01763
                      1768 *                                                                    02 01764
                      1769 *                                                                    02 01765
                      1770 *                                                                    02 01766
003702 000000 A 1771 INDM     DATA    0          *INCREMENT THE ACC. POINTER*                   02 01767
003703 017000 I 1772          LDA     DMPT       *THE QUARTER COUNT             *               02 01768
003704 127000 I 1773          ADD     NUMB       SET TO NEXT DIGIT                              02 01769
003705 157000 I 1774          ANA     D14        MASK OUT ANY CARY                              02 01770
003706 001010 A 1775          JAZ     IN02       *                              *               02 01771
003707 003713 R
003710 057000 I 1776 IN01     STA     DMPT       *                              *               02 01772
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003711 001000 A 1777          JMP*    INDM      *RETURN                          *          02 01773
003712 103702 R
003713 027000 I 1778 IN02     LDB     DMPT+1    *INCREMENT THE WORD POINTER*     *          02 01774
003714 005322 A 1779          DBR               *                                *          02 01775
003715 067000 I 1780          STB     DMPT+1    *                                *          02 01776
003716 001000 A 1781          JMP     IN01      *                                *          02 01777
003717 003710 R
                    1782 *                        GREATER,LESS,EQUAL(NEG)        *          02 01778
                    1783 *                                                                  02 01779
                    1784 *                                                                  02 01780
003720 017000 I 1785 GLEN     LDA     SFFG                                                    02 01781
003721 001010 A 1786          JAZ     G025                                                    02 01782
003722 004062 R
003723 002000 A 1787          JMPM    LDNS                                                    02 01783
003724 004072 R
003725 017000 I 1788 GLNS     LDA*    W0                                                      02 01784
003726 137000 I 1789          ERA     NSGN      INVERT THE ENTRY'S SIGN                       02 01785
003727 057000 I 1790          STA*    W0                                                      02 01786
003730 002000 A 1791          JMPM    TWZE                                                    02 01787
003731 003357 R
003732 017000 I 1792          LDA     INTC                                                    02 01788
003733 147000 I 1793          SUB     D3        RESET THE OPCODE TO NON NEGATIVE OPERATION    02 01789
003734 057000 I 1794          STA     INTC                                                    02 01790
003735 001000 A 1795          JMP     GLES                                                    02 01791
003736 003751 R
003737 017000 I 1796 GLE      LDA     SFFG                                                    02 01792
003740 001010 A 1797          JAZ     G011                                                    02 01793
003741 004010 R
003742 002000 A 1798          JMPM    LDNS                                                    02 01794
003743 004072 R
003744 001000 A 1799          JMP     GLES                                                    02 01795
003745 003751 R
003746 017000 I 1800 GLEX     LDA     INTC                                                    02 01796
003747 127000 I 1801          ADD     D60                                                     02 01797
003750 057000 I 1802          STA     INTC                                                    02 01798
003751 002000 A 1803 GLES     JMPM    NCPR                                                    02 01799
003752 003512 R
003753 017000 I 1804 G003     LDA     CMPI                                                    02 01800
003754 003002 A 1805          XAP     GI02      SET TO GT                                     02 01801
003755 004001 R
003756 003004 A 1806          XAN     GI03      SET TO LT                                     02 01802
003757 004002 R
003760 003010 A 1807          XAZ     GI04      SET TO EQUAL TO                               02 01803
003761 004003 R
003762 005021 A 1808          TBA                                                             02 01804
003763 147000 I 1809          SUB     INTC      IF THEY MATCH                                 02 01805
003764 005002 A 1810 G005     TZB                                                             02 01806
003765 003010 A 1811          XAZ     GI01      SET RESULT TRUE                               02 01807
003766 004000 R
003767 017000 I 1812          LDA     SFFG      IF YOU LOADED NUMERIC                         02 01808
003770 001010 A 1813          JAZ     G010                                                    02 01809
003771 004004 R
003772 017000 I 1814          LDA     W0        RESET THE WORKLIST                            02 01810
003773 127000 I 1815          ADD     D13                                                     02 01811
003774 057000 I 1816 G007     STA     W0                                                      02 01812
003775 067000 I 1817          STB*    W0                                                      02 01813
003776 001000 A 1818          JMP     INTS      GO RESET THE SFFG                             02 01814
003777 002414 R
004000 027000 I 1819 GI01     LDB     TRUE                                                    02 01815
004001 027000 I 1820 GI02     LDB     D106      GREATER THAN RESULT                           02 01816
004002 027000 I 1821 GI03     LDB     D107      SET TO LESS THAN RESULT                       02 01817
004003 027000 I 1822 GI04     LDB     D110      SET TO EQUAL RESULT                           02 01818
004004 017000 I 1823 G010     LDA     W0                                                      02 01819
004005 005311 A 1824          DAR                                                             02 01820
004006 001000 A 1825          JMP     G007                                                    02 01821
004007 003774 R
004010 005001 A 1826 G011     TZA                                                             02 01822
004011 057000 I 1827          STA     CNT1                                                    02 01823
004012 002000 A 1828 G012     JMPM    SFRM                                                    02 01824
004013 002502 R
004014 017000 I 1829          LDA     LCBT+3    GET THE MODE OF THE FIELD                     02 01825
004015 004355 A 1830          LSRA    13                                                      02 01826
004016 157000 I 1831          ANA     D3        MASK OFF THE REST OF THE WORD                 02 01827
004017 057000 I 1832          STA     TEMP                                                    02 01828
004020 017000 I 1833          LDA     LCBF+3                                                  02 01829
004021 004355 A 1834          LSRA    13                                                      02 01830
004022 157000 I 1835          ANA     D3        MASK OFF THE REST OF THE WORD                 02 01831
004023 127000 I 1836          ADD     TEMP                                                    02 01832
004024 117000 I 1837          ORA     TEMP                                                    02 01833
004025 147000 I 1838          SUB     D2                                                      02 01834
004026 001004 A 1839          JAN     G015      ALPHA COMPARE                                 02 01835
004027 004050 R
004030 001010 A 1840          JAZ     G020      MODE VIOLATION SET FALSE RESULT               02 01836
004031 004054 R
004032 002000 A 1841          JMPM    LDNS      LOAD THE NUMERIC VALUES                       02 01837
004033 004072 R
004034 002000 A 1842          JMPM    STOF      SET UP THE OTHER ENTRY                        02 01838
004035 002531 R
004036 002000 A 1843          JMPM    LDNS                                                    02 01839
004037 004072 R
004040 002000 A 1844          JMPM    XCHW      PLACE IN CORRECT ORDER                        02 01840
004041 003375 R
004042 047000 I 1845          INR     SFFG      RESET THE LOADED FLAG                         02 01841
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004043 017000 I 1846         LDA*    W0                                                  02 01842
004044 137000 I 1847         ERA     CNT1                                                02 01843
004045 057000 I 1848         STA*    W0                                                  02 01844
004046 001000 A 1849         JMP     GLES                                                02 01845
004047 003751 R
004050 002000 A 1850 G015    JMPM    CMPR        COMPARE THE ALPHA VALUES                02 01846
004051 003563 R
004052 001000 A 1851         JMP     G003                                                02 01847
004053 003753 R
004054 017000 I 1852 G020    LDA     TRUE        SET THE MODE VIOLATION INDICATOR ON     02 01848
004055 027000 I 1853         LDB     IX2                                                 02 01849
004056 002000 A 1854         JMPM    SIN                                                 02 01850
004057 003214 R
004060 001000 A 1855         JMP     G005        GO SET THE RESULT FALSE                 02 01851
004061 003764 R
004062 017000 I 1856 G025    LDA     NSGN        SET THE ENTRY'S SIGN NEGATIVE           02 01852
004063 057000 I 1857         STA     CNT1                                                02 01853
004064 001000 A 1858         JMP     G012                                                02 01854
004065 004012 R
004066 002000 A 1859 LDN     JMPM    LDNS        *LOAD NUMERIC INSTRUCTION  *            02 01855
004067 004072 R
004070 001000 A 1860         JMP     INT         *RETURN                    *            02 01856
004071 002415 R
               1861 *                                                                    02 01857
               1862 *                                                                    02 01858
               1863 *                                                                    02 01859
004072 000000 A 1864 LDNS    ENTRY               THE LOAD NUMERIC SUBROUTINE             02 01860
004073 017000 I 1865         LDA     PEND        IF THE WORKLIST WILL OVERFLOW,          02 01861
004074 147000 I 1866         SUB     W0                                                  02 01862
004075 001002 A 1867         JAP     RTOF            HALT                                02 01863
004076 003211 R
004077 002000 A 1868         JMPM    ZWRK        ZERO 6 WORDS OF THE WORK LIST           02 01864
004100 003160 R
004101 057000 I 1869         STA     WQTR        INITIALIZE THE POSITION POINTER         02 01865
004102 057000 I 1870         STA     CNT1        INITIALIXE THE NEGATIVE INDICATOR       02 01866
004103 054313 A 1871         STA     LDIS        THE NEGATIVE OVERPUNCH INDICATOR        02 01867
004104 057000 I 1872         STA     TMPY        INITIALIZE THE OVERFLOW INDICATOR       02 01868
004105 057000 I 1873         STA     DMPT                                                02 01869
004106 005311 A 1874         DAR                                                         02 01870
004107 057000 I 1875         STA     CNT2        INITIALIZE THE DECIMAL POINT INDICATOR  02 01871
004110 057000 I 1876         STA     ALFG        INITIALIZE THE SPECIAL CHARACTER FLAG   02 01872
004111 017000 I 1877         LDA     NLE1        SET THE LENGTH OF THE ENTRY             02 01873
004112 057000 I 1878         STA     LNGT                                                02 01874
004113 017000 I 1879         LDA     LCBT+3      PICK UP THE MODE INDICATOR              02 01875
004114 001004 A 1880         JAN     L065        JUMP IF ALPHA OR IMPLIED(NORMALIZED)    02 01876
004115 004354 R
004116 017000 I 1881         LDA     W0                                                  02 01877
004117 127000 I 1882         ADD     NLS1        SET TO THE BOTTOM OF THE ENTRY          02 01878
004120 057000 I 1883         STA     TMPX        INITIALIZE TO LAST WORD OF ENTRY        02 01879
004121 027000 I 1884         LDB     LCBT+2      THE POINTER TO THE FIED DATA DEXCRIPTION 02 01880
004122 016002 A 1885         LDA     2,2                                                 02 01881
004123 004350 A 1886         LSRA    3                                                   02 01882
004124 157000 I 1887         ANA     DMSK        GET THE IMPLIED DECIMAL POSITION        02 01883
004125 057000 I 1888         STA     DPOS                                                02 01884
004126 037000 I 1889 L005    LDX     TOA         POINTER TO ALPHA LOCATION               02 01885
004127 002000 A 1890         JMPM    GBAI        GET THE NEXT BYTE AND INCREMENT         02 01886
004130 002721 R
004131 147000 I 1891         SUB     B           IF A BLANK CONTINUE                     02 01887
004132 001010 A 1892         JAZ     L015                                                02 01888
004133 004164 R
004134 147000 I 1893         SUB     D16         IS IT A DECIMAL POINT..                 02 01889
004135 001010 A 1894         JAZ     L060                                                02 01890
004136 004330 R
004137 147000 I 1895         SUB     D14         IS IT GREATER THAN 9                    02 01891
004140 001002 A 1896         JAP     L040                                                02 01892
004141 004260 R
004142 127000 I 1897         ADD     D12         IS IT LEES THAN 0                       02 01893
004143 001004 A 1898         JAN     L033                                                02 01894
004144 004250 R
004145 057000 I 1899         STA     TMPA                                                02 01895
004146 017000 I 1900 L010    LDA     LNGT                                                02 01896
004147 005311 A 1901         DAR     DECREMENT THE INTEGER COUNT                         02 01897
004150 057000 I 1902         STA     LNGT                                                02 01898
004151 017000 I 1903         LDA     CNT2        IF THERE HAS BEEN A DECIMAL POINT, JUMP 02 01899
004152 001002 A 1904         JAP.    L030                                                02 01900
004153 004232 R
004154 037000 I 1905         LDX     W0                                                  02 01901
004155 002000 A 1906         JMPM    SFTL        SHIFT THE ENTRY ONE DIGIT TO THE LEFT   02 01902
004156 003414 R
004157 037000 I 1907         LDX     TMPX        SET  TO LAST DIGIT                      02 01903
004160 002000 A 1908         JMPM    POSO        OUT PUT THE DIGIT                       02 01904
004161 003647 R
004162 005001 A 1909 L014    TZA                 SET OFF THE NEGATIVE FLAG               02 01905
004163 057000 I 1910         STA     CNT1                                                02 01906
004164 017000 I 1911 L015    LDA     LCBT+1      THE COUNT ON THE INPUT                  02 01907
004165 001002 A 1912         JAP     L005        IF STILL SOME TO PROCESS, CONTINUE      02 01908
004166 004126 R
004167 017000 I 1913         LDA     CNT2        IF DECIMAL POIN OCCURED                 02 01909
004170 001002 A 1914         JAP     L025        JUMP                                    02 01910
004171 004212 R
004172 017000 I 1915         LDA     LNGT        SET OFLOW                               02 01911
004173 127000 I 1916         ADD     DPOS                                                02 01912
004174 147000 I 1917         SUB     NDEC                                                02 01913
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004175 057000 I 1918        STA     TMPY                                    02 01914
004176 017000 I 1919        LDA     NDEC    SET TO SHIFT ENTRY              02 01915
004177 147000 I 1920        SUB     DPOS                                    02 01916
004200 001010 A 1921 L021   JAZ     L025    IF NO MORE SHIFTS , JUMP        02 01917
004201 004212 R
004202 057000 I 1922        STA     LNGT                                    02 01918
004203 037000 I 1923        LDX     W0                                      02 01919
004204 002000 A 1924        JMPM    SFTL    SHIFT THE ENTRY ONE DIGIT LEFT  02 01920
004205 003414 R
004206 017000 I 1925        LDA     LNGT                                    02 01921
004207 005311 A 1926        DAR     D<CREMENT THE SHIFT COUNT               02 01922
004210 001000 A 1927        JMP     L021                                    02 01923
004211 004200 R
004212 017000 I 1928 L025   LDA*    W0                                      02 01924
004213 157000 I 1929        ANA     WMSK    PREPARE TO OR IN SIGN           02 01925
004214 117000 I 1930        ORA     CNT1    THE SIGN                        02 01926
004215 114201 A 1931        ORA     LDIS    NEGATIVE OVERPUNCH              02 01927
004216 057000 I 1932        STA*    W0                                      02 01928
004217 002000 A 1933 L026   JMPM    TWZE    DO NOT ALLOW ANEGATIVE ZERO     02 01929
004220 003357 R
004221 017000 I 1934        LDA     TMPY                                    02 01930
004222 001002 A 1935        JAP*    LDNS                                    02 01931
004223 104072 R
004224 027000 I 1936        LDB     IX1     SET THE OVERFLOW INDICATOR ON   02 01932
004225 017000 I 1937        LDA     TRUE                                    02 01933
004226 002000 A 1938        JMPM    SIN     SET THE INDICATOR               02 01934
004227 003214 R
004230 001000 A 1939        JMP*    LDNS                                    02 01935
004231 104072 R
004232 017000 I 1940 L030   LDA     LNGT    DONOT PLACE MORE THAN 9 PLACES AFTER THE  02 01936
004233 001004 A 1941        JAN     L014          DECIMAL POINT             02 01937
004234 004162 R
004235 005311 A 1942        DAR                                             02 01938
004236 057000 I 1943        STA     LNGT                                    02 01939
004237 037000 I 1944        LDX     DMPT+1                                  02 01940
004240 017000 I 1945        LDA     DMPT                                    02 01941
004241 057000 I 1946        STA     WQTR                                    02 01942
004242 002000 A 1947        JMPM    POSO    OUTPUT THE DIGIT                02 01943
004243 003647 R
004244 002000 A 1948        JMPM    DRDM                                    02 01944
004245 003666 R
004246 001000 A 1949        JMP     L014    CONTINUE PROCESSING             02 01945
004247 004162 R
004250 127000 I 1950 L039   ADD     D3      IS IT A MINUS SIGN              02 01946
004251 001010 A 1951        JAZ     L045    IF A MINUS SIGN SET NEGATIVE FLAG  02 01947
004252 004311 R
004253 005001 A 1952 L035   TZA             SET OFF THE NEGATIVE FLAG       02 01949
004254 057000 I 1953        STA     CNT1                                    02 01949
004255 047000 I 1954 L036   INR     ALFG    SET THE SPECIAL CHARACTER FLAG,CONTINUE  02 01950
004256 001000 A 1955        JMP     L015                                    02 01951
004257 004164 R
004260 147000 I 1956 L040   SUB     D11                                     02 01952
004261 001010 A 1957        JAZ     L055    IF A -C-,CHEAK FOR AN R         02 01953
004262 004315 R
004263 057000 I 1958        STA     TMPA                                    02 01954
004264 017000 I 1959        LDA     LCBT+1  IF IT IS NOT THE LAST CHARACTER 02 01955
004265 001002 A 1960        JAP     L035    INCREMENT THE SPECIAL CHAR. FLAG  02 01956
004266 004253 R
004267 017000 I 1961        LDA     ALFG    IF A SPEC. CHAR. HAS OCCURED,   02 01957
004270 001002 A 1962        JAP     L015        CONTINUE                    02 01958
004271 004164 R
004272 017000 I 1963        LDA     TMPA                                    02 01959
004273 147000 I 1964        SUB     D33     IF IT IS A OVER PUNCHED 0 SET NEGATIVE B.2  02 01960
004274 001010 A 1965        JAZ     L044                                    02 01961
004275 004304 R
004276 127000 I 1966        ADD     D13                                  D  02 01962
004277 001002 A 1967        JAP     L015    IF IT IS GREATER THAN AN OVERPUNCHED 9  02 01963
004300 004164 R
004301 127000 I 1968        ADD     D12     OR LESS THAN AN OVERPUNCHED 1,  02 01964
004302 001004 A 1969        JAN     L015        DONE                        02 01965
004303 004164 R
004304 057000 I 1970 L044   STA     TMPA                                    02 01966
004305 017000 I 1971        LDA     NSGN                                    02 01967
004306 054110 A 1972        STA     LDIS    SET THE NEGATIVE OVERPUCH INDICATOR  02 01968
004307 001000 A 1973        JMP     L010    PLACE THE DIGIT                 02 01969
004310 004146 R
004311 017000 I 1974 L045   LDA     NSGN                                    02 01970
004312 057000 I 1975        STA     CNT1    SET THE NEGATIVE INDICATOR      02 01971
004313 001000 A 1976        JMP     L036    GO SET THE SPEC. CHARACTER FLAG 02 01972
004314 004255 R
004315 002000 A 1977 L055   JMPM    GBAI    GET THE NEXT CHARACTER          02 01973
004316 002721 R
004317 147000 I 1978        SUB     R       SET NEGATIVE IF AN R            02 01974
004320 001010 A 1979        JAZ     L045                                    02 01975
004321 004311 R
004322 017000 I 1980        LDA     LCBT                                    02 01976
004323 005311 A 1981        DAR                                             02 01977
004324 057000 I 1982        STA     LCBT    RESTORE THE POINTER AND THE     02 01978
004325 047000 I 1983        INR     LCBT+1      COUNT                       02 01979
004326 001000 A 1984        JMP     L035    SET THE SPECIAL CHARACTER FALG  02 01980
004327 004253 R
004330 017000 I 1985 L060   LDA     LNGT    SET THE OVERFLOW                02 01981
004331 147000 I 1986        SUB     NDEC                                    02 01982
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004332 057000 I 1987        STA     TMPY                                    02 01983
004333 017000 I 1988        LDA     NDEC                                    02 01984
004334 057000 I 1989        STA     LNGT                                    02 01985
004335 037000 I 1990 L062   LDX     W0      SHIFT 9 PLACES LEFT             02 01986
004336 057000 I 1991        STA     CNT2                                    02 01987
004337 002000 A 1992        JMPM    SFTL                                    02 01988
004340 003414 R
004341 017000 I 1993        LDA     CNT2                                    02 01989
004342 005311 A 1994        DAR                                             02 01990
004343 001010 A 1995        JAZ     L063                                    02 01991
004344 004347 R
004345 001000 A 1996        JMP     L062                                    02 01992
004346 004335 R
004347 017000 I 1997 L063   LDA     W0      SET TO THE FIRST POSITION AFTER D.P.  02 01993
004350 127000 I 1998        ADD     D3                                      02 01994
004351 057000 I 1999        STA     DMPT+1                                  02 01995
004352 001000 A 2000        JMP     L035    SET THE SPECIAL CHARACTER FLAG  02 01996
004353 004253 R
004354 004241 A 2001 L065   LRLA    1                                       02 01997
004355 001004 A 2002        JAN     L070    IF IT IS NORMALIZED FORM, JUMP  02 01998
004356 004365 R
004357 027000 I 2003        LDB     IX2     SET THE MODE VIOLATION FLAG     02 01999
004360 017000 I 2004        LDA     TRUE                                    02 02000
004361 002000 A 2005        JMPM    SIN     SET THE INDICATOR               02 02001
004362 003214 R
004363 001000 A 2006        JMP*    LDNS    SET THE RESULT TO ZERO          02 02002
004364 104072 R
004365 027000 I 2007 L070   LDB     W0      SET THE POINTERS TO MOVE THE NORMALIZED  02 02003
004366 017000 I 2008        LDA     LCBT                                    02 02004
004367 004341 A 2009        LSRA    1                                       02 02005
004370 005014 A 2010        TAX                                             02 02006
004371 017000 I 2011        LDA     NLST    MOVE SIX WORDS                  02 02007
004372 002000 A 2012        JMPM    WMOV                                    02 02008
004373 003100 R
004374 001000 A 2013        JMP     L026                                    02 02009
004375 004217 R
                2014 *                                                      02 02010
                2015 *      STORE/UNLOAD INDICATOR ROUTINES                 02 02011
                2016 *                                                      02 02012
004376 017000 I 2017 STI    LDA     INTC    *GET OPCODE                 *   02 02013
004377 004257 A 2018        LRLA    15      *SET NEG BIT                *   02 02014
004400 157000 I 2019        ANA     SIGN                                    02 02015
004401 137000 I 2020        ERA*    W0      *                           *   02 02016
004402 002000 A 2021        JMPM    SIN     *PLACE THE INDICATOR        *   02 02017
004403 003214 R
004404 017000 I 2022        LDA     INTC    *IF IT IS AN UNLOAD INST.,  *   02 02018
004405 004254 A 2023        LRLA    12      *                           *   02 02019
004406 003004 A 2024        XAN     ST01    TAKE THE ENTRY OFF IF UNLOAD    02 02020
004407 004412 R
004410 001000 A 2025        JMP     INT     *RETURN TO INTERPRETER      *   02 02021
004411 002415 R
004412 047000 I 2026 ST01   INR     W0                                      02 02022
004413 002000 A 2027 LDI    JMPM    LDIS    *LOAD INDICATOR ROUTINE     *   02 02023
004414 004417 R
004415 001000 A 2028        JMP     INT     *RETURN                     *   02 02024
004416 002415 R
                2029 *                                                      02 02025
                2030 *                                                      02 02026
                2031 *                                                      02 02027
004417 000000 A 2032 LDIS   DATA    0       *LOAD INDICATOR SUBROUTINE  *   02 02028
004420 017000 I 2033        LDA     W0      ****************************    02 02029
004421 005311 A 2034        DAR             *INCREMENT WORKLIST POINTER*    02 02030
004422 057000 I 2035        STA     W0      *                           *   02 02031
004423 147000 I 2036        SUB     PEND    *                           *   02 02032
004424 001004 A 2037        JAN     RTOF    *IF OVERFLOW,STOP EXECUTION *   02 02033
004425 003211 R
004426 005001 A 2038        TZA             *                           *   02 02034
004427 004454 A 2039        LLRL    12      *PLACE WORD COUNT IN XREG.  *   02 02035
004430 127000 I 2040        ADD     INDP                                    02 02036
004431 005014 A 2041        TAX             *                           *   02 02037
004432 004154 A 2042        LSRB    12      *PLACE SHIFT COUNT IN BREG.*    02 02038
004433 017000 I 2043        LDA     SALO    FORM THE LRLA 0 INSTRUCTION     02 02039
004434 005032 A 2044        MERG    032     *                           *   02 02040
004435 064001 A 2045        STB     LD01    *                           *   02 02041
004436 015000 A 2046        LDA     0,1                                     02 02042
004437 000000 A 2047 LD01   DATA    0       *SHIFT INSTRUCTION          *   02 02043
004440 157000 I 2048        ANA     TRUE                                    02 02044
004441 057000 I 2049        STA*    W0      *PLACE INDICATOR VALUE      *   02 02045
004442 001000 A 2050        JMP*    LDIS    *RETURN                     *   02 02046
004443 104417 R
                2051 *                                                      02 02047
                2052 *      AND,ANDN,OR & ORN INSTRUCTIONS                  02 02048
                2053 *                                                      02 02049
004444 002000 A 2054 AONN   JMPM    LDIS    *LOAD INDICATOR             *   02 02050
004445 004417 R
004446 017000 I 2055        LDA     INTC    *                           *   02 02051
004447 127000 I 2056        ADD     D13                                     02 02052
004450 057000 I 2057        STA     INTC    *RESET OPCODE TO LIST INST  *   02 02053
                2058 *                                                      02 02054
                2059 *      ANDL,ORL,ANNL & ORNL INSTRUCTIONS               02 02055
                2060 *                                                      02 02056
004451 017000 I 2061 OONL   LDA     INTC    *GET OPCODE                 *   02 02057
004452 005002 A 2062        TZB             *                           *   02 02058
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004453 004541 A 2063          LLSR    1          *INDICATES NOT OPERATION    *          02 02059
004454 057000 I 2064          STA     INTC       *RESTORE OPCODE             *          02 02060
004455 005021 A 2065          TBA                *                           *          02 02061
004456 137000 I 2066          ERA*    W0         *RESET IF ANDNOT OR ORNOT   *          02 02062
004457 057000 I 2067          STA*    W0         *                           *          02 02063
004460 017000 I 2068          LDA     INTC       *                           *          02 02064
004461 150421 A 2069          ANA     BS0                                               02 02065
004462 004245 A 2070          LRLA    5          FORM OR/AND BIT                        02 02066
004463 117000 I 2071          ORA     ORAI       CREATE OR/AND EXTENDED INSTRUCTION     02 02067
004464 054004 A 2072          STA     AD01                                              02 02068
004465 027000 I 2073          LDB     W0                                                02 02069
004466 064003 A 2074          STB     AD01+1     AND OPERAND ADDRESS                    02 02070
004467 005122 A 2075          IBR                                                       02 02071
004470 016000 A 2076          LDA     0,2        LOAD A WITH NEXT ELEMENT ON WORKLIST   02 02072
004471 006117 A 2077 AD01     ORAE    0            *AND/OR INSTRUCTION                  02 02073
004472 000000 A
004473 067000 I 2078          STB     W0             *RESET THE WORKLIST   *          02 02074
004474 057000 I 2079          STA*    W0             *BOTTOM STORE RESULT  *          02 02075
004475 001000 A 2080          JMP     INT                                               02 02076
004476 002415 R
                2081 *                                                                  02 02077
                2082 *        ADD/SUBTRACT ROUTINES                                     02 02078
                2083 *                                                                  02 02079
004477 002000 A 2084 ADD      JMPM    LDNS       *LOAD NUMERIC IF NOT STACK *           02 02080
004500 004072 R
004501 017000 I 2085 ADDS     LDA     INTC       *THE OPCODE                 *          02 02081
004502 004256 A 2086          LRLA    14                                                02 02082
004503 001002 A 2087          JAP     A002       *                           *          02 02083
004504 004510 R
004505 017000 I 2088          LDA*    W0         *INVERT THE SIGN BIT        *          02 02084
004506 137000 I 2089          ERA     NSGN                                              02 02085
004507 057000 I 2090          STA*    W0                                                02 02086
004510 002000 A 2091 A002     JMPM    ADIT                                              02 02087
004511 004514 R
004512 001000 A 2092          JMP     INT        *RETURN                     *          02 02088
004513 002415 R
004514 000000 A 2093 ADIT     DATA    0                                                 02 02089
004515 017000 I 2094          LDA     NLE1       SET TO LAST DIGIT                      02 02090
004516 005012 A 2095          TAB                SET TO PREFORM 24 SUBTRACTS            02 02091
004517 002000 A 2096          JMPM    INUM                                              02 02092
004520 003123 R
004521 005001 A 2097          TZA                *SET QUARTER COUNT AND      *          02 02093
004522 057000 I 2098          STA     CARY       *                           *          02 02094
004523 037000 I 2099          LDX     W0                                                02 02095
004524 017000 I 2100          LDA*    W0         *IF SECOND ENTRY IS NEG.    *          02 02096
004525 004243 A 2101          LRLA    3          *                           *          02 02097
004526 001004 A 2102          JAN     A010       * JUMP                      *          02 02098
004527 004536 R
004530 015006 A 2103          LDA     6,1                                               02 02099
004531 004243 A 2104          LRLA    3          *IF SECOND ENTRY IS NEG.    *          02 02100
004532 001004 A 2105          JAN     SUBN       * GO SUBTRACT               *          02 02101
004533 004603 R
004534 001000 A 2106          JMP     A011       *                           *          02 02102
004535 004542 R
004536 015006 A 2107 A010     LDA     6,1        *IF SECOND ENTRY IS NEG.    *          02 02103
004537 004243 A 2108          LRLA    3          * ALSO, ADD, OTHERWISE,     *          02 02104
004540 001002 A 2109          JAP     SUBP       * SUBTRACT                  *          02 02105
004541 004605 R
004542 037000 I 2110 A011     LDX     TMPX       *THE POINTER                *          02 02106
004543 002000 A 2111          JMPM    POSI       *POSITION THE TWO DIGITS    *          02 02107
004544 003623 R
004545 127000 I 2112          ADD     CARY       *ADD THE CARRY              *          02 02108
004546 127000 I 2113          ADD     TEMP       *ADD THE DIGIT              *          02 02109
004547 147000 I 2114          SUB     D12        IF NO CARRY,                           02 02110
004550 001004 A 2115          JAN     AQ05       *JUMP                       *          02 02111
004551 004577 R
004552 005102 A 2116          INCR    2          SET THE CARRY TO 1                     02 02112
004553 067000 I 2117 AQ01     STB     CARY       *                           *          02 02113
004554 057000 I 2118          STA     TMPA                                              02 02114
004555 005041 A 2119          TXA                                                       02 02115
004556 127000 I 2120          ADD     NLST       SET TO BOTTOM ENTRY                    02 02116
004557 005014 A 2121          TAX                                                       02 02117
004560 002000 A 2122          JMPM    POSO       *OUTPUT THE RESULT          *          02 02118
004561 003647 R
004562 002000 A 2123          JMPM    INCR       * INCR PTRS                            02 02119
004563 003136 R
004564 001002 A 2124          JAP     A011                                              02 02120
004565 004542 R
004566 017000 I 2125          LDA     CARY                                              02 02121
004567 001010 A 2126          JAZ     S002                                              02 02122
004570 004616 R
004571 017000 I 2127          LDA     TRUE       SET THE OVERFLOW INDICATOR             02 02123
004572 027000 I 2128          LDB     IX1                                               02 02124
004573 002000 A 2129          JMPM    SIN                                               02 02125
004574 003214 R
004575 001000 A 2130          JMP     S002                                              02 02126
004576 004616 R
004577 127000 I 2131 AQ05     ADD     D12        RESTORE THE RESULT                     02 02127
004600 005002 A 2132          TZB                *SET CARRY TO ZERO          *          02 02128
004601 001000 A 2133          JMP     AQ01       *OUT PUT RESULT             *          02 02129
004602 004553 R
                2134 *                                                                  02 02130
                2135 *                                                                  02 02131
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                    2136 *
004603 002000 A 2137 SUBN   JMPM    XCHW     *EXCHANGE THE ENTRIES      *   02 02132
004604 003375 R                                                             02 02133
004605 002000 A 2138 SUBP   JMPM    SCPW     *SET UP FOR COMPARE ROUTINE*   02 02134
004606 003437 R                                                             02 02135
004607 002000 A 2139        JMPM    CMPN     COMPARE THE OPERANDS           02 02135
004610 003451 R
004611 017000 I 2140        LDA     CMPI                                    02 02136
004612 001004 A 2141        JAN     S003                                    02 02137
004613 004625 R
004614 002000 A 2142 S001   JMPM    SUBQ     SUBTRACT THE TWO ENTRIES       02 02138
004615 003241 R
004616 017000 I 2143 S002   LDA     W0       *RESET WORKLIST BOTTOM     *   02 02139
004617 127000 I 2144        ADD     NLST                                    02 02140
004620 057000 I 2145        STA     W0       *                          *   02 02141
004621 002000 A 2146        JMPM    TWZE                                    02 02142
004622 003357 R
004623 001000 A 2147        JMP*    ADIT                                    02 02143
004624 104514 R
004625 017000 I 2148 S003   LDA*    W0                                      02 02144
004626 117000 I 2149        ORA     NSGN                                    02 02145
004627 057000 I 2150        STA*    W0                                      02 02146
004630 002000 A 2151        JMPM    XCHW                                    02 02147
004631 003375 R
004632 001000 A 2152        JMP     S001                                    02 02148
004633 004614 R
                    2153 *                                                  02 02149
                    2154 *                                                  02 02150
                    2155 *                                                  02 02151
004634 002000 A 2156 DIV    JMPM    LDNS     *LOAD NUMERIC IF NOT STACK *   02 02152
004635 004072 R
004636 005101 A 2157 DIVL   INCR    1        IF IT IS AN INVERTED DIVIDE,   02 02153
004637 157000 I 2158        ANA     INTC                                    02 02154
004640 001010 A 2159        JAZ     D001     *                          *   02 02155
004641 004644 R
004642 002000 A 2160        JMPM    XCHW     * EXCHANGE THE ELEMENTS.   *   02 02156
004643 003375 R
004644 037000 I 2161 D001   LDX     NLST     ZERO THE BUFFER                02 02157
004645 005002 A 2162        TZB              *                          *   02 02158
004646 006065 A 2163 D005   STBE    DMBF,1                                  02 02159
004647 000154 R
004650 005345 A 2164        DECR    045      *                          *   02 02160
004651 001002 A 2165        JAP     D005     *                          *   02 02161
004652 004646 R
004653 067000 I 2166        STB     DMPT                                    02 02162
004654 017000 I 2167        LDA     MIN1     SET THE MAXIMUM SHIFT FOR THE UNNPER ENTRY 02 02163
004655 057000 I 2168        STA     CNT2     *                          *   02 02164
004656 014104 A 2169        LDA     DMB3     SET TO UNITS POSITION          02 02165
004657 057000 I 2170        STA     DMPT+1   *                          *   02 02166
004660 002000 A 2171        JMPM    SETS     SET THE SIGN OF THE RESULT     02 02167
004661 003334 R
004662 002000 A 2172        JMPM    SCPW     * PREPARE TO COMPUTE           02 02168
004663 003437 R
004664 002000 A 2173 D010   JMPM    CMPN     COMPARE THE ENTRIES            02 02169
004665 003451 R
004666 017000 I 2174        LDA     CMPI                                    02 02170
004667 001004 A 2175        JAN     D015     *GO SHIFT LOWER BUFFER     *   02 02171
004670 004705 R
004671 037000 I 2176        LDX     W0       *SET SHIFT LOCATION        *   02 02172
004672 002000 A 2177        JMPM    SHTL     *SHIFT THE UPPER BUFFER    *   02 02173
004673 003414 R
004674 017000 I 2178        LDA     CNT2     *IF DIVISOR TOO SMALL      *   02 02174
004675 005311 A 2179        DAR              *                          *   02 02175
004676 001004 A 2180        JAN     M060     OVERFLOW IF NEGATIVE           02 02176
004677 005252 R
004700 057000 I 2181        STA     CNT2     *RESET SHIFT COUNT         *   02 02177
004701 002000 A 2182        JMPM    INDM     *INCREMENT THE DM POINTERS *   02 02178
004702 003702 R
004703 001000 A 2183        JMP     D010     *CONTINUE SHIFTING         *   02 02179
004704 004664 R
004705 017000 I 2184 D015   LDA     NLEN     SET THE LIMIT OF SHIFTS FOR THE LOWER ENTR 02 02180
004706 147000 I 2185        SUB     CNT2     *PROCESS                   *   02 02181
004707 057000 I 2186        STA     CNT2     *                          *   02 02182
004710 001000 A 2187        JMP     D055     GO SHIFT THE LOWER ENTRY       02 02183
004711 004744 R
004712 017000 I 2188 D030   LDA     NLE1     POSITION AT LOWER RIGT DIGIT   02 02184
004713 005112 A 2189        INCR    012                                     02 02185
004714 002000 A 2190        JMPM    INUM     SET UP FOR SUBTRACT            02 02186
004715 003123 R
004716 047000 I 2191        INR     CNT1     INCREMENT THE SUBRRACT COUNT   02 02187
004717 002000 A 2192        JMPM    SUBQ     SUBTRACT THE ENTRIES           02 02188
004720 003241 R
004721 002000 A 2193        JMPM    CMPN     COMPARE THE ENTRIES            02 02189
004722 003451 R
004723 017000 I 2194        LDA     CMPI                                    02 02190
004724 001002 A 2195        JAP     D030     IF STILL GREATER, SUBTRACT AGAIN 02 02191
004725 004712 R
004726 037000 I 2196        LDX     DMPT+1   * SET PTR TO ACC               02 02192
004727 017000 I 2197        LDA     CNT1     *THE SUBTRACT COUNT TO BE  *   02 02193
004730 057000 I 2198        STA     TMPA                                    02 02194
004731 027000 I 2199        LDB     DMPT     *THE LOCATION IN THE WORD  *   02 02195
004732 067000 I 2200        STB     WDTR     *                          *   02 02196
004733 002000 A 2201        JMPM    PDSD     *OUTPUT THE RESULT         *   02 02197
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004734 003647 R
004735 017000 I 2202 D050   LDA     CNT2        *THE DIVIDE COUNT              *  02 02198
004736 005311 A 2203        DAR                 *RESET                         *  02 02199
004737 001010 A 2204        JAZ     M050        *IF ZERO, DONE,PLACE RESULT*  02 02200
004740 005224 R
004741 057000 I 2205        STA     CNT2        *                              *  02 02201
004742 002000 A 2206        JMPM    DRDM        RESET THE ACC POINTERS            02 02202
004743 003666 R
004744 017000 I 2207 D055   LDA     W0            SET TO SHIFT LOWER BUFFER       02 02203
004745 127000 I 2208        ADD     NLST                                          02 02204
004746 005014 A 2209        TAX                 *PLACE BUFFER POINTER          *  02 02205
004747 002000 A 2210        JMPM    SFTL        *SHIFT LEFT                    *  02 02206
004750 003414 R
004751 002000 A 2211        JMPM    CMPN        COMPARE THE ENTRIES               02 02207
004752 003451 R
004753 017000 I 2212        LDA     CMPI                                          02 02208
004754 001004 A 2213        JAN     D050                                          02 02209
004755 004735 R
004756 005001 A 2214        TZA                                                   02 02210
004757 057000 I 2215        STA     CNT1                                          02 02211
004760 057000 I 2216        STA     CARY                                          02 02212
004761 001000 A 2217        JMP     D030        *OTERWISE GO SUBTRACT          *  02 02213
004762 004712 R
004763 000157 R 2218 DMB3   DATA    DMBF+3                                        02 02214
                2219 *                                                            02 02215
                2220 *                                                            02 02216
                2221 *                                                            02 02217
004764 002000 A 2222 MUL    JMPM    LDNS        *THE MULTIPLY ROUTINE,LOAD    *  02 02218
004765 004072 R
004766 037000 I 2223 MULS   LDX     NLST        CLEAR THE ACCUMULATOR             02 02219
004767 005002 A 2224        TZB                 *                              *  02 02220
004770 006065 A 2225 M001   STBE    DMBF,1                                        02 02221
004771 000154 R
004772 005345 A 2226        DECR    045         *                              *  02 02222
004773 001002 A 2227        JAP     M001        *                              *  02 02223
004774 004770 R
004775 067000 I 2228        STB     MPPT        *INITIALIZE THE BOTTOM BUFF*  02 02224
004776 067000 I 2229        STB     CARY        *INITIALIZE THE CARRY          *  02 02225
004777 017000 I 2230        LDA     W0          *SET BOTTOM WORD POINTER       *  02 02226
005000 005014 A 2231        TAX                 *                              *  02 02227
005001 127000 I 2232        ADD     013                                           02 02228
005002 057000 I 2233        STA     MPPT+1      *                              *  02 02229
005003 017000 I 2234        LDA     NLE1        SET BOTTOM COUNT TO 23            02 02230
005004 057000 I 2235        STA     LNGT        *                              *  02 02231
005005 002000 A 2236        JMPM    SETS        SET THE SIGN OF THE RESULT        02 02232
005006 003334 R
005007 017000 I 2237 M005   LDA*    MPPT+1      *PICK UP THE FIRST DIGIT       *  02 02233
005010 027000 I 2238        LDB     MPPT        * OF THE MULTIPLIER            *  02 02234
005011 067000 I 2239        STB     WQTR                                          02 02235
005012 002000 A 2240        JMPM    SFTR        *ADJUST IT                     *  02 02236
005013 003635 R
005014 001010 A 2241        JAZ     M031        *SKIP THE DIGIT IF ZERO        *  02 02237
005015 005155 R
005016 005014 A 2242        TAX                 *OTHERWISE SET UP TBL2 ENTR*  02 02238
005017 006015 A 2243        LDAE    TBL1-1,1                                      02 02239
005020 000742 R
005021 127000 I 2244        ADD     ATB2        *ADD TABLE DISPLACEMENT           02 02240
005022 057000 I 2245        STA     TMPC                                          02 02241
005023 017000 I 2246        LDA     LNGT        *SET THE POINTERS TO THE       *  02 02242
005024 144236 A 2247        SUB     022                                           02 02243
005025 001004 A 2248        JAN     M040        *                              *  02 02244
005026 005177 R
005027 057000 I 2249        STA     TEMP        *                              *  02 02245
005030 017000 I 2250        LDA     NLE1                                          02 02246
005031 147000 I 2251        SUB     TEMP        *                              *  02 02247
005032 057000 I 2252        STA     CNT1        *COUNT FOR MULTIPLICAND        *  02 02248
005033 005002 A 2253        TZB                 *                              *  02 02249
005034 004542 A 2254        LLSR    2           *                              *  02 02250
005035 127000 I 2255        ADD     W0                                            02 02251
005036 057000 I 2256        STA     MCPT+1      *WORD POINTER TO MULTIPLICA*  02 02252
005037 005001 A 2257        TZA                 *                              *  02 02253
005040 057000 I 2258        STA     DMPT        *INITIALIZE ACC. POINTER       *  02 02254
005041 004444 A 2259        LLRL    4           *THE QUARTER COUNT FOR MULC*  02 02255
005042 057000 I 2260        STA     TEMP        *                              *  02 02256
005043 017000 I 2261        LDA     014                                           02 02257
005044 147000 I 2262        SUB     TEMP        *                              *  02 02258
005045 057000 I 2263        STA     MCPT        *                              *  02 02259
005046 014211 A 2264        LDA     EDMF        STARTINGWORD FOR THE ACCUMULATOR  02 02260
005047 057000 I 2265        STA     DMPT+1      *                              *  02 02261
005050 017000 I 2266        LDA     032                                           02 02262
005051 057000 I 2267        STA     CNT2        *INDEX FOR ACCUMULATOR         *  02 02263
005052 017000 I 2268 M010   LDA*    MCPT+1      *PICK UP THE MULTIPLICAND      *  02 02264
005053 027000 I 2269        LDB     MCPT        * DIGIT.                       *  02 02265
005054 067000 I 2270        STB     WQTR                                          02 02266
005055 002000 A 2271        JMPM    SFTR        *ADJUST DIGIT                  *  02 02267
005056 003635 R
005057 127000 I 2272        ADD     TMPC                                          02 02268
005060 057000 I 2273        STA     TMPB        *BYTE LOCATION SET UP          *  02 02269
005061 034200 A 2274        LDX     ATMB                                          02 02270
005062 002000 A 2275        JMPM    GETB        *GET THE BYTE, HAS DIGIT       *  02 02271
005063 002730 R
005064 004544 A 2276        LLSR    4           * AND CARRY                    *  02 02272
005065 127000 I 2277        ADD     CARY        *ADD THE DIGIT TO THE CARRY*  02 02273
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005066 004154 A 2278          LSRB    12          *PLACE NEW CARRY                *                02 02274
005067 067000 I 2279          STB     CARY        *                               *                02 02275
005070 001010 A 2280          JAZ     M015        *IF THE RESULT IS ZERO JUMP*                     02 02276
005071 005122 R
005072 057000 I 2281          STA     TMPB        *SAVE                           *                02 02277
005073 017000 I 2282          LDA     CNT2        *TEST FOR OVERFLOX              *                02 02278
005074 001004 A 2283          JAN     M060        *GO TO OVERFLOW IF COUNT NE*                     02 02279
005075 005252 R
005076 017000 I 2284          LDA*    DMPT+1      *PICK UP ACC. DIGIT             *                02 02280
005077 027000 I 2285          LDB     DMPT        *                               *                02 02281
005100 067000 I 2286          STB     WQTR                                                         02 02282
005101 002000 A 2287          JMPM    SFTR        *ADJUST THE DIGIT               *                02 02283
005102 003635 R
005103 127000 I 2288          ADD     TMPB        *ADD THE MULTIPLY RESULT        *                02 02284
005104 147000 I 2289          SUB     D12         FIND THE CARRY OF THE ADD                        02 02285
005105 003002 A 2290          XAP     M025        *                               *                02 02286
005106 005151 R
005107 003004 A 2291          XAN     M026        *                               *                02 02287
005110 005152 R
005111 147000 I 2292          SUB     D12                                                          02 02288
005112 003002 A 2293          XAP     M025        *                               *                02 02289
005113 005151 R
005114 003004 A 2294          XAN     M026        *                               *                02 02290
005115 005152 R
005116 037000 I 2295          LDX     DMPT+1      *SET TO OUTPUT RESULT           *                02 02291
005117 057000 I 2296          STA     TMPA                                                         02 02292
005120 002000 A 2297          JMPM    POSO        *PUTPUT THE DIGIT               *                02 02293
005121 003647 R
005122 017000 I 2298 M015     LDA     CNT1                                                         02 02294
005123 005311 A 2299          DAR                 *                               *                02 02295
005124 001010 A 2300          JAZ     M030        *IF ZERO INDICATES BUFFER       *                02 02296
005125 005153 R
005126 057000 I 2301          STA     CNT1        * EXHAUSTED.  RESTORE           *                02 02297
005127 017000 I 2302          LDA     CNT2                                                         02 02298
005130 005311 A 2303          DAR                                                                  02 02299
005131 057000 I 2304          STA     CNT2                                                         02 02300
005132 017000 I 2305          LDA     MCPT        *INCREMENT THE POINTERS         *                02 02301
005133 127000 I 2306          ADD     NUMB                                                         02 02302
005134 157000 I 2307          ANA     D14                                                          02 02303
005135 001010 A 2308          JAZ     M020        *INDICATES NEW WORD             *                02 02304
005136 005144 R
005137 057000 I 2309 M017     STA     MCPT        *                               *                02 02305
005140 002000 A 2310          JMPM    INDM        *INCREMENT THE ACC. POINTER*                     02 02306
005141 003702 R
005142 001000 A 2311          JMP     M010        *CONTINUE PROCESS               *                02 02307
005143 005052 R
005144 027000 I 2312 M020     LDB     MCPT+1      *INCREMENT THE WORD POINTER*                     02 02308
005145 005322 A 2313          DBR                 *                               *                02 02309
005146 067000 I 2314          STB     MCPT+1      *                               *                02 02310
005147 001000 A 2315          JMP     M017        *RETURN TO PROCESSING           *                02 02311
005150 005137 R
005151 047000 I 2316 M025     INR     CARY        *INCREMENT THE DARRY            *                02 02312
005152 127000 I 2317 M026     ADD     D12         RESTORE THE VALUE                                02 02313
005153 002000 A 2318 M030     JMPM    ACRY        *FINISH PLACING THE CARRY       *                02 02314
005154 003274 R
005155 017000 I 2319 M031     LDA     LNGT        *TEST FOR END OF BOTTOM BUF*                     02 02315
005156 005311 A 2320          DAR                 *                               *                02 02316
005157 001010 A 2321          JAZ     M050        *IF SO , PLACE ANSWER           *                02 02317
005160 005224 R
005161 057000 I 2322          STA     LNGT        *                               *                02 02318
005162 017000 I 2323          LDA     MPPT        *INCREMENT THE BOTTOM POINT*                     02 02319
005163 127000 I 2324          ADD     NUMB                                                         02 02320
005164 157000 I 2325          ANA     D14                                                          02 02321
005165 001010 A 2326          JAZ     M035        *IF ZERO QUARTER INCR WORD      *                02 02322
005166 005172 R
005167 057000 I 2327 M032     STA     MPPT        *                               *                02 02323
005170 001000 A 2328          JMP     M005        *GO CONTINUE MULTIPLYING        *                02 02324
005171 005007 R
005172 027000 I 2329 M035     LDB     MPPT+1      *INCREMENT THE WORD POINTER*                     02 02325
005173 005322 A 2330          DBR                 *                               *                02 02326
005174 067000 I 2331          STB     MPPT+1      *                               *                02 02327
005175 001000 A 2332          JMP     M032        *CONTINUE PROCESSING            *                02 02328
005176 005167 R
005177 127000 I 2333 M040     ADD     D32                                                          02 02329
005200 057000 I 2334          STA     CNT2        *                               *                02 02330
005201 005111 A 2335          IAR                                                                  02 02331
005202 005002 A 2336          TZB                 *                               *                02 02332
005203 004542 A 2337          LLSR    2           *THE WORD DISPLACEMENT FROM*                     02 02333
005204 124054 A 2338          ADD     *DMF        TOP                                              02 02334
005205 057000 I 2339          STA     DMPT+1      *THE ACC. WORD POINTER          *                02 02335
005206 005001 A 2340          TZA                 *                               *                02 02336
005207 057000 I 2341          STA     MCPT        *POINTER FORUPPER BUFFER        *                02 02337
005210 004444 A 2342          LLRL    4           *THE QUARTER COUNT              *                02 02338
005211 057000 I 2343          STA     TEMP        *                               *                02 02339
005212 017000 I 2344          LDA     D14                                                          02 02340
005213 147000 I 2345          SUB     TEMP        *                               *                02 02341
005214 057000 I 2346          STA     DMPT        *THE QUARTER COUNT OF ACC.      *                02 02342
005215 017000 I 2347          LDA     NLS1                                                         02 02343
005216 057000 I 2348          STA     CNT1                                                         02 02344
005217 017000 I 2349          LDA     W0                                                           02 02345
005220 127000 I 2350          ADD     NLS1        BOTTOM OF UPPER BUFFER                           02 02346
005221 057000 I 2351          STA     MCPT+1      *WORD POINTER FOR TOP BUFF      *                02 02347
005222 001000 A 2352          JMP     M010        *CONTINUE PROCESSING            *                02 02348
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005223 005052 R
005224 017000 I 2353 M050   LDA     NLS1        SET TO ROUND OFF RESULT                    02 02349
005225 057000 I 2354        STA     CARY        *                          *               02 02350
005226 014031 A 2355        LDA     EDMF        SET POINTERS TO ACCUMULATOR POSITOIN       02 02351
005227 057000 I 2356        STA     DMPT+1      *                          *               02 02352
005230 017000 I 2357        LDA     Q10         SET TO 13TH DECIMAL POSITION               02 02353
005231 057000 I 2358        STA     DMPT        *                          *               02 02354
005232 017000 I 2359        LDA     NLEN        MAXIMUM NUMBER OF CARRIES                  02 02355
005233 057000 I 2360        STA     CNT2        *                          *               02 02356
005234 002000 A 2361        JMPM    ACRY                                                   02 02357
005235 003274 R
005236 017000 I 2362 M055   LDA     W0          *MOVE THE RESULT FROM THE  *               02 02358
005237 127000 I 2363        ADD     NLST        ACCUMULATOR TO THE WORKLIST                02 02359
005240 057000 I 2364        STA     W0          *RESET THE WORKLIST POINTER*               02 02360
005241 005012 A 2365        TAB                 *                          *               02 02361
005242 034016 A 2366        LDX     TDMF        POINTER TO THE ACCUMULATOR                 02 02362
005243 017000 I 2367        LDA     NLST        THE NUMBER OF WORDS TO BE                  02 02363
005244 002000 A 2368        JMPM    WMOV        * MOVED.                   *               02 02364
005245 003100 R
005246 002000 A 2369        JMPM    TWZE                                                   02 02365
005247 003357 R
005250 001000 A 2370        JMP     INT         *RETURN TO THE INTERPRETER *               02 02366
005251 002415 R
005252 017000 I 2371 M060   LDA     TRUE        SET THE OVERFLOW INDICATOR ON              02 02367
005253 027000 I 2372        LDB     IX1                                                    02 02368
005254 002000 A 2373        JMPM    SIN         *SET THE INDICATOR         *               02 02369
005255 003214 R
005256 001000 A 2374        JMP     M055        *RESET THE WORKLIST        *               02 02370
005257 005236 R
005260 000162 R 2375 EDMF   DATA    DMBF+6                                                 02 02371
005261 000154 R 2376 TDMF   DATA    DMBF                                                   02 02372
005262 000132 R 2377 ATMB   DATA    TMPB                                                   02 02373
005263 000022 A 2378 Q22    DATA    Q22                                                    02 02374
                2379 *                                                                     02 02375
                2380 * UNLOAD NUMERIC NEGATIVE                                             02 02376
                2381 *                                                                     02 02377
005264 017000 I 2382 UNLN   LDA*    W0          NEGATE NUMERIC                             02 02378
005265 137000 I 2383        ERA     NSGN          VALUE ON WORKLIST                        02 02379
005266 057000 I 2384        STA*    W0                                                     02 02380
                2385 *                                                                     02 02381
                2386 * UNLOAD NUMERIC                                                      02 02382
                2387 *                                                                     02 02383
005267 017000 I 2388 UNLD   LDA     FROM        GET 'FROM' INDEX                           02 02384
005270 057000 I 2389        STA     TO                                                     02 02385
005271 017000 I 2390        LDA     INTQ        SETUP 'TO' FIELD                           02 02386
005272 002000 A 2391        JMPM    STO                                                    02 02387
005273 002523 R
005274 002000 A 2392        JMPM    UNLS        NUMERIC STORE SUBROUTINE                   02 02388
005275 005313 R
005276 027000 I 2393        LDB     Q400        POSITION OF #P IN IND+1                    02 02389
005277 017000 I 2394        LDA     ZIND                                                   02 02390
005300 003010 A 2395        XAZ     SBR1        ZERO IS ZERO                               02 02391
005301 000422 R
005302 017000 I 2396        LDA     NIND                                                   02 02392
005303 003004 A 2397        XAN     SBR2        NEGATIVE IS NEGATIVE                       02 02393
005304 000423 R
005305 017000 I 2398        LDA     IND+1                                                  02 02394
005306 157000 I 2399        ANA     MSI1        CLEAR #P,#Z,#M                             02 02395
005307 005031 A 2400        DATA    05031       MERGE B TO A                               02 02396
005310 057000 I 2401        STA     IND+1                                                  02 02397
005311 001000 A 2402        JMP     INT                                                    02 02398
005312 002415 R
                2403 *                                                                     02 02399
                2404 * STORE NUMERIC VALUE                                                 02 02400
                2405 *                                                                     02 02401
005313 000000 A 2406 UNLS   ENTRY                                                          02 02402
005314 017000 I 2407        LDA*    W0          SET NEGATIVE INDICATION                    02 02403
005315 004243 A 2408        LRLA    3                                                      02 02404
005316 157000 I 2409        ANA     SIGN                                                   02 02405
005317 057000 I 2410        STA     NIND                                                   02 02406
005320 017000 I 2411        LDA     LCBT+3      MOVE CONTROL WORD                          02 02407
005321 001004 A 2412        JAN     UNIF          IMPLIED FIELD                            02 02408
005322 005400 R
005323 037000 I 2413        LDX     LCBT+2      DATA LIST POINTER                          02 02409
005324 015002 A 2414        LDA     2,1                                                    02 02410
005325 004350 A 2415        LSRA    8                                                      02 02411
005326 057000 I 2416        STA     DPOS        NUMBER OF DECIMAL POSITIONS                02 02412
005327 015002 A 2417        LDA     2,1                                                    02 02413
005330 057000 I 2418        STA     UNEC        EDIT CONTROL WORD                          02 02414
005331 157000 I 2419        ANA     Q40           HALF-ADJUST                              02 02415
005332 001010 A 2420        JAZ     UNEL            NO                                     02 02416
005333 005357 R
005334 002000 A 2421        JMPM    ZWRK            YES, PUT ZEROES ON WORKLIST            02 02417
005335 003160 R
005336 015006 A 2422        LDA     6,1                                                    02 02418
005337 157000 I 2423        ANA     NSGN        DUPLICATE SIGN                             02 02419
005340 055000 A 2424        STA     0,1                                                    02 02420
005341 017000 I 2425        LDA     DPOS                                                   02 02421
005342 147000 I 2426        SUB     NDEC                                                   02 02422
005343 001002 A 2427        JAP     UNMD                                                   02 02423
005344 005355 R
005345 127000 I 2428        ADD     RLEN                                                   02 02424
005346 002000 A 2429        JMPM    INDM                                                   02 02425
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005347 003123 R
005350 017000 I 2430          LDA     NLS1                                    02 02426
005351 057000 I 2431          STA     TMPA                                    02 02427
005352 037000 I 2432          LDX     TMPX                                    02 02428
005353 002000 A 2433          JMPM    POSO                                    02 02429
005354 003647 R
       005355 R 2434 UNMD     EQU     *                                       02 02430
005355 002000 A 2435          JMPM    ADIT    ADD .5                          02 02431
005356 004514 R
005357 017000 I 2436 UNEL     LDA     NDEC    EDIT LIST TO TRAILING ZEROES    02 02432
005360 147000 I 2437          SUB     DPOS                                    02 02433
005361 001010 A 2438          JAZ     UNIF    ALL PLACES PERTINENT            02 02434
005362 005400 R
005363 003002 A 2439          TZB                                             02 02435
005364 067000 I 2440          STB     TMPA                                    02 02436
005365 005012 A 2441          TAB                                             02 02437
005366 017000 I 2442          LDA     NLE1                                    02 02438
005367 002000 A 2443          JMPM    INUM    INITIALIZE FOR STORE AND INCR   02 02439
005370 003123 R
005371 037000 I 2444 UNE1     LDX     TMPX                                    02 02440
005372 002000 A 2445          JMPM    POSO    PUT ZERO TO LIST                02 02441
005373 003647 R
005374 002000 A 2446          JMPM    INCR    INCREMENT FOR NEXT              02 02442
005375 003136 R
005376 001002 A 2447          JAP     UNE1    NEG IS FINISHED                 02 02443
005377 005371 R
005400 002000 A 2448 UNIF     JMPM    TWZE    TEST FOR ZERO ON STACK          02 02444
005401 003357 R
005402 057000 I 2449          STA     ZIND    SET ZERO INDICATOR              02 02445
005403 017000 I 2450          LDA     LCBT+3  TEST FIELD CONTROL              02 02446
005404 001002 A 2451          JAP     UNNF      NOT IMPLIED                   02 02447
005405 005422 R
005406 015000 A 2452          LDA     0,1     SET IMPLIED NUMERIC BITS        02 02448
005407 114306 A 2453          ORA     NNCB                                    02 02449
005410 055000 A 2454          STA     0,1                                     02 02450
005411 027000 I 2455          LDB     LCBT+2    IMPLIED                       02 02451
005412 017000 I 2456          LDA     NLST                                    02 02452
005413 002000 A 2457          JMPM    WMOV    STORE IMPLIED FIELD             02 02453
005414 003100 R
005415 017000 I 2458 UNEX     LDA     W0      RESET WORKLIST                  02 02454
005416 127000 I 2459          ADD     NLST                                    02 02455
005417 057000 I 2460          STA     W0                                      02 02456
005420 001000 A 2461          JMP*    UNLS    RETURN                          02 02457
005421 105313 R
005422 017000 I 2462 UNNF     LDA*    LCBT+2                                  02 02458
005423 157000 I 2463          ANA     MSKB    TEST IF COMPARE REQUIRED        02 02459
005424 001010 A 2464          JAZ     UNNC      NO                            02 02460
005425 005446 R
005426 017000 I 2465          LDA     PSTI    TEST POST CONTROL               02 02461
005427 001010 A 2466          JAZ     UNNC      SECOND PASS, SUPPRESS DIRECTIVES 02 02462
005430 005446 R
005431 002000 A 2467          JMPM    LDNS    LOAD PREVIOUS FIELD CONTENTS    02 02463
005432 004072 R
005433 002000 A 2468          JMPM    NCPR    NUMERIC COMPARE                 02 02464
005434 003512 R
005435 017000 I 2469          LDA     07      PROCESS SEQUENCE AND CONTROL    02 02465
005436 002000 A 2470          JMPM    PFD                                     02 02466
005437 006445 R
005440 017000 I 2471          LDA     INTO    RESET LCBT                      02 02467
005441 002000 A 2472          JMPM    STO                                     02 02468
005442 002523 R
005443 017000 I 2473          LDA     W0      RESET WORKLIST                  02 02469
005444 127000 I 2474          ADD     NLST                                    02 02470
005445 057000 I 2475          STA     W0                                      02 02471
005446 017000 I 2476 UNNC     LDA     PSTI    TEST POST CONTROL               02 02472
005447 001004 A 2477          JAN     UNEX      FIRST PASS, NO STORE          02 02473
005450 005415 R
005451 003001 A 2478          TZA                                             02 02474
005452 147000 I 2479          SUB     DPOS                                    02 02475
005453 057000 I 2480          STA     DCNT    SET DECIMAL COUNTER             02 02476
005454 017000 I 2481          LDA     LCBT    POINT TO END OF FIELD           02 02477
005455 127000 I 2482          ADD     LCBT+1                                  02 02478
005456 057000 I 2483          STA     LCBT                                    02 02479
005457 057000 I 2484          STA     UNSG    INITIALIZE NONZERO LOC          02 02480
005460 047000 I 2485          INR     UNSG                                    02 02481
005461 017000 I 2486          LDA     NINT                                    02 02482
005462 057000 I 2487          STA     UNNO    RESET OVERPUNCH INDICATOR       02 02483
005463 127000 I 2488          ADD     DPOS                                    02 02484
005464 005012 A 2489          TAB                                             02 02485
005465 002000 A 2490          JMPM    INUM                                    02 02486
005466 003127 R
005467 017000 I 2491          LDA     UNEC    EDIT CONTROL                    02 02487
005470 157000 I 2492          ANA     0200      CR TEST                       02 02488
005471 001014 A 2493          JAZ     UNNS        NO                          02 02489
005472 005503 R
005473 017000 I 2494          LDA     MIND          YES, TEST NEGATIVE        02 02490
005474 001014 A 2495          JAZ     UNBL            NO                      02 02491
005475 005527 R
005476 017000 I 2496          LDA     R               YES, INSERT CR          02 02492
005477 002000 A 2497          JMPM    FBAD                                    02 02493
005500 002547 R
005501 017000 I 2498          LDA     C                                       02 02494
005502 002000 A 2499          JMPM    FBAD                                    02 02495
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005503 002747 R
005504 001000 A 2500          JMP     UNST                                                    02 02496
005505 005554 R
005506 017000 I 2501 UNMS     LDA     UNEC    EDIT CONTROL                                    02 02497
005507 157000 I 2502          ANA     0100      MINUS SIGN                                    02 02498
005510 001010 A 2503          JAZ     UNDP        NO                                          02 02499
005511 005532 R
005512 017000 I 2504          LDA     NIND        YES, TEST NEGATIVE                          02 02500
005513 001010 A 2505          JAZ     UNB1          NO                                        02 02501
005514 005525 R
005515 017000 I 2506          LDA     M             YES, INSERT -                             02 02502
005516 002000 A 2507          JMPM    PBAD                                                    02 02503
005517 002747 R
005520 001000 A 2508          JMP     UNST                                                    02 02504
005521 005554 R
005522 017000 I 2509 UNBL     LDA     B       INSERT BLANKS                                   02 02505
005523 002000 A 2510          JMPM    PBAD                                                    02 02506
005524 002747 R
005525 017000 I 2511 UNB1     LDA     B                                                       02 02507
005526 002000 A 2512          JMPM    PBAD                                                    02 02508
005527 002747 R
005530 001000 A 2513          JMP     UNST                                                    02 02509
005531 005554 R
005532 017000 I 2514 UNDP     LDA     NIND    TEST IF OVERPUNCH NEEDED                        02 02510
005533 001010 A 2515          JAZ     UNST      NO                                            02 02511
005534 005554 R
005535 027000 I 2516          LDB     LCBT    NON-ZERO DIGIT                                  02 02512
005536 067000 I 2517          STB     UNSG                                                    02 02513
005537 017000 I 2518          LDA     BIT0      YES, SUPPRESS '.' AND ','                     02 02514
005540 057000 I 2519          STA     DCNT                                                    02 02515
005541 057000 I 2520          STA     UNND    SET OVERPUNCH INDICATOR                         02 02516
005542 002000 A 2521          JMPM    GNAI    GET DIGIT                                       02 02517
005543 003176 R
005544 114152 A 2522          ORA     ASC0                                                    02 02518
005545 002000 A 2523          JMPM    ASHO                                                    02 02519
005546 010660 R
005547 117000 I 2524          ORA     H011    11 PUNCH                                        02 02520
005550 002000 A 2525          JMPM    HOAS                                                    02 02521
005551 010534 R
005552 001000 A 2526          JMP     UNPB                                                    02 02522
005553 005605 R
005554 027000 I 2527 UNST     LDB     DCNT    TEST DECIMAL PLACE                              02 02523
005555 001020 A 2528          JBZ     UNDE                                                    02 02524
005556 005631 R
005557 017000 I 2529          LDA     UNEC    TEST IF COMMA                                   02 02525
005560 157000 I 2530          ANA     010                                                     02 02526
005561 001010 A 2531          JAZ     UNNM      NO                                            02 02527
005562 005572 R
005563 017000 I 2532          LDA     DCNT    TEST DECIMAL                                    02 02528
005564 001004 A 2533          JAN     UNNM      FRACTION                                      02 02529
005565 005572 R
005566 017000 I 2534          LDA     CCNT    COMMA COUNT                                     02 02530
005567 001010 A 2535          JAZ     UNCO      NOW                                           02 02531
005570 005651 R
005571 047000 I 2536          INR     CCNT                                                    02 02532
005572 047000 I 2537 UNNM     INR     DCNT    TIME FOR NEXT DIGIT                             02 02533
005573 002000 A 2538          JMPM    GNAI                                                    02 02534
005574 003176 R
005575 001002 A 2539          JAP     UN1                                                     02 02535
005576 005600 R
005577 005001 A 2540          TZA                                                             02 02536
005600 001010 A 2541 UN1      JAZ     UN2                                                     02 02537
005601 005604 R
005602 027000 I 2542          LDB     LCBT    NON-ZERO DIGIT                                  02 02538
005603 067000 I 2543          STB     UNSG                                                    02 02539
005604 114112 A 2544 UN2      ORA     ASC0                                                    02 02540
005605 002000 A 2545 UNPB     JMPM    PBAD    STORE DIGIT IN FIELD                            02 02541
005606 002747 R
005607 017000 I 2546          LDA     LCBT+1  TEST IF END OF FIELD                            02 02542
005610 001002 A 2547          JAP     UNST      NO                                            02 02543
005611 005554 R
005612 017000 I 2548 UNP1     LDA     UNND    NO FORWARD SCAN IF OVERPUNCH                    02 02544
005613 001004 A 2549          JAN     UNEX                                                    02 02545
005614 005415 R
005615 002000 A 2550          JMPM    GNAI                                                    02 02546
005616 003176 R
005617 001004 A 2551          JAN     UNFS    END OF WORKLIST NUMBER                          02 02547
005620 005634 R
005621 001010 A 2552          JAZ     UNP1                                                    02 02548
005622 005612 R
005623 017000 I 2553          LDA     TRUE    OVERFLOW, FIELD TOO SMALL                       02 02549
005624 027000 I 2554          LDB     IX1                                                     02 02550
005625 002000 A 2555          JMPM    $IN                                                     02 02551
005626 003214 R
005627 001000 A 2556          JMP     UNEX    EXIT                                            02 02552
005630 005415 R
005631 017000 I 2557 UNDE     LDA     UNEC    DECIMAL TIME                                    02 02553
005632 157000 I 2558          ANA     020                                                     02 02554
005633 001010 A 2559          JAZ     UNND    NO DECIMAL REQUESTED                            02 02555
005634 005645 R
005635 027000 I 2560          LDB     LCBT                                                    02 02556
005636 067000 I 2561          STB     UNSG                                                    02 02557
005637 014060 A 2562          LDA     DECI                                                    02 02558
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005640 002000 A 2563 UNPC   JMPM   PBAD     STORE DECIMAL                                  02 02559
005641 002747 R
005642 017000 I 2564        LDA    LCBT+1                                                 02 02560
005643 001004 A 2565        JAN    UNP1     END OF FIELD                                  02 02561
005644 005612 R
005645 017000 I 2566 UNND   LDA    DM2                                                    02 02562
005646 057000 I 2567        STA    CCNT                                                   02 02563
005647 001000 A 2568        JMP    UNNM                                                   02 02564
005650 005572 R
005651 014047 A 2569 UNCO   LDA    CMMA     COMMA NEEDED                                  02 02565
005652 001000 A 2570        JMP    UNPC                                                   02 02566
005653 005640 R
005654 017000 I 2571 UNFS   LDA    UNEC     EDIT CONTROL                                  02 02567
005655 157000 I 2572        ANA    D7         ZERO SUPPRESS, $, OR *                      02 02568
005656 001010 A 2573        JAZ    UNEX         NO, EXIT                                  02 02569
005657 005415 R
005660 017000 I 2574        LDA    UNSG     INITIALIZE FOR BACKWARD SCAN                  02 02570
005661 147000 I 2575        SUB    LCBT                                                   02 02571
005662 147000 I 2576        SUB    D2       COUNT TILL NON-ZERO DIGIT                     02 02572
005663 001004 A 2577        JAN    UNEX       NONE                                        02 02573
005664 005415 R
005665 057000 I 2578        STA    LCBT+1                                                 02 02574
005666 047000 I 2579        INR    LCBT     POINT TO FIRST FIELD POSITION                 02 02575
005667 001010 A 2580 UNF1   JAZ    UNF2     LAST POSITION                                 02 02576
005670 005707 R
005671 027000 I 2581 UNF4   LDB    B                                                      02 02577
005672 005101 A 2582        INCR   0101                                                   02 02578
005673 157000 I 2583        ANA    UNEC     TEST IF ASTERISK                              02 02579
005674 001010 A 2584        JAZ    UNF3       NO                                          02 02580
005675 005677 R
005676 024024 A 2585        LDB    ASTR       YES, GET *                                  02 02581
005677 005021 A 2586 UNF3   TBA                                                           02 02582
005700 002000 A 2587 UNF5   JMPM   PBAI     PUT AWAY BLANK, ASTERICK, OR DOLLAR           02 02583
005701 002740 R
005702 017000 I 2588        LDA    LCBT+1                                                 02 02584
005703 001002 A 2589        JAP    UNF1                                                   02 02585
005704 005667 R
005705 001000 A 2590        JMP    UNEX     END OF FIELD                                  02 02586
005706 005415 R
005707 017000 I 2591 UNF2   LDA    UNEC     IS $ REQUESTED                                02 02587
005710 157000 I 2592        ANA    D2                                                     02 02588
005711 001010 A 2593        JAZ    UNF4       NO                                          02 02589
005712 005671 R
005713 014006 A 2594        LDA    DOLL       YES, OUTPUT IT                              02 02590
005714 001000 A 2595        JMP    UNF5                                                   02 02591
005715 005700 R
005716 060000 A 2596 NNCB   DATA   060000   NORMALIZED NUMERIC CONTROL BITS               02 02592
005717 000260 A 2597 ASCO   DATA   0260     @0@                                           02 02593
005720 000256 A 2598 DECI   DATA   0256     @.@                                           02 02594
005721 000254 A 2599 CMMA   DATA   0254     @,@                                           02 02595
005722 000244 A 2600 DOLL   DATA   0244     @$@                                           02 02596
005723 000252 A 2601 ASTR   DATA   0252     @*@                                           02 02597
                    2602 *                                                              02 02598
                    2603 * STOP                                                         02 02599
                    2604 *                                                              02 02600
                    2605 STOP   SUSPND 0                                                02 02601
005724 006505 A
005725 000406 A
005726 000300 A
005727 001000 A 2606        JMP    INT      BACK TO INTERPRETER                           02 02602
005730 002415 R
                    2607 *                                                              02 02603
                    2608 * PERFORM IMMEDIATE                                           02 02604
                    2609 *                                                              02 02605
005731 005301 A 2610 PERI   DECR   0301     SET RETURN IMMED SWITCH                       02 02606
005732 057000 I 2611        STA    RETI                                                   02 02607
005733 001000 A 2612        JMP    INT                                                    02 02608
005734 002415 R
                    2613 *                                                              02 02609
                    2614 * RETURN                                                       02 02610
                    2615 *                                                              02 02611
005735 047000 I 2616 RET    INR    PSTI     STEP POST CONTROL                             02 02612
005736 017000 I 2617        LDA    PSTI     END OF 1ST PASS                               02 02613
005737 002010 A 2618        JAZM   CBRK     SET CTL BREAKS                                02 02614
005740 006543 R
005741 017000 I 2619        LDA    PSTI                                                   02 02615
005742 001010 A 2620        JAZ    RET2     STARTING 2ND PASS                             02 02616
005743 005750 R
005744 047000 I 2621        INR    RETI                                                   02 02617
005745 017000 I 2622        LDA    RETI     TEST RETURN IMMEDIATE                         02 02618
005746 001010 A 2623        JAZ    INT        YES                                         02 02619
005747 002415 R
005750 017000 I 2624 RET2   LDA*   W0       RETURN ADDRESS FROM WORKLIST                  02 02620
005751 047000 I 2625        INR    W0                                                     02 02621
005752 001000 A 2626        JMP    BRU3                                                   02 02622
005753 006020 R
                    2627 *                                                              02 02623
                    2628 * POST                                                         02 02624
                    2629 *                                                              02 02625
005754 027000 I 2630 POST   LDB    INTP     SAVE NEXT BYTE LOCATION                       02 02626
005755 002000 A 2631        JMPM   PUTL                                                   02 02627
005756 002677 R
005757 005301 A 2632        DECR   0301     INDICATE POST (1ST PASS)                      02 02628
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005760 057000 I 2633          STA     PSTI                                                    02 02629
005761 001000 A 2634          JMP     INT                                                     02 02630
005762 002415 R
                2635 *                                                                        02 02631
                2636 * SKIP 4 IF FALSE                                                        02 02632
                2637 *                                                                        02 02633
005763 002000 A 2638 SK4F     JMPM    LDIS    GET INDICATOR VALUE                             02 02634
005764 004417 R
005765 017000 I 2639          LDA*    W0      NOW ON THE LIST                                 02 02635
005766 047000 I 2640          INR     W0      TEST IF TRUE                                    02 02636
005767 001004 A 2641          JAN     INT       TRUE, NO SKIP                                 02 02637
005770 002415 R
005771 017000 I 2642          LDA     06        FALSE, SKIP                                   02 02638
005772 001000 A 2643          JMP     BRU4                                                    02 02639
005773 006017 R
                2644 *                                                                        02 02640
                2645 * BRANCH FALSE                                                          02 02641
                2646 *                                                                        02 02642
005774 017000 I 2647 BRF      LDA     TRUE                                                    02 02643
005775 001000 A 2648          JMP     BRT1                                                    02 02644
005776 006000 R
                2649 *                                                                        02 02645
                2650 * BRANCH TRUE                                                           02 02646
                2651 *                                                                        02 02647
005777 005001 A 2652 BRT      TZA                                                             02 02648
006000 137000 I 2653 BRT1     ERA*    W0      GET LOGICAL VALUE                               02 02649
006001 047000 I 2654          INR     W0        FROM WORKLIST                                 02 02650
006002 001002 A 2655          JAP     INT     NO BRANCH                                       02 02651
006003 002415 R
006004 005001 A 2656          TZA             RESET PREVIOUS STATEMENT INDICATOR              02 02652
006005 027000 I 2657          LDB     IPRE                                                    02 02653
006006 002000 A 2658          JMPM    SIN                                                     02 02654
006007 003214 R
                2659 *                                                                        02 02655
                2660 * BRANCH UNCONDITIONAL                                                   02 02656
                2661 *                                                                        02 02657
006010 017000 I 2662 BRU      LDA     INTC    TEST IF INDIRECT                                02 02658
006011 004257 A 2663          LRLA    15                                                      02 02659
006012 001002 A 2664          JAP     BRU2      YES                                           02 02660
006013 006023 R
006014 017000 I 2665          LDA     INTO      NO, RELATIVE                                  02 02661
006015 004246 A 2666          LRLA    6       EXTEND SIGN                                     02 02662
006016 004306 A 2667          ASRA    6                                                       02 02663
006017 127000 I 2668 BRU4     ADD     INTH    ADVANCE COUNTER RELATIVE TO SELF                02 02664
006020 057000 I 2669 BRU3     STA     INTP                                                    02 02665
006021 001000 A 2670          JMP     INT                                                     02 02666
006022 002415 R
006023 017000 I 2671 BRU2     LDA     INTO    ADDRESS TABLE DISPLACEMENT                      02 02667
006024 001010 A 2672          JAZ     EXIT    ZERO NOT ALLOWED                                02 02668
006025 002024 R
006026 127000 I 2673          ABD     BIAA    ADDRESS TABLE BIAS                              02 02669
006027 005014 A 2674          TAX                                                             02 02670
006030 015000 A 2675          LDA     0,1     GET ADDRESS                                     02 02671
006031 001000 A 2676          JMP     BRU3                                                    02 02672
006032 006020 R
                2677 *                                                                        02 02673
                2678 * PERFORM                                                               02 02674
                2679 *                                                                        02 02675
006033 005001 A 2680          TZA                                                           E.2*********
006034 057000 I 2681          STA     RETI                                                  E.2*********
006035 057000 I 2682          STA     PSTI                                                  E.2*********
006036 027000 I 2683 PER      LDB     INTP    GET NEXT GENIC ADDRESS                          02 02676
006037 002000 A 2684          JMPM    PUTL    PUT TO WORKLIST                                 02 02677
006040 002677 R
006041 001000 A 2685          JMP     BRU     BRANCH                                          02 02678
006042 006010 R
       006010 R 2686 BRUR     EQU     BRU                                                     02 02679
       005777 R 2687 BRTR     EQU     BRT                                                     02 02680
       005774 R 2688 BRFR     EQU     BRF                                                     02 02681
       006036 R 2689 PERR     EQU     PER                                                     02 02682
                2690 *                                                                        02 02683
                2691 * CALL 'NAME'                                                            02 02684
                2692 *                                                                        02 02685
006043 127000 I 2693 CALL     ADD     BIAC    GET LOCATION IN CALL TABLE                      02 02686
006044 005014 A 2694          TAX                                                             02 02687
006045 015000 A 2695          LDA     0,1     SUBROUTINE ENTRY POINT                          02 02688
006046 054001 A 2696          STA     *+2                                                     02 02689
006047 001000 A 2697          JMP     **                                                      02 02690
006050 106047 R
                2698 *                                                                        02 02691
                2699 * LOAD INDEX FROM                                                       02 02692
                2700 *                                                                        02 02693
006051 002000 A 2701 UNFR     JMPM    STO     SET TO FIELD                                    02 02694
006052 002523 R
006053 002000 A 2702          JMPM    LDNS    LOAD NUMERIC                                    02 02695
006054 004072 R
                2703 *                                                                        02 02696
                2704 * STORE INDEX FROM                                                      02 02697
                2705 *                                                                        02 02698
006055 002000 A 2706 XLFR     JMPM    UNLI    GET INTEGER FROM WORKLIST                       02 02699
006056 002706 R
006057 002000 A 2707          JMPM    DEBI    CONVERT TO BINARY                               02 02700
006060 003057 R
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006061 057000 I 2708          STA     FROM    STORE IN 'FROM' INDEX                    02 02701
006062 001000 A 2709          JMP     INT                                              02 02702
006063 002415 R
                2710 *                                                                 02 02703
                2711 * LOAD INDEX TO                                                   02 02704
                2712 *                                                                 02 02705
006064 002000 A 2713 UNTO     JMPM    STO     SET TO FIELD                             02 02706
006065 002523 R
006066 002000 A 2714          JMPM    LDNS    LOAD NUMERIC                             02 02707
006067 004072 R
                2715 *                                                                 02 02708
                2716 * STORE INDEX TO                                                  02 02709
                2717 *                                                                 02 02710
006070 002000 A 2718 XLTO     JMPM    UNLI    GET INTEGER FROM WORKLIST                02 02711
006071 002706 R
006072 002000 A 2719          JMPM    DEBI    CONVERT TO BINARY                        02 02712
006073 003057 R
006074 057000 I 2720          STA     TO      STORE IN 'TO' INDEX                      02 02713
006075 001000 A 2721          JMP     INT                                              02 02714
006076 002415 R
                2722 *                                                                 02 02715
                2723 * STORE INDEX                                                     02 02716
                2724 *                                                                 02 02717
006077 002000 A 2725 SAVX     JMPM    STO     SETUP TO LCB                             02 02718
006100 002523 R
006101 017000 I 2726          LDA     SVTO    GET SAVED 'TO' INDEX                     02 02719
006102 002000 A 2727          JMPM    LDXL    LOAD TO LIST                             02 02720
006103 006110 R
006104 002000 A 2728          JMPM    UNLS    UNLOAD NUMERIC                           02 02721
006105 005313 R
006106 001000 A 2729          JMP     INT                                              02 02722
006107 002415 R
                2730 *                                                                 02 02723
                2731 * LOAD INDEX TO LIST                                             02 02724
                2732 *        ENTRY   A-REG = BINARY INTEGER                           02 02725
                2733 *        EXIT    WORKLIST LOADED WITH NUMERIC EQUIVALENT          02 02726
                2734 *                                                                 02 02727
006110 000000 A 2735 LDXL     ENTRY                                                    02 02728
006111 002000 A 2736          JMPM    BIDE    CONVERT TO DECIMAL                       02 02729
006112 003036 R
006113 002000 A 2737          JMPM    ZWRK                                             02 02730
006114 003160 R
006115 004444 A 2738          LLRL    4                                                02 02731
006116 055002 A 2739          STA     2,1                                              02 02732
006117 065003 A 2740          STB     3,1                                              02 02733
006120 001000 A 2741          JMP*    LDXL                                             02 02734
006121 106110 R
                2742 *                                                                 02 02735
                2743 * LOAD IMPLIED INDEX                                              02 02736
                2744 *                                                                 02 02737
006122 002000 A 2745 SIMX     JMPM    GTAB    GET TABLE POINTER                        02 02738
006123 007023 R
006124 015005 A 2746          LDA     5,1     HIGH CURRENT INDEX                       02 02739
006125 025006 A 2747          LDB     6,1     KEY FIELD NUMBER                         02 02740
006126 001020 A 2748          JRZ     SIM1      LIFO, USE HIGH INDEX                   02 02741
006127 006131 R
006130 015002 A 2749          LDA     2,1       SEQUENCED, GET IMPLIED INDEX         02 02742
006131 002000 A 2750 SIM1     JMPM    LDXL    LOAD TO LIST                             02 02743
006132 006110 R
006133 001000 A 2751          JMP     INT                                              02 02744
006134 002415 R
                2752 *                                                                 02 02745
                2753 * MOVE TO                                                        02 02746
                2754 *                                                                 02 02747
006135 002000 A 2755 MVTO     JMPM    STO     SET 'TO' LCB                             02 02748
006136 002523 R
006137 002000 A 2756          JMPM    SFRM    SET FROM LCB                             02 02749
006140 002502 R
006141 002000 A 2757          JMPM    MVMT    GET MODE OF MOVE                         02 02750
006142 006257 R
006143 002000 A 2758          JMPM    MV      ALPHA MOVE                               02 02751
006144 006162 R
006145 017000 I 2759          LDA     PSTI      END OF FIELD, TEST POST CONTROL        02 02752
006146 001010 A 2760          JAZ     INTS        SECOND PASS                          02 02753
006147 002414 R
006150 017000 I 2761          LDA     D17     SET FIELD DIRECTIVE MASK                 02 02754
006151 002000 A 2762          JMPM    FFD     PROCESS FIELD DIRECTIVES                 02 02755
006152 006445 R
006153 017000 I 2763          LDA     PSTI    TEST POST CONTROL                        02 02756
006154 001004 A 2764          JAN     INTS      FIRST PASS                             02 02757
006155 002414 R
006156 002000 A 2765          JMPM    CBRK    SET CONTROL BREAKS                       02 02758
006157 006543 R
006160 001000 A 2766          JMP     INTS                                             02 02759
006161 002414 R
                2767 *                                                                 02 02760
                2768 * ALPHA MOVE                                                     02 02761
                2769 *                                                                 02 02762
006162 000000 A 2770 MV       ENTRY                                                    02 02763
006163 005001 A 2771          TZA     INITIALIZE MOVE INDICATORS                       02 02764
006164 057000 I 2772          STA     CMPI                                             02 02765
006165 057000 I 2773          STA     AUDI                                             02 02766
006166 014067 A 2774          LDA     D67     FIRST TIME AUDIT                         02 02767
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006167 057000 I 2775          STA     AUDP                                    02 02768
006170 017000 I 2776 MV1      LDA     LCBF+1   TEST 'FROM' FIELD              02 02769
006171 001002 A 2777          JAP     MV2        CHARACTERS REMAIN            02 02770
006172 006176 R
006173 017000 I 2778          LDA     B        FIELD EMPTY, GET BLANK         02 02771
006174 001000 A 2779          JMP     MV3                                     02 02772
006175 006201 R
006176 037000 I 2780 MV2      LDX     FRMA     GET NEXT 'FROM' BYTE           02 02773
006177 002000 A 2781          JMPM    GBAI                                    02 02774
006200 002721 R
006201 057000 I 2782 MV3      STA     BYTF     SET 'FROM' BYTE                02 02775
006202 037000 I 2783          LDX     TOA                                     02 02776
006203 002000 A 2784          JMPM    GETB                                    02 02777
006204 002730 R
006205 057000 I 2785          STA     BYTT     SET TO BYTE                    02 02778
006206 017000 I 2786          LDA     INTC     EDIT CHAR IF MOVE ZONE         02 02779
006207 147000 I 2787          SUB     MOVZ     TEST IF MOVE ZONE              02 02780
006210 001010 A 2788          JAZ     MZT1       YES                          02 02781
006211 006214 R
006212 001000 A 2789          JMP     MZT2       NO, EXIT                     02 02782
006213 006231 R
006214 017000 I 2790 MZT1     LDA     BYTF                                    02 02783
006215 002000 A 2791          JMPM    ASHO                                    02 02784
006216 010660 R
006217 157000 I 2792          ANA     MSKZ     GET NEW ZONE                   02 02785
006220 057000 I 2793          STA     TEMP                                    02 02786
006221 017000 I 2794          LDA     BYTT                                    02 02787
006222 002000 A 2795          JMPM    ASHO                                    02 02788
006223 010660 R
006224 157000 I 2796          ANA     MSKD     SAVE OLD DIGIT                 02 02789
006225 117000 I 2797          ORA     TEMP                                    02 02790
006226 002000 A 2798          JMPM    HOAS                                    02 02791
006227 010534 R
006230 057000 I 2799          STA     BYTF     STORE AS SOURCE BYTE           02 02792
       006231 R 2800 MZT2     EQU     *                                       02 02793
006231 017000 I 2801          LDA     PSTI     TEST POST CONTROL              02 02794
006232 001010 A 2802          JAZ     MV4        SECOND PASS                  02 02795
006233 006244 R
006234 002000 A 2803          JMPM    CMP      COMPARE OLD VS NEW             02 02796
006235 006352 R
006236 002000 A 2804          JMPM    AUD                                     02 02797
006237 006373 R
006240 037000 I 2805          LDX     TOA                                     02 02798
006241 017000 I 2806          LDA     PSTI     TEST POST CONTROL              02 02799
006242 001004 A 2807          JAN     MV5        FIRST PASS, NO STORE         02 02800
006243 006247 R
006244 017000 I 2808 MV4      LDA     BYTF     STORE NEW BYTE                 02 02801
006245 002000 A 2809          JMPM    PUTB                                    02 02802
006246 002762 R
006247 002000 A 2810 MV5      JMPM    ILCB     STEP TO NEXT BYTE IN 'TO' FIELD 02 02803
006250 003011 R
006251 017000 I 2811          LDA     LCBT+1   TEST TO FIELD                  02 02804
006252 001002 A 2812          JAP     MV1        CONTINUE, MORE TO COME       02 02805
006253 006170 R
006254 001000 A 2813          JMP*    MV                                      02 02806
006255 106162 R
006256 000067 A 2814 067      DATA    067                                     02 02807
               2815 *                                                         02 02808
               2816 * MOVE MODE TEST                                          02 02809
               2817 *                                                         02 02810
006257 000000 A 2818 MVMT     ENTRY                                           02 02811
006260 017000 I 2819          LDA     LCBF+3   FROM MOVE CTL WORD             02 02812
006261 004441 A 2820          LLRL    1                                       02 02813
006262 001010 A 2821          JAZ     MVM2     ALPHA                          02 02814
006263 006317 R
006264 001004 A 2822          JAN     MVM4     NORMALIZED NUMERIC             02 02815
006265 006335 R
006266 017000 I 2823          LDA     LCBT+3                                  02 02816
006267 001010 A 2824          JAZ     MVM2     ALPHA DEST                     02 02817
006270 006317 R
006271 002000 A 2825 MVM1     JMPM    STOF     NUMERIC MOVE PROCEDURE         02 02818
006272 002531 R
006273 002000 A 2826          JMPM    LDNS                                    02 02819
006274 004072 R
006275 017000 I 2827          LDA     INTC     TEST IF MOVE COMMAND           02 02820
006276 147000 I 2828          SUB     MOVC     MOVE COMMAND (5-9)             02 02821
006277 001010 A 2829          JAZ     MVM6       YES                          02 02822
006300 006310 R
006301 017000 I 2830          LDA     INTO       NO, USED BY 'ADD TO'         02 02823
006302 002000 A 2831          JMPM    STO                                     02 02824
006303 002523 R
006304 002000 A 2832          JMPM    LDNS                                    02 02825
006305 004072 R
006306 002000 A 2833          JMPM    ADIT     ADD STACK                      02 02826
006307 004514 R
006310 017000 I 2834 MVM6     LDA     INTO                                    02 02827
006311 002000 A 2835          JMPM    STO                                     02 02828
006312 002523 R
006313 002000 A 2836          JMPM    UNLS                                    02 02829
006314 005313 R
006315 001000 A 2837          JMP     INTS                                    02 02830
006316 002414 R
006317 017000 I 2838 MVM2     LDA     LCBT+3   ALPHA MOVE                     02 02831
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006320 001002 A 2839          JAP*    MVMT      RETURN IF NOT IMPLIED DESTINATION          02 02832
006321 106257 R
006322 017000 I 2840          LDA     LCBF+1    GET SOURCE LENGTH                          02 02833
006323 057000 I 2841          STA     LCBT+1    SET DESTINATION LENGTH                     02 02834
006324 117000 I 2842          ORA     BIT1      IMPLIED FIELD BIT                          02 02835
006325 037000 I 2843          LDX     LCBT+2                                               02 02836
006326 055000 A 2844          STA     0,1       NEW IMPLIED CONTROL WORD                   02 02837
006327 005041 A 2845          TXA               GENERATE DATA BYTE LOCATION                02 02838
006330 005111 A 2846          IAR                                                          02 02839
006331 004201 A 2847          ASLA    1                                                    02 02840
006332 057000 I 2848          STA     LCBT                                                 02 02841
006333 001000 A 2849          JMP*    MVMT                                                 02 02842
006334 106257 R
006335 017000 I 2850 MVM4     LDA     LCBT+3    NUMERIC NORMALIZED                         02 02843
006336 001010 A 2851          JAZ     MVM5      ALPHA DEST                                 02 02844
006337 006342 R
006340 001000 A 2852          JMP     MVM1                                                 02 02845
006341 006271 R
006342 005301 A 2853 MVM5     DECR    0301      INDICATE SOURCE FIELD                      02 02846
006343 057000 I 2854          STA     LCBF+1      LENGTH OF -1                             02 02847
006344 017000 I 2855          LDA     TRUE      SET MODE ERROR INDICATOR                   02 02848
006345 027000 I 2856          LDB     IX2                                                  02 02849
006346 002000 A 2857          JMPM    SIN                                                  02 02850
006347 003214 R
006350 001000 A 2858          JMP*    MVMT                                                 02 02851
006351 106257 R
                2859 *                                                                     02 02852
                2860 * COMPARE NEW BYTE TO OLD                                            02 02853
                2861 *        EXIT    CMPI = + FROM FIELD IS GREATER                       02 02854
                2862 *                 = 0 FROM FIELD IS EQUAL                            02 02855
                2863 *                 = - FROM FIELD IS LESS                             02 02856
                2864 *                                                                    02 02857
006352 000000 A 2865 CMP      ENTRY                                                        02 02858
006353 017000 I 2866          LDA     CMPI                                                 02 02859
006354 001010 A 2867          JAZ     CMP1                                                 02 02860
006355 006360 R
006356 001000 A 2868          JMP*    CMP       DON'T COMPARE IF ALREADY UNEQUAL           02 02861
006357 106352 R
006360 017000 I 2869 CMP1     LDA     BYTT                                                 02 02862
006361 002000 A 2870          JMPM    COLATE                                               02 02863
006362 010771 R
006363 057000 I 2871          STA     TEMP                                                 02 02864
006364 017000 I 2872          LDA     BYTF                                                 02 02865
006365 002000 A 2873          JMPM    COLATE                                               02 02866
006366 010771 R
006367 147000 I 2874          SUB     TEMP                                                 02 02867
006370 057000 I 2875          STA     CMPI                                                 02 02868
006371 001000 A 2876          JMP*    CMP                                                  02 02869
006372 106352 R
                2877 *                                                                     02 02870
                2878 * AUDIT TESTING                                                       02 02871
                2879 *                                                                     02 02872
006373 000000 A 2880 AUD      ENTRY                                                        02 02873
006374 017000 I 2881          LDA     BYTF                                                 02 02874
006375 005102 A 2882          INCR    0102                                                 02 02875
006376 157000 I 2883          ANA     077       FIND CHARACTER TYPE                        02 02876
006377 001010 A 2884          JAZ     AUDS      SPECIAL   00                               02 02877
006400 006416 R
006401 147000 I 2885          SUB     033                                                  02 02878
006402 001004 A 2886          JAN     AUDA      ALPHA     01-32                            02 02879
006403 006417 R
006404 147000 I 2887          SUB     05                                                   02 02880
006405 001010 A 2888          JAZ     AUDB      BLANK     40                             02 02881
006406 006441 R
006407 147000 I 2889          SUB     020                                                  02 02882
006410 001004 A 2890          JAN     AUDS      SPECIAL   33-37,41-57                    02 02883
006411 006415 R
006412 147000 I 2891          SUB     012                                                  02 02884
006413 001004 A 2892          JAN     AUDN      NUMERIC   60-71                          02 02885
006414 006420 R
006415 147000 I 2893          SUB     012       SPECIAL 72-77                            02 02886
006416 004041 A 2894 AUDS     LRLB    1           100 SPECIAL                            02 02887
006417 004041 A 2895 AUDA     LRLB    1           010 ALPHA                              02 02888
006420 005021 A 2896 AUDN     TBA               001 NUMERIC                              02 02889
006421 117000 I 2897          ORA     060                                                  02 02890
006422 027000 I 2898          LDB     0147                                                 02 02891
006423 157000 I 2899 AUD1     ANA     0-DP                                                 02 02892
006424 067000 I 2900          STB     AUDP                                                 02 02893
006425 005012 A 2901          TAB                                                          02 02894
006426 004241 A 2902          LRLA    1         C IN C-B POSITION                          02 02895
006427 157000 I 2903          ANA     AUDI      C-B-C = J                                  02 02896
006430 004343 A 2904          LSRA    3         POSITION IT                                02 02897
006431 157000 I 2905          ANA     010       SAVE ONLY J                                02 02898
006432 005032 A 2906          MERGE   032                                                  02 02899
006433 017000 I 2907          LDA     AUDI                                                 02 02900
006434 157000 I 2908          ANA     0137      REMOVE PREVIOUS R                          02 02901
006435 005031 A 2909          MERGE   031                                                  02 02902
006436 057000 I 2910          STA     AUDI                                                 02 02903
006437 001000 A 2911          JMP*    AUD                                                  02 02904
006440 106373 R
006441 017000 I 2912 AUDB     LDA     0100      CURRENT BLANK                              02 02905
006442 027000 I 2913          LDB     047       PREVIOUS BLANK                             02 02906
006443 001000 A 2914          JMP     AUD1                                                 02 02907
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006444 006423 R
                    2915 *                                                                                  02 02908
                    2916 *                                                                                  02 02909
                    2917 * PROCESS FIELD DIRECTIVES                                                        02 02910
                    2918 *       ENTRY   A-REG = DIRECTIVE MASK                                             02 02911
                    2919 *                                                                                  02 02912
006445 000000 A     2920 PFD     ENTRY                                                                      02 02913
006446 057000 I     2921         STA     PFDC                                                               02 02914
006447 017000 I     2922         LDA*    LCBT+2          FIRST WORD OF FDL                                  02 02915
006450 157000 I     2923         ANA     D400            TEST FOR DIRECTIVES                                02 02916
006451 001010 A     2924         JAZ*    PFD             NO DIRECTIVES                                      02 02917
006452 106445 R
006453 017000 I     2925         LDA*    LCBT+2          FIRST WORD OF FIELD DATA LIST                      02 02918
006454 157000 I     2926         ANA     BIT2            NUMERIC FIELD BIT                                  02 02919
006455 004243 A     2927         LRLA    3                                                                  02 02920
006456 127000 I     2928         ADD     LCBT+2                                                             02 02921
006457 127000 I     2929         ADD     D2              POINT TO DIRECTIVES                                02 02922
006460 004241 A     2930         LRLA    1               CONVERT TO BYTE ADDRESS                            02 02923
006461 057000 I     2931         STA     LCBT                                                               02 02924
006462 037000 I     2932 PFD1    LDX     TOA             GET NEXT BYTE IN LIST                              02 02925
006463 002000 A     2933         JMPM    GBAI                                                               02 02926
006464 002721 R
006465 001010 A     2934         JAZ*    PFD             END                                                02 02927
006466 106445 R
006467 004250 A     2935         LRLA    8               TEST IF DIRECTIVE                                  02 02928
006470 001002 A     2936         JAP     PFD1              NO                                               02 02929
006471 006462 R
006472 157000 I     2937         ANA     MSK0              YES, CLEAR OUT BIT 0                             02 02930
006473 004350 A     2938         LSRA    8                                                                  02 02931
006474 157000 I     2939         ANA     PFDC            DIRECTIVE MASK                                     02 02932
006475 127000 I     2940         ADD     BIAD            DIRECTIVE BIAS                                     02 02933
006476 054005 A     2941         STA     PFD2+1                                                             02 02934
006477 002000 A     2942         JMPM    GBAI            GET INDICATOR NUMBER                               02 02935
006500 002721 R
006501 057000 I     2943         STA     TMPA            SAVE                                               02 02936
006502 017000 I     2944         LDA     CMPI                                                               02 02937
006503 001000 A     2945 PFD2    JMP*    **                                                                 02 02938
006504 106503 R
006505 017000 I     2946 PFC0    LDA     TMPA            MAX (IND,HIND)                                     02 02939
006506 147000 I     2947         SUB     HIND            FOR CTL BREAK WHEN POST OR READ                    02 02940
006507 001004 A     2948         JAN     PFC1                                                               02 02941
006510 006513 R
006511 017000 I     2949         LDA     TMPA                                                               02 02942
006512 057000 I     2950         STA     HIND                                                               02 02943
006513 017000 I     2951 PFC1    LDA     CMPI                                                               02 02944
006514 001010 A     2952         JAZ     PFLE            CONTROL                                            02 02945
006515 006525 R
006516 117000 I     2953 PF1     ORA     TRUE                                                               02 02946
006517 001000 A     2954         JMP     PFLE                                                               02 02947
006520 006525 R
006521 001010 A     2955 PFEQ    JAZ     PF1             EQUAL                                              02 02948
006522 006516 R
006523 005001 A     2956         TZA                                                                        02 02949
006524 127000 I     2957 PFGR    ADD     MSK0            GREATER                                            02 02950
006525 027000 I     2958 PFLE    LDB     TMPA            INDICATOR NUMBER                                   02 02951
006526 002000 A     2959         JMPM    SIN             STORE LOGICAL VALUE IN INDICATOR                   02 02952
006527 003214 R
006530 001000 A     2960         JMP     PFD1            NEXT DIRECTIVE                                     02 02953
006531 006462 R
006532 002000 A     2961 PFAU    JMPM    GBAI            GET AUDIT MASK                                     02 02954
006533 002721 R
006534 137000 I     2962         ERA     D7              INVERT A,N,S,                                      02 02955
006535 057000 I     2963         STA     TEMP                                                               02 02956
006536 017000 I     2964         LDA     AUDI            AUDIT RESULTS                                      02 02957
006537 137000 I     2965         ERA     D60             INVERT R AND L                                     02 02958
006540 157000 I     2966         ANA     TEMP                                                               02 02959
006541 001000 A     2967         JMP     PFEQ                                                               02 02960
006542 006521 R
       000135 R     2968 PFDC    EQU     TMPY            FIELD DIRECTIVE TEMP                               02 02961
                    2969 *                                                                                  02 02962
                    2970 * SET CONTROL BREAKS                                                               02 02963
                    2971 *                                                                                  02 02964
006543 000000 A     2972 CBRK    ENTRY                                                                      02 02965
006544 027000 I     2973         LDB     HIND            TEST IF CONTROL BREAK DIRECTIVE                    02 02966
006545 001020 A     2974         JBZ*    CBRK              NO                                               02 02967
006546 106543 R
006547 017000 I     2975         LDA     FTSW            SWITCH = -1 IF FIRST TIME                          02 02968
006550 057000 I     2976         STA     CBRA                                                               02 02969
006551 005211 A     2977         CPA                                                                        02 02970
006552 057000 I     2978         STA     CBRC            COMPLIMENT OF FTSW                                 02 02971
006553 005211 A     2979         CPA                                                                        02 02972
006554 027000 I     2980         LDB     IF                                                                 02 02973
006555 002000 A     2981         JMPM    SIN                                                                02 02974
006556 003214 R
006557 027000 I     2982         LDB     HIND            LOOP THRU INDICATORS HIND TO 1                     02 02975
006560 002000 A     2983 CBR1    JMPM    LDIS                                                               02 02976
006561 004417 R
006562 017000 I     2984         LDA*    W0              GET INDICATOR VALUE                                02 02977
006563 047000 I     2985         INR     W0                                                                 02 02978
006564 117000 I     2986         ORA     CBRA            SET ON IF HIGHER INDICATOR ON                      02 02979
006565 157000 I     2987         ANA     CBRC            ALWAYS RESET IF FIRST TIME                         02 02980
006566 057000 I     2988         STA     CBRA                                                               02 02981
006567 027000 I     2989         LDB     HIND            SET INDICATOR                                      02 02982
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006570 002000 A 2990          JMPM     SIN                                                    02 02983
006571 003214 R
006572 027000 I 2991          LDB      HIND      DECREMENT INDICATOR NUMBER                   02 02984
006573 005322 A 2992          DBR                                                             02 02985
006574 067000 I 2993          STB      HIND                                                   02 02986
006575 067000 I 2994          STB      FTSW      WILL BE ZERO WHEN FINISHED                   02 02987
006576 001020 A 2995          JRZ*     CBRK                                                   02 02988
006577 106543 R
006600 001000 A 2996          JMP      CBR1                                                   02 02989
006601 006560 R
                    2997 *                                                                    02 02990
                    2998 * SET FROM IMMEDIATE                                                 02 02991
                    2999 *                                                                    02 02992
006602 017000 I 3000 SFI      LDA      INTP                                                   02 02993
006603 057000 I 3001          STA      LFRI      NOTE DATA LOCATION                           02 02994
006604 127000 I 3002          ADD      INTO                                                   02 02995
006605 057000 I 3003          STA      INTP      STEP PAST DATA                               02 02996
006606 017000 I 3004          LDA      INTO      OPERAND IS LENGTH                            02 02997
006607 117000 I 3005          ORA      BIT0                                                   02 02998
                    3006 *                                                                    02 02999
                    3007 * SET FROM                                                           02 03000
                    3008 *                                                                    02 03001
006610 057000 I 3009 SF       STA      LFRO      LAST FROM FIELD                              02 03002
006611 005001 A 3010          TZA                                                             02 03003
006612 057000 I 3011          STA      SFFG      SET FROM FLAG                                02 03004
006613 001000 A 3012          JMP      INT                                                    02 03005
006614 002415 R
                    3013 *                                                                    02 03006
                    3014 * ADD TO                                                             02 03007
                    3015 *                                                                    02 03008
       006271 R     3016 ADTO     EQU      MVM1      USE PART OF MOVE ROUTINE AS ADD              02 03009
                    3017 *                                                                    02 03010
                    3018 * GO TO INDEXED                                                      02 03011
                    3019 *                                                                    02 03012
006615 002000 A 3020 GTX      JMPM     UNLI      GET INDEX VALUE                              02 03013
006616 002706 R
006617 001010 A 3021          JAZ      GTX1      GO TO ERROR                                  02 03014
006620 006627 R
006621 002000 A 3022          JMPM     DEBI                                                   02 03015
006622 003057 R
006623 147000 I 3023          SUB      INTO      TEST VERSUS MAX                              02 03016
006624 001004 A 3024          JAN      GTX1      OK                                           02 03017
006625 006627 R
006626 005001 A 3025          TZA                ERROR, GO TO NEXT STATEMENT                  02 03018
006627 127000 I 3026 GTX1     ADD      INTO                                                   02 03019
006630 004241 A 3027          LRLA     1                                                      02 03020
006631 001000 A 3028          JMP      BRU4                                                   02 03021
006632 006017 R
                    3029 *                                                                    02 03022
                    3030 * ENTER                                                              02 03023
                    3031 *                                                                    02 03024
006633 002000 A 3032 ENTO     JMPM     STAP      GET TABLE POINTER                            02 03025
006634 007023 R
006635 001010 A 3033          JAZ      ENT1      TABLE EMPTY                                  02 03026
006636 006702 R
006637 015006 A 3034          LDA      6,1       KEY FIELD NUMBER                             02 03027
006640 001010 A 3035          JAZ      ENT1        LIFO                                       02 03028
006641 006702 R
006642 002000 A 3036          JMPM     TLU         SEQUENCED                                  02 03029
006643 007050 R
006644 001010 A 3037          JAZ      ENTY      EQ                                           02 03030
006645 007010 R
006646 001002 A 3038          JAP      ENT1      GT                                           02 03031
006647 006702 R
006650 015005 A 3039          LDA      5,1       LT                                           02 03032
006651 005111 A 3040          IAR                TEST IF ROOM IN TABLE                        02 03033
006652 145000 A 3041          SUB      0,1                                                    02 03034
006653 001010 A 3042          JAZ      ENT2        NO MOE, SET 'TO' =0                        02 03035
006654 006707 R
006655 045005 A 3043          INR      5,1         OK, SET NEW HIGH                           02 03036
006656 015005 A 3044          LDA      5,1                                                    02 03037
006657 002000 A 3045          JMPM     GTWL      GET TABLE WORD LOCATION                      02 03038
006660 007035 R
006661 005311 A 3046          DAR                                                             02 03039
006662 057000 I 3047          STA      TMPX      FROM LOCATION                                02 03040
006663 015001 A 3048          LDA      1,1       BYTES/ENTRY                                  02 03041
006664 004341 A 3049          LSRA     1                                                      02 03042
006665 127000 I 3050          ADD      TMPX                                                   02 03043
006666 057000 I 3051          STA      TMPY      TO LOCATION                                  02 03044
006667 017000 I 3052          LDA      TO                                                     02 03045
006670 002000 A 3053          JMPM     GTWL      GET TABLE WORD LOCATION                      02 03046
006671 007035 R
006672 005311 A 3054          DAR                                                             02 03047
006673 147000 I 3055          SUB      TMPX      NEG OF WORDS TO MOVE                         02 03048
006674 037000 I 3056          LDX      TMPX                                                   02 03049
006675 027000 I 3057          LDB      TMPY                                                   02 03050
006676 002000 A 3058          JMPM     MNOV      MOVE TO MAKE ROOM                            02 03051
006677 003100 R
006700 001000 A 3059          JMP      ENTY      SET IMPLIED INDEX                            02 03052
006701 007010 R
006702 015005 A 3060 ENT1     LDA      5,1       NO MOVE REQUIRED                             02 03053
006703 005111 A 3061          IAR                                                             02 03054
006704 057000 I 3062          STA      TO        TO INDEX = PREVIOUS HI + 1                   02 03055
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006705 001000 A 3063          JMP     ENTY        SET IMPLIED INDEX                    02 03056
006706 007010 R
006707 057000 I 3064 ENT2     STA     TO                                               02 03057
006710 017000 I 3065 ENTX     LDA     TO          SAVE 'TO' INDEX                      02 03058
006711 057000 I 3066          STA     SVTO                                             02 03059
006712 001000 A 3067          JMP     INTS                                             02 03060
006713 002414 R
                    3068 *                                                             02 03061
                    3069 * DELETE                                                      02 03062
                    3070 *                                                             02 03063
006714 002000 A 3071 DETO     JMPM    GTAB        GET TABLE POINTER                    02 03064
006715 007023 R
006716 001010 A 3072          JAZ     INTS        TABLE EMPTY                          02 03065
006717 002414 R
006720 017000 I 3073          LDA     SFFG        WAS KEY SPECIFIED                    02 03066
006721 001010 A 3074          JAZ     DEL2          YES                                02 03067
006722 006760 R.
006723 017000 I 3075          LDA     TO            NO, SUBSCRIPT PROVIDED             02 03068
006724 001010 A 3076          JAZ     INTS        ZERO SUBSCRIPT NOT ALLOWED           02 03069
006725 002414 R
006726 145005 A 3077          SUB     5,1           :                                  02 03070
006727 005311 A 3078          DAR                                                      02 03071
006730 001002 A 3079          JAP     INTS        OUT OF CURRENT RANGE                 02 03072
006731 002414 R
006732 017000 I 3080 DEL1     LDA     TO          COMPUTE MOVE PARAMETERS              02 03073
006733 002000 A 3081          JMPM    GTWL                                             02 03074
006734 007035 R
006735 057000 I 3082          STA     TMPY        MOVE TO LOCATION                     02 03075
006736 015001 A 3083          LDA     1,1                                              02 03076
006737 004341 A 3084          LSRA    1                                                02 03077
006740 127000 I 3085          ADD     TMPY                                             02 03078
006741 057000 I 3086          STA     TMPX        MOVE TO LOCATION                     02 03079
006742 015005 A 3087          LDA     5,1                                              02 03080
006743 002000 A 3088          JMPM    GTWL                                             02 03081
006744 007035 R
006745 147000 I 3089          SUB     TMPY        NUMBER OF WORDS TO MOVE              02 03082
006746 037000 I 3090          LDX     TMPX                                             02 03083
006747 027000 I 3091          LDB     TMPY                                             02 03084
006750 002000 A 3092          JMPM    WMOV        COMPRESS TABLE                       02 03085
006751 003100 R
006752 037000 I 3093          LDX     TABP                                             02 03086
006753 015005 A 3094          LDA     5,1                                              02 03087
006754 005311 A 3095          DAR                 DECREMENT CURRENT HIGH               02 03088
006755 055005 A 3096          STA     5,1                                              02 03089
006756 001000 A 3097          JMP     INTS                                             02 03090
006757 002414 R
006760 015006 A 3098 DEL2     LDA     6,1         FIND ENTRY IN SEQUENCED TABLE        02 03091
006761 002000 A 3099          JMPM    TLU                                              02 03092
006762 007050 R
006763 001010 A 3100          JAZ     DEL1        FOUND IT                             02 03093
006764 006732 R
006765 001000 A 3101          JMP     INTS        NO MATCH                             02 03094
006766 002414 R
                    3102 *                                                             02 03095
                    3103 * LOOKUP                                                      02 03096
                    3104 *                                                             02 03097
006767 002000 A 3105 LOOK     JMPM    GTAB        GET TABLE POINTER                    02 03098
006770 007023 R
006771 001010 A 3106          JAZ     LOO1        TABLE EMPTY                          02 03099
006772 007015 R
006773 015006 A 3107          LDA     6,1         KEY FIELD                            02 03100
006774 002000 A 3108          JMPM    TLU                                              02 03101
006775 007050 R
006776 027000 I 3109          LDB     MSKL        SET/RESET #G.E.L                     02 03102
006777 003002 A 3110          XAP     SBL2          GT                                 02 03103
007000 007022 R
007001 003010 A 3111          XAZ     SBR1          EQ                                 02 03104
007002 000422 R
007003 037000 I 3112 LOO2     LDX     BIAI                                             02 03105
007004 015001 A 3113          LDA     1,1                                              02 03106
007005 157000 I 3114          ANA     MSI2        NOT #G,E,L                           02 03107
007006 005031 A 3115          MERGE   031                                              02 03108
007007 055001 A 3116          STA     1,1                                              02 03109
007010 037000 I 3117 ENTY     LDX     TABP                                             02 03110
007011 017000 I 3118          LDA     TO                                               02 03111
007012 055002 A 3119          STA     2,1         SET IMPLIED INDEX                    02 03112
007013 001000 A 3120          JMP     ENTX                                             02 03113
007014 006710 R
007015 005101 A 3121 LOO1     INCR    0101                                             02 03114
007016 057000 I 3122          STA     TO                                               02 03115
007017 027000 I 3123          LDB     MSKL        RESET #G,E,L                         02 03116
007020 001000 A 3124          JMP     LOO2                                             02 03117
007021 007003 R
007022 004042 A 3125 SBL2     LRLB    2                                                02 03118
                    3126 *                                                             02 03119
                    3127 * GET TABLE POINTER                                           02 03120
                    3128 *       ENTRY   A-REG = TABLE NUMBER                          02 03121
                    3129 *       EXIT    TABP = TABLE POINTER                          02 03122
                    3130 *               X-REG = TABLE POINTER                         02 03123
                    3131 *               A-REG = HIGHEST CURRENT INDEX                 02 03124
                    3132 *                                                             02 03125
007023 000000 A 3133 GTAB     ENTRY                                                    02 03126
007024 127000 I 3134          ADD     BIAT        TABLE BIAS                           02 03127
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007025 005014 A 3135          TAX                                                    02 03128
007026 015000 A 3136          LDA     0,1             TABLE POINTER                  02 03129
007027 157000 I 3137          ANA     MSK0                                           02 03130
007030 005014 A 3138          TAX                                                    02 03131
007031 077000 I 3139          STX     TABP                                           02 03132
007032 015005 A 3140          LDA     5,1             HIGHEST INDEX                  02 03133
007033 001000 A 3141          JMP*    GTAB                                           02 03134
007034 107023 R
                    3142 *                                                           02 03135
                    3143 * GET TABLE WORD LOCATION                                   02 03136
                    3144 *        ENTRY   A-REG = INDEX                              02 03137
                    3145 *                X-REG = TABLE POINTER                      02 03138
                    3146 *        EXIT    A-REG = WORD LOCATION                      02 03139
                    3147 *                                                           02 03140
007035 000000 A 3148 GTWL     ENTRY                                                  02 03141
007036 005311 A 3149          DAR                                                    02 03142
007037 025001 A 3150          LDB     1,1             BYTES/ENTRY                    02 03143
007040 002000 A 3151          JMPM    BINX            BINARY MULTIPLY                02 03144
007041 003020 R
007042 005021 A 3152          TBA                                                    02 03145
007043 037000 I 3153          LDX     TABP                                           02 03146
007044 125011 A 3154          ADD     9,1             TABLE DATA FIRST POSITION      02 03147
007045 004341 A 3155          LSRA    1                                              02 03148
007046 001000 A 3156          JMP*    GTWL                                           02 03149
007047 107035 R
                    3157 *                                                           02 03150
                    3158 * TABLE LOOKUP                                              02 03151
                    3159 *        ENTRY   A-REG = KEY FIELD NUMBER                   02 03152
                    3160 *        EXIT    A-REG = CMPI = COMPARE RESULTS             02 03153
                    3161 *                X-REG = TABLE POINTER                      02 03154
                    3162 *                                                           02 03155
007050 000000 A 3163 TLU      ENTRY                                                  02 03156
007051 057000 I 3164          STA     TLUK            KEY                            02 03157
007052 005102 A 3165          INCR    2                                              02 03158
007053 067000 I 3166          STB     TO              START TO INDEX AT 1            02 03159
007054 002000 A 3167          JMPM    STOF            TEST MODE OF LOOKUP            02 03160
007055 002531 R
007056 017000 I 3168          LDA     LCBT+3                                         02 03161
007057 157000 I 3169          ANA     MSK0            MASK OUT IMPLIED BIT           02 03162
007060 001010 A 3170          JAZ     TLU1            ZERO IS ALPHA                  02 03163
007061 007076 R
007062 047000 I 3171          INR     SFFG            NUMERIC, SET FOR TLC ROUTINE   02 03164
007063 002000 A 3172          JMPM    LDNS            LOAD FOR LATER COMPARES        02 03165
007064 004072 R
007065 017000 I 3173          LDA     TLUK            TEST MODE OF KEY FIELD         02 03166
007066 002000 A 3174          JMPM    STO                                            02 03167
007067 002523 R
007070 017000 I 3175          LDA     LCBT+3                                         02 03168
007071 157000 I 3176          ANA     MSK0                                           02 03169
007072 005302 A 3177          DECR    2                                              02 03170
007073 067000 I 3178          STB     CMPI                                           02 03171
007074 001010 A 3179          JAZ     TLU5            NO NUMERIC LOOKUP INTO ALPHA KEY 02 03172
007075 007120 R
007076 017000 I 3180 TLU1     LDA     TLUK                                           02 03173
007077 002000 A 3181          JMPM    STO             SET 'TO' FIELD                 02 03174
007100 002523 R
007101 002000 A 3182          JMPM    TLUC            COMPARE FIELDS                 02 03175
007102 007131 R
007103 037000 I 3183          LDX     TABP                                           02 03176
007104 017000 I 3184          LDA     CMPI                                           02 03177
007105 001010 A 3185          JAZ     TLU5            EQUAL                          02 03178
007106 007120 R
007107 001004 A 3186          JAN     TLU5            LESS THAN                      02 03179
007110 007120 R
007111 015005 A 3187          LDA     5,1             GREATER                        02 03180
007112 147000 I 3188          SUB     TO                                             02 03181
007113 001010 A 3189          JAZ     TLU5            GT LAST ENTRY                  02 03182
007114 007120 R
007115 047000 I 3190          INR     TO              STEP 'TO' INDEX                02 03183
007116 001000 A 3191          JMP     TLU1                                           02 03184
007117 007076 R
007120 017000 I 3192 TLU5     LDA     SFFG            REMOVE LIST ENTRY IF NECESSARY 02 03185
007121 001010 A 3193          JAZ     TLU6                                           02 03186
007122 007126 R
007123 017000 I 3194          LDA     W0                                             02 03187
007124 127000 I 3195          ADD     NLST            RESET WORKLIST                 02 03188
007125 057000 I 3196          STA     W0                                             02 03189
007126 017000 I 3197 TLU6     LDA     CMPI                                           02 03190
007127 001000 A 3198          JMP*    TLU                                            02 03191
007130 107050 R
                    3199 *                                                           02 03192
                    3200 * COMPARE FOR TLU                                           02 03193
                    3201 *                                                           02 03194
007131 000000 A 3202 TLUC     ENTRY                                                  02 03195
007132 017000 I 3203          LDA     SFFG                                           02 03196
007133 001010 A 3204          JAZ     TLC1                                           02 03197
007134 007146 R
007135 002000 A 3205          JMPM    LDNS            NUMERIC COMPARE                02 03198
007136 004072 R
007137 002000 A 3206          JMPM    NCPR                                           02 03199
007140 003516 R
007141 017000 I 3207          LDA     W0              RESET WORKLIST                 02 03200
007142 127000 I 3208          ADD     NLST                                           02 03201
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007143 057000 I 3209          STA     W0                                          02 03202
007144 001000 A 3210          JMP*    TLUC                                        02 03203
007145 107131 R
007146 002000 A 3211 TLC1     JMPM    SFRM        ALPHA COMPARE                   02 03204
007147 002502 R
007150 002000 A 3212          JMPM    CMPR                                        02 03205
007151 003563 R
007152 001000 A 3213          JMP*    TLUC                                        02 03206
007153 107131 R
               3214 *                                                             02 03207
               3215 *                                                             02 03208
               3216 * READ CARD (LUN=13)                                          02 03209
               3217 *                                                             02 03210
        007154 R 3218 $READ   EQU     *                                           02 03211
               3219           READ    FCB13,13,0,1  READ RECORD ASCII             02 03212
007154 006505 A
007155 000404 A
007156 100000 A
007157 010015 A
007160 007173 R
007161 000000 A
007162 000000 A
007163 006010 A 3220          LDAI    $READ                                       02 03213
007164 007154 R
007165 002000 A 3221          CALL    STAT        CHECK STATUS                    02 03214
007166 002063 R
007167 001026 A 3222          JBNZ    $ER                                         02 03215
007170 002133 R
007171 001000 A 3223          JMP     RED0                                        02 03216
007172 007205 R
               3224 FCB13     FCB     40,RBUF+1,1,,'PI',' ',' '                 C 02 03217
007173 000050 A
007174 000177 R
007175 000400 A
007176 000000 A
007177 000000 A
007200 000000 A
007201 000000 A
007202 150311 A
007203 120240 A
007204 120240 A
007205 017000 I 3225 RED0     LDA     RBUF+1      TEST FOR END OF FILE            02 03218
007206 147000 I 3226          SUB     CEOF          "/*"                          02 03219
007207 001010 A 3227          JAZ     RED9                                        02 03220
007210 007477 R
007211 017000 I 3228          LDA     SIGN        NO, CONTINUE                    02 03221
007212 057000 I 3229          STA     REOF        ZERO IS EOF                     02 03222
007213 002000 A 3230 RED1     JMPM    GETR        GET NEXT RECORD POINTER         02 03223
007214 010102 R
007215 127000 I 3231          ADD     D2          REC SELECTION TEST              02 03224
007216 004241 A 3232          LRLA    1           GET BYTE LOCATION               02 03225
007217 057000 I 3233          STA     TMPR        SAVE FOR LATER                  02 03226
007220 057000 I 3234          STA     LCBX        RESET ALL SELECTION INDICATORS  02 03227
007221 037000 I 3235 RST3     LDX     LXA         POINT TO DUMMY LCB              02 03228
007222 002000 A 3236          JMPM    GBAI        GET NEXT ORED GROUP             02 03229
007223 002721 R
007224 001010 A 3237          JAZ     RST5        END OF LIST                     02 03230
007225 007242 R
007226 047000 I 3238 RST4     INR     LCBX        STEP PAST POSITION              02 03231
007227 047000 I 3239          INR     LCBX          AND CHARACTER                 02 03232
007230 002000 A 3240          JMPM    GBAI                                        02 03233
007231 002721 R
007232 004250 A 3241          LRLA    8                                           02 03234
007233 001004 A 3242          JAN     RST4        ANOTHER ANDED GROUP             02 03235
007234 007226 R
007235 004570 A 3243          LLSR    24                                          02 03236
007236 002000 A 3244          JMPM    SIN         RESET INDICATOR                 02 03237
007237 003214 R
007240 001000 A 3245          JMP     RST3                                        02 03238
007241 007221 R
007242 017000 I 3246 RST5     LDA     REOF        TEST IF LAST CARD               02 03239
007243 001010 A 3247          JAZ     RM09          YES                           02 03240
007244 007357 R
007245 017000 I 3248          LDA     TMPR        IT IS LATER                     02 03241
007246 057000 I 3249          STA     LCBX                                        02 03242
007247 037000 I 3250          LDX     LXA         POINT TO DUMMY LCB              02 03243
007250 002000 A 3251          JMPM    GBAI        GET FIRST BYTE                  02 03244
007251 002721 R
007252 001010 A 3252          JAZ     RM09        SELECT THIS RECORD              02 03245
007253 007357 R
007254 005002 A 3253          TZB                 NOT ZERO, CRITERIA MUST BE MET  02 03246
007255 067000 I 3254          STB     RECS                                        02 03247
007256 004250 A 3255          LRLA    8                                           02 03248
007257 027000 I 3256 RST1     LDB     TRUE        WITHIN PARENS CRITERIA ANDED    02 03249
007260 064133 A 3257          STB     RSCI                                        02 03250
007261 004350 A 3258 RST2     LSRA    8           BYTE LEFT ADJUSTED              02 03251
007262 157000 I 3259          ANA     0177        GET RID OF BIT 0,BYTE 1         02 03252
007263 005002 A 3260          TZB                                                 02 03253
007264 004541 A 3261          LLSR    1           'NOT' BIT                       02 03254
007265 064125 A 3262          STB     RNOT                                        02 03255
007266 005012 A 3263          TAB                                                 02 03256
007267 006016 A 3264          LDAE    RTAB,2      GET SELECTION MASK              02 03257
007270 000404 R
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007271 057000 I 3265          STA     TMPX                                                    02 03258
007272 002000 A 3266          JMPM    GBAI    GET POSITION                                    02 03259
007273 002721 R
007274 127000 I 3267          ADD     ADRA    BYTE LOCATION OF ZEROTH BYTE IN CARD            02 03260
007275 057000 I 3268          STA     LCBF                                                    02 03261
007276 037000 I 3269          LDX     FRMA                                                    02 03262
007277 002000 A 3270          JMPM    GETW    GET BYTE FROM READ BUFFER                       02 03263
007300 002777 R
007301 002000 A 3271          JMPM    ASHO    CONVERT TO HOLLERITH                            02 03264
007302 010660 R
007303 057000 I 3272          STA     TMPY                                                    02 03265
007304 037000 I 3273          LDX     LXA                                                     02 03266
007305 002000 A 3274          JMPM    GBAI    GET SELECTION BYTE                              02 03267
007306 002721 R
007307 002000 A 3275          JMPM    ASHO    CONVERT TO HOLLERITH                            02 03268
007310 010660 R
007311 137000 I 3276          ERA     TMPY    CHARACTER IN RECORD                             02 03269
007312 157000 I 3277          ANA     TMPX    COMPARISON MASK                                 02 03270
007313 001010 A 3278          JAZ     *+3                                                     02 03271
007314 007316 R
007315 017000 I 3279          LDA     TRUE    FALSE                                           02 03272
007316 137000 I 3280          ERA     TRUE    TRUE                                            02 03273
007317 134073 A 3281          ERA     RNOT    OPPOSITE IF 'NOT'                               02 03274
007320 154073 A 3282          ANA     RSCI    AND PREVIOUS                                    02 03275
007321 054072 A 3283          STA     RSCI                                                    02 03276
007322 037000 I 3284          LDX     LXA                                                     02 03277
007323 002000 A 3285          JMPM    GBAI    NEXT BYTE IN RECORD DATA LIST                   02 03278
007324 002721 R
007325 004250 A 3286          LRLA    8                                                       02 03279
007326 001004 A 3287          JAN     RST2    NEG IS ANOTHER ANDED TEST                       02 03280
007327 007261 R
007330 004350 A 3288          LSRA    8       POS IS INDICATOR NUMBER                         02 03281
007331 005012 A 3289          TAB                                                             02 03282
007332 067000 I 3290          STB     TMPR    SAVE                                            02 03283
007333 002000 A 3291          JMPM    LDIS    GET CURRENT VALUE OF INDICATOR                  02 03284
007334 004417 R
007335 017000 I 3292          LDA*    W0                                                      02 03285
007336 047000 I 3293          INR     W0                                                      02 03286
007337 027000 I 3294          LDB     TMPR                                                    02 03287
007340 114053 A 3295          ORA     RSCI    INDICATOR VALUE                                 02 03288
007341 002000 A 3296          JMPM    SIN                                                     02 03289
007342 003214 R
007343 014050 A 3297          LDA     RSCI                                                    02 03290
007344 117000 I 3298          ORA     RECS                                                    02 03291
007345 057000 I 3299          STA     RECS    RECORD SELECTION INDICATION                     02 03292
007346 037000 I 3300          LDX     LXA                                                     02 03293
007347 002000 A 3301          JMPM    GBAI    GET NEXT BYTE IN RECORD DATA LIST               02 03294
007350 002721 R
007351 004250 A 3302          LRLA    8                                                       02 03295
007352 001004 A 3303          JAN     RST1    ANOTHER ORED TEST                               02 03296
007353 007257 R
007354 017000 I 3304          LDA     RECS    REC MOVE IF SELECTED                            02 03297
007355 001002 A 3305          JAP     RM02    NEGATIVE IS SELECTED                            02 03298
007356 007404 R
007357 047000 I 3306 RM09     INR     RECF    GET NEXT FIELD                                  02 03299
007360 017000 I 3307          LDA*    RECF                                                    02 03300
007361 001002 A 3308          JAP     RM04    NEG IS START OF NEXT RECORD                     02 03301
007362 007415 R
007363 017000 I 3309          LDA     RECF    TEST IF LAST CARD                               02 03302
007364 001010 A 3310          JAZ     RM02      YES, DON'T MOVE                               02 03303
007365 007404 R
007366 037000 I 3311          LDX     RECP    MOVE CARD TO RECORD AREA                        02 03304
007367 015000 A 3312          LDA     0,1     RECORD LENGTH BYTES                             02 03305
007370 005111 A 3313          IAR                                                             02 03306
007371 157000 I 3314          ANA     DM2                                                     02 03307
007372 025001 A 3315          LDB     1,1     RECORD START BYTE                               02 03308
007373 004541 A 3316          LLSR    1       CONVERT TO WORDS                                02 03309
007374 147000 I 3317          SUB     D50     MAX LENGTH IS 40 WORDS                          02 03310
007375 001004 A 3318          JAN     RM01                                                    02 03311
007376 007400 R
007377 005001 A 3319          TZA                                                             02 03312
007400 127000 I 3320 RM01     ADD     D50                                                     02 03313
007401 037000 I 3321          LDX     ADRB                                                    02 03314
007402 002000 A 3322          JMPM    WMOV                                                    02 03315
007403 003100 R
007404 017000 I 3323 RM02     LDA     REND                                                    02 03316
007405 001002 A 3324          JAP     RED1    NOT LAST RECORD                                 02 03317
007406 007213 R
007407 002000 A 3325          JMPM    CBRK    SET CONTROL BREAKS                              02 03318
007410 006543 R
007411 001000 A 3326          JMP     INT                                                     02 03319
007412 002415 R
007413 000000 A 3327 RNOT     DATA    0       NEG IS NOT                                      02 03320
007414 000000 A 3328 RSCI     DATA    0       ANDED SELECTION INDICATOR                       02 03321
                    3329 *                                                                    02 03322
                    3330 *    AUDIT AND COMPARE                                               02 03323
                    3331 *                                                                    02 03324
007415 017000 I 3332 RM04     LDA     RECF    GET FIELD NUMBER                                02 03325
007416 147000 I 3333          SUB     BIAF                                                    02 03326
007417 002000 A 3334          JMPM    STD     SET 'TO'LCB                                     02 03327
007420 002523 R
007421 017000 I 3335          LDA*    LCBT+2  FIRST WORD OF FDL                               02 03328
007422 157000 I 3336          ANA     0400                                                    02 03329
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007423 001010 A 3337          JAZ     RM09          NO AUDIT OR COMPARE                                    02 03330
007424 007357 R
007425 017000 I 3338          LDA     04            ONLY CONTROL IF LAST CARD                              02 03331
007426 027000 I 3339          LDB     REOF          TES IF LAST CARD                                       02 03332
007427 001020 A 3340          JBZ     RM06            YES                                                  02 03333
007430 007473 R
007431 037000 I 3341          LDX     RECP          COMPUTE READ SOURCE BYTE LOCATION                      02 03334
007432 017000 I 3342          LDA     LCBT          FIELD START                                            02 03335
007433 145001 A 3343          SUB     1,1           RECORD START                                           02 03336
007434 127000 I 3344          ADD     ADRC          RECORD BUFFER BIAD IN BYTES                            02 03337
007435 057000 I 3345          STA     LCBF                                                                 02 03338
007436 057000 I 3346          STA     RECG          SAVE FOR LATER                                         02 03339
007437 057000 I 3347          STA     LCBF+1        ARBITRARY LARGE SOURCE FIELD                           02 03340
007440 005301 A 3348          DECR    0301                                                                 02 03341
007441 057000 I 3349          STA     PSTI          INHIBIT STORE IN MV ROUTINE                            02 03342
007442 002000 A 3350          JMPM    MV            AUDIT AND COMPARE SEQUENCE                             02 03343
007443 006162 R
007444 005101 A 3351          INCR    0101                                                                 02 03344
007445 057000 I 3352          STA     PSTI          RESTORE POST INDICATOR                                 02 03345
007446 017000 I 3353          LDA     LCBT+3        MOVE CTL WORD                                          02 03346
007447 001010 A 3354          JAZ     RM05          ALPHA FIELD                                            02 03347
007450 007472 R
007451 017000 I 3355          LDA     RECF          REINITIALIZE FOR NUMERIC COMPARE                       02 03348
007452 147000 I 3356          SUB     BIAF                                                                 02 03349
007453 002000 A 3357          JMPM    STO                                                                  02 03350
007454 002523 R
007455 017000 I 3358          LDA     RECG          SETUP FOR CONTENTS OF READ BUFFER                      02 03351
007456 057000 I 3359          STA     LCBT                                                                 02 03352
007457 002000 A 3360          JMPM    LDNS          LOAD NEW FIELD CONTENTS                                02 03353
007460 004072 R
007461 017000 I 3361          LDA     RECF          SETUP TO COMPARE WITH OLD CONTENTS                     02 03354
007462 147000 I 3362          SUB     BIAF                                                                 02 03355
007463 002000 A 3363          JMPM    STO                                                                  02 03356
007464 002523 R
007465 002000 A 3364          JMPM    TLUC          NUMERIC COMPARE                                        02 03357
007466 007131 R
007467 017000 I 3365          LDA     W0            REMOVE NEW CONTENTS FROM WORKLIST                      02 03358
007470 127000 I 3366          ADD     NLST                                                                 02 03359
007471 057000 I 3367          STA     W0                                                                   02 03360
007472 017000 I 3368 RM05     LDA     017           PROCESS ADD DIRECTIVES                                 02 03361
007473 002000 A 3369 RM06     JMPM    PFD           PROCESS FIELD DIRECTIVES                               02 03362
007474 006445 R
007475 001000 A 3370          JMP     RM09          GET NEXT FIELD                                         02 03363
007476 007357 R
007477 057000 I 3371 RED9     STA     REOF          LAST CARD                                              02 03364
007500 017000 I 3372          LDA     TRUE                                                                 02 03365
007501 057000 I 3373          STA     CMPI          UNEQUAL                                                02 03366
007502 027000 I 3374          LDB     ILC                                                                  02 03367
007503 002000 A 3375          JMPM    SIN           SET LC INDICATOR                                       02 03368
007504 003214 R
007505 001000 A 3376          JMP     RED1                                                                 02 03369
007506 007213 R
               3377 *                                                                                      02 03370
               3378 * WRITE TO PUNCH (LUN=14) OR PRINTER (LUN=15)                                           02 03371
               3379 *                                                                                      02 03372
007507 006016 A 3380 WRIT     LDAE    ADRD,2        GET ENTRY POINT FOR PUNCH OR PRINT ROUTINE             02 03373
007510 000437 R
007511 054023 A 3381          STA     WRI0+1                                                               02 03374
007512 002000 A 3382 WRII     JMPM    GETR          GET NEXT ITEM                                          02 03375
007513 010102 R
007514 001004 A 3383          JAN     WRID          DIRECRIVE                                              02 03376
007515 007566 R
007516 017000 I 3384          LDA     INTO                                                                 02 03377
007517 001010 A 3385          JAZ     PNCH          ZERO FILE IS PUNCH                                     02 03378
007520 007525 R
007521 047000 I 3386          INR     LCNT          INCR LINE COUNT                                        02 03379
007522 017000 I 3387          LDA     LCNT          SET #OV IF PAGE FULL                                   02 03380
007523 002002 A 3388          JAPM    SOV                                                                  02 03381
007524 010130 R
007525 037000 I 3389 PNCH     LDX     RECP          RECORD POINTER                                         02 03382
007526 015000 A 3390          LDA     0,1                                                                  02 03383
007527 054740 A 3391          STA     TBYT          SAVE BYTE COUNT                                        02 03384
007530 005111 A 3392          IAR                                                                          02 03385
007531 004341 A 3393          LSRA    1             SHIFT BYTE COUNT TO WORD COUNT                         02 03386
007532 025001 A 3394          LDB     1,1                                                                  02 03387
007533 004141 A 3395          LSRB    1             SHIFT BYTE ADDR TO WORD ADDR                           02 03388
007534 002000 A 3396 WRI0     JMPM    **            CALL PUNCH/PRINT                                       02 03389
007535 107534 R
007536 047000 I 3397 WRI3     INR     RECF          BLANK AFTER PRINT/PUNCH                                02 03390
007537 017000 I 3398          LDA*    RECF          GET NEXT FIELD POINTER                                 02 03391
007540 001004 A 3399          JAN     WRI4          TIS NEXT RECORD                                        02 03392
007541 007561 R
007542 005014 A 3400          TAX                                                                          02 03393
007543 015000 A 3401          LDA     0,1           FIELD CONTROL WORD                                     02 03394
007544 157000 I 3402          ANA     BIT3          BLANK AFTER PRINTING BIT                               02 03395
007545 001010 A 3403          JAZ     WRI3          GET NEXT FIELD                                         02 03396
007546 007536 R
007547 005301 A 3404          DECR    0301          FORCE BLANKS                                           02 03397
007550 057000 I 3405          STA     LCBF+1                                                               02 03398
007551 017000 I 3406          LDA     RECF          GET FIELD NUMBER                                       02 03399
007552 147000 I 3407          SUB     BIAF                                                                 02 03400
007553 002000 A 3408          JMPM    STO           INITIALIZE FOR MOVE                                    02 03401
007554 002523 R
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007555 002000 A 3409          JMPM    HV          MOVE                                  02 03402
007556 006162 R
007557 001000 A 3410          JMP     WRI3        GET NEXT FIELD                        02 03403
007560 007536 R
007561 017000 I 3411 WRI4     LDA     REND        TEST IF LAST RECORD IN LIST           02 03404
007562 001004 A 3412          JAN     INT                                               02 03405
007563 002415 R
007564 001000 A 3413          JMP     WRII        GET NEXT ITEM                         02 03406
007565 007512 R
007566 004242 A 3414 WRID     LRLA    2           DIRECTIVE                             02 03407
007567 005002 A 3415          TZB                                                       02 03408
007570 004441 A 3416          LLRL    1           B-REG = 0 IF SPACE                    02 03409
007571 004354 A 3417          LSRA    12          RIGHT ADJUST COUNT                    02 03410
007572 057000 I 3418          STA     TMPR        SAVE                                  02 03411
007573 001020 A 3419          JBZ     SPCE        SPACE REQ?                            02 03412
007574 007743 R
007575 147000 I 3420 SKIP     SUB     D2          NO, CK SKIP                           02 03413
007576 001004 A 3421          JAN     SKI2        SKIP TO 1?                            02 03414
007577 007610 R
007600 147000 I 3422          SUB     D5          NO                                    02 03415
007601 001010 A 3423          JAZ     SKI3        SKIP TO 7?                            02 03416
007602 007617 R
007603 017000 I 3424 SKI0     LDA     TMPR        NO                                    02 03417
007604 002000 A 3425          JMPM    SLEW                                              02 03418
007605 007754 R
007606 001000 A 3426          JMP     WRI4                                              02 03419
007607 007561 R
007610 002000 A 3427 SKI2     JMPM    SOV         RESET #OV INDICATOR                   02 03420
007611 010130 R
007612 017000 I 3428          LDA     LINE                                              02 03421
007613 005211 A 3429          CPA                                                       02 03422
007614 057000 I 3430          STA     LCNT        RESET LINE COUNT                      02 03423
007615 001000 A 3431          JMP     SKI0                                              02 03424
007616 007603 R
007617 057000 I 3432 SKI3     STA     LCNT        BOTTOM OF PAGE                        02 03425
007620 002000 A 3433          JMPM    SOV                                               02 03426
007621 010130 R
007622 001000 A 3434          JMP     SKI0                                              02 03427
007623 007603 R
                3435 *                                                                  02 03428
                3436 *                                                                  02 03429
                3437 *                                                                  02 03430
                3438 * PUNCH CARD (LUN=14)                                             02 03431
                3439 *                                                                  02 03432
007624 000000 A 3440 CPAS     ENTR    0                                                 02 03433
007625 054035 A 3441          STA     FCB14       SAVE WORD COUNT                       02 03434
007626 064035 A 3442          STB     FCB14+1     DATA ADDRESS                          02 03435
007627 006010 A 3443          LDAI    14                                                02 03436
007630 000016 A
007631 002000 A 3444          CALL    DEVTST      CHECK IF CARD PUNCH                   02 03437
007632 010203 R
007633 140422 A 3445          SUB     TWO                                               02 03438
007634 001016 A 3446          JANZ    $CP0                                              02 03439
007635 007644 R
007636 024024 A 3447          LDB     FCB14       YES, OUTPUT FROM CARD BUFFER          02 03440
007637 034024 A 3448          LDX     FCB14+1                                           02 03441
007640 017000 I 3449          LDA     ADRB                                              02 03442
007641 054022 A 3450          STA     FCB14+1                                           02 03443
007642 002000 A 3451          CALL    MOBF        BLANK OUT AND FILL                    02 03444
007643 010033 R
                3452 $CP0     WRITE   FCB14,14,0,1 WRITE RECORD ASCII                   02 03445
007644 006505 A
007645 000404 A
007646 100000 A
007647 010416 A
007650 007663 R
007651 000000 A
007652 000000 A
007653 006010 A 3453          LDAI    $CP0                                              02 03446
007654 007644 R
007655 002000 A 3454          CALL    STAT        CHECK STATUS                          02 03447
007656 002060 R
007657 001026 A 3455          JBNZ    $ER         I/O ERROR                             02 03448
007660 002133 R
007661 001000 A 3456          JMP*    CPAS                                              02 03449
007662 107624 R
                3457 FCB14    FCB     120,0,1,,'PO',' ',' '                         C   02 03450
007663 000170 A
007664 000000 A
007665 000400 A
007666 000000 A
007667 000000 A
007670 000000 A
007671 000000 A
007672 150317 A
007673 120240 A
007674 120240 A
                3458 *                                                                  02 03451
                3459 * PRINT RECORD (LUN=15)                                          02 03452
                3460 *                                                                  02 03453
007675 000000 A 3461 PRNT     ENTR    0                                                 02 03454
007676 054032 A 3462          STA     FCB15       SAVE WORD COUNT                       02 03455
007677 064032 A 3463          STB     FCB15+1     DATA ADDRESS                          02 03456
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007700 024131 A 3464          LDB     LOLP                                          C   02 03457
007701 001020 A 3465          JBZ     $PR1        JUMP IF LO NOT PRINTER            C   02 03458
007702 007712 R
       007703 R 3466 $PRO     EQU     *                                                 02 03459
007703 014025 A 3467          LDA     FCB15       GET WORD COUNT                        02 03460
007704 024025 A 3468          LDB     FCB15+1     AND ADDRESS                           02 03461
007705 002000 A 3469          CALL    MORB        SHIFT RECORD RIGHT ONE CHARACTER      02 03462
007706 010402 R
007707 006010 A 3470          LDAI    RPGLD                                             02 03463
007710 011065 R
007711 054020 A 3471          STA     FCB15+1                                           02 03464
               3472 $PR1      WRITE   FCB15,15,0,1 WRITE RECORD ASCII                   02 03465
007712 006505 A
007713 000404 A
007714 100000 A
007715 010417 A
007716 007731 R
007717 000000 A
007720 000000 A
007721 006010 A 3473          LDAI    $PR1                                              02 03466
007722 007712 R
007723 002000 A 3474          CALL    STAT        CHECK STATUS                          02 03467
007724 002063 R
007725 001026 A 3475          JBNZ    $ER         I/O ERROR                             02 03468
007726 002133 R
007727 001000 A 3476          JMP*    PRNT                                              02 03469
007730 107675 R
               3477 FCB15     FCB     120,0,1,,'LO',' ',' '                         C   02 03470
007731 000170 A
007732 000000 A
007733 000400 A
007734 000000 A
007735 000000 A
007736 000000 A
007737 000000 A
007740 146317 A
007741 120240 A
007742 120240 A
               3478 *                                                                  02 03471
               3479 *                                                                  02 03472
               3480 * SPACE                                                           02 03473
               3481 *                                                                  02 03474
       007743 R 3482 SPCE    EQU     *                                                 02 03475
007743 127000 I 3483          ADD     LCNT                                              02 03476
007744 057000 I 3484          STA     LCNT        INCREMENT LINE COUNT                  02 03477
007745 002002 A 3485          JAPM    SOV         SET OVERFLOW IF PAGE FULL             02 03478
007746 010130 R
007747 017000 I 3486          LDA     TMPR                                              02 03479
007750 002000 A 3487          CALL    SPACE       SPACE N LINES                         02 03480
007751 010002 R
007752 001000 A 3488          JMP     WRI4                                              02 03481
007753 007561 R
               3489 *                                                                  02 03482
               3490 * TOP OF FORM (LUN=15)                                            02 03483
               3491 *                                                                  02 03484
               3492 *                                                                  02 03485
007754 000000 A 3493 SLEW     ENTR    0                                                 02 03486
007755 005311 A 3494          DAR                                                       02 03487
007756 001010 A 3495          JAZ     *+4         TOP-OF-FORM                       E.2*********
007757 007762 R
007760 006110 A 3496          ORAI    0300                                              02 03489
007761 000300 A
007762 057000 I 3497          STA     FCB15+2     MODIFY FUNCTION                       02 03489
               3498 SLEW1     FUNC    FCB15,15,0  GO TO TOP OF FORM                     02 03490
007763 006505 A
007764 000404 A
007765 100000 A
007766 002417 A
007767 007731 R
007770 000000 A
007771 000000 A
007772 006010 A 3499          LDAI    SLEW1                                             02 03491
007773 007763 R
007774 002000 A 3500          CALL    STAT        CHECK STATUS                          02 03492
007775 002063 R
007776 001026 A 3501          JBNZ    $ER                                               02 03493
007777 002133 R
010000 001000 A 3502          JMP*    SLEW                                              02 03494
010001 107754 R
               3503 *                                                                  02 03495
               3504 *                                                                  02 03496
               3505 * SPACE N LINES (LUN=15)                                          02 03497
               3506 *                                                                  02 03498
010002 000000 A 3507 SPACE    ENTR    0                                                 02 03499
010003 057000 I 3508          STA     TMPR                                              02 03500
010004 010421 A 3509          LDA     ONE                                               02 03501
010005 057000 I 3510          STA     FCB15+2     MODIFY FUNCTION                       02 03502
               3511 SPC1      FUNC    FCB15,15,0  SPACE ONE LINE                        02 03503
010006 006505 A
010007 000404 A
010010 100000 A
010011 002417 A
010012 007731 R
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010013 000000 A                                                                                                  02 03504
010014 000000 A
010015 006010 A 3512          LDAI    SPC1                                                                       02 03504
010016 010006 R
010017 002000 A 3513          CALL    STAT            CHECK STATUS                                               02 03505
010020 002063 R
010021 001026 A 3514          JBNZ    $ER                                                                        02 03506
010022 002133 R
010023 017000 I 3515          LDA     TMPR                                                                       02 03507
010024 005311 A 3516          DAR                                                                                02 03508
010025 001010 A 3517          JAZ*    SPACE           RETURN IF COUNT ZERO                                       02 03509
010026 110002 R
010027 057000 I 3518          STA     TMPR                                                                       02 03510
010030 001000 A 3519          JMP     SPC1                                                                       02 03511
010031 010006 R
010032 177777 A 3520 LOLP     DATA    -1                                                                   C     02 03512
                3521 *                                                                                           02 03513
                3522 *        MOVE TO CARD BUFFER                                                                02 03514
                3523 *        ENTER:  B=WORD COUNT                                                               02 03515
                3524 *                X=LOCATION OF DATA                                                         02 03516
                3525 *        EXIT:   CRBF SET TO BLANKS AND FILLED WITH SOURCE BUFFER                           02 03517
                3526 *                                                                                           02 03518
010033 000000 A 3527 MOBF     DATA    0                                                                          02 03519
010034 064042 A 3528          STB     MOBFT           SAVE                                                       02 03520
010035 074042 A 3529          STX     MOBFT+1                                                                    02 03521
010036 037000 I 3530          LDX     ADRB            CLEAR BUFFER                                               02 03522
010037 006010 A 3531          LDAI    -40                                                                        02 03523
010040 177730 A
010041 027000 I 3532          LDB     NA                                                                         02 03524
010042 065000 A 3533 MOBF1    STB     0,1                                                                        02 03525
010043 005144 A 3534          IXR                                                                                02 03526
010044 005111 A 3535          IAR                                                                                02 03527
010045 001004 A 3536          JAN     MOBF1           THRU?                                                      02 03528
010046 010042 R
010047 024027 A 3537          LDB     MOBFT                                                                C     02 03529
010050 005021 A 3538          TBA                                                                          C     02 03530
010051 147000 I 3539          SUB     D50                                                                  C     02 03531
010052 005311 A 3540          DAR                                                                          C     02 03532
010053 001004 A 3541          JAN     MOBF3                                                                C     02 03533
010054 010056 R
010055 027000 I 3542          LDB     D50             LIMIT MOVE TO 40 WORDS                               C     02 03534
010056 005222 A 3543 MOBF3    CPB                                                                          C     02 03535
010057 064017 A 3544          STB     MOBFT                                                                C     02 03536
010060 034017 A 3545          LDX     MOBFT+1                                                                    02 03537
010061 027000 I 3546          LDB     ADRB                                                                       02 03538
010062 015000 A 3547 MOBF2    LDA     0,1             MOVE DATA                                                  02 03539
010063 056000 A 3548          STA     0,2                                                                        02 03540
010064 005144 A 3549          IXR                                                                                02 03541
010065 005122 A 3550          IBR                                                                                02 03542
010066 014010 A 3551          LDA     MOBFT                                                                      02 03543
010067 005111 A 3552          IAR                                                                                02 03544
010070 054006 A 3553          STA     MOBFT                                                                      02 03545
010071 001004 A 3554          JAN     MOBF2           THRU?                                                      02 03546
010072 010062 R
010073 014005 A 3555          LDA     BUFEND          YES                                                        02 03547
010074 037000 I 3556          LDX     ADRB                                                                       02 03548
010075 001000 A 3557          RETU*   MOBF                                                                       02 03549
010076 110033 R
010077 000000 A 3558 MOBFT    DATA    0,0                                                                        02 03550
010100 000000 A
010101 000246 R 3559 BUFEND   DATA    RBUF+40                                                                    02 03551
                3560 *                                                                                           02 03552
                3561 * GET RECORD POINTER FROM GENIC                                                             02 03553
                3562 *        EXIT    RECP = LOCATION IN DATA LIST POINTER TABLE                                  02 03554
                3563 *                REND = NEG IF LAST RECORD IN LIST                                          02 03555
                3564 *                RECP = RECORD DATA LIST POINTER                                            02 03556
                3565 *                A-REG = RECP                                                               02 03557
                3566 *                                                                                           02 03558
010102 000000 A 3567 GETR     ENTRY                                                                              02 03559
010103 037000 I 3568          LDX     INPA                                                                       02 03560
010104 002000 A 3569          JMPM    GBAI                                                                       02 03561
010105 002721 R
010106 004250 A 3570          LPLA    8                                                                          02 03562
010107 057000 I 3571          STA     REND                                                                       02 03563
010110 004241 A 3572          LRLA    1                       TEST DIRECTIVE BIT                                 02 03564
010111 001004 A 3573          JAN*    GETR                                                                       02 03565
010112 110102 R
010113 002000 A 3574          JMPM    GBAI                                                                       02 03566
010114 002721 R
010115 117000 I 3575          ORA     REND                                                                       02 03567
010116 057000 I 3576          STA     REND            END OF RECORD LIST INDICATOR                               02 03568
010117 157000 I 3577          ANA     MSDP                                                                       02 03569
010120 127000 I 3578          ADD     BIAR            GET RECORD DATA LIST POINTER                               02 03570
010121 057000 I 3579          STA     RECP                                                                       02 03571
010122 005014 A 3580          TAX                                                                                02 03572
010123 015000 A 3581          LDA     0,1                                                                        02 03573
010124 157000 I 3582          ANA     MSK0                                                                       02 03574
010125 057000 I 3583          STA     RECP                                                                       02 03575
010126 001000 A 3584          JMP*    GETR                                                                       02 03576
010127 110102 R
                3585 *                                                                                           02 03577
                3586 * SET OVERFLOW INDICATOR                                                                    02 03578
                3587 *        ENTRY   A-REG = + IS TRUE                                                          02 03579
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                    3588 *                          * - IS FALSE                                                    02 03580
                    3589 *                                                                                          02 03581
010130 000000 A     3590 SOV    ENTRY                                                                               02 03582
010131 137000 I     3591        ERA     TRUE                                                                        02 03583
010132 027000 I     3592        LDB     IOV                                                                         02 03584
010133 002000 A     3593        JMPM    SIN                                                                         02 03585
010134 003214 R
010135 001000 A     3594        JMP*    SOV                                                                         02 03586
010136 110130 R
                    3595 *                                                                                          02 03587
                    3596 * DUMMY 'TYP' FOR STOP STATEMENT                                                           02 03588
                    3597 *                                                                                          02 03589
010137 002000 A     3598 TYPE   JMPM    GETR                                                                        02 03590
010140 010102 R
010141 017000 I     3599        LDA     INTP                                                                        02 03591
010142 004341 A     3600        LSRA    1                                                                           02 03592
010143 057000 I     3601        STA     FCB15+1         ADDRESS OF LITERAL STRING                                   02 03593
010144 017000 I     3602        LDA     REND                                                                        02 03594
010145 157000 I     3603        ANA     MSOP                                                                        02 03595
010146 005014 A     3604        TAX                                                                                 02 03596
010147 127000 I     3605        ADD     INTP                                                                        02 03597
010150 057000 I     3606        STA     INTP                                                                        02 03598
010151 005041 A     3607        TXA                                                                                 02 03599
010152 054315 A     3608        STA     TBYT            SAVE BYTE COUNT                                             02 03600
010153 005111 A     3609        IAR                                                                                 02 03601
010154 004341 A     3610        LSRA    1                                                                           02 03602
010155 057000 I     3611        STA     FCB15           WORD COUNT                                                  02 03603
010156 027000 I     3612        LDB     FCB15+1                                                                     02 03604
010157 002000 A     3613        CALL    MOPB            SHIFT STRING RIGHT ONE CHARACTER                            02 03605
010160 010402 R
010161 006010 A     3614        LDAI    RPGLD                                                                       02 03606
010162 011065 R
010163 057000 I     3615        STA     FCB15+1                                                                     02 03607
                    3616 TYPE1  WRITE   FCB15,15,0,1    LOG 'STOP' MESSAGE                                          02 03608
010164 006505 A
010165 000404 A
010166 100000 A
010167 010417 A
010170 007731 R
010171 000000 A
010172 000000 A
010173 006010 A     3617        LDAI    TYPE1                                                                       02 03609
010174 010164 R
010175 002000 A     3618        CALL    STAT            CHECK STATUS                                                02 03610
010176 002063 R
010177 001026 A     3619        JBNZ    SER                                                                         02 03611
010200 002133 R
010201 001000 A     3620.       JMP     INT             RETURN TO INTERPRETER                                       02 03612
010202 002415 R
                    3621        EJEC                                                                                02 03613
                    3622 *                                                                                          02 03614
                    3623 *      VORTEX RPG LOADER/RUNTIME SUPPORT                                                   02 03615
                    3624 *                                                                                          02 03616
                    3625 *                                                                                          02 03617
                    3626 *                                                                                          02 03618
                    3627 *      PHYSICAL UNIT TEST                                                                  02 03619
                    3628 *                                                                                          02 03620
                    3629 *      CALLING SEQUENCE                                                                    02 03621
                    3630 *                                                                                          02 03622
                    3631 *      LDA     LOGICAL UNIT NUMBER                                                         02 03623
                    3632 *      CALL    DEVTST                                                                      02 03624
                    3633 *      RETURN                  AREG = 1 IF RMD                                             02 03625
                    3634 *                                   = 2 IF CARD PUNCH                                      02 03626
                    3635 *                                   = 3 IF CARD READER                                     02 03627
                    3636 *                                   = 0 IF NONE OF ABOVE                                   02 03628
                    3637 *                                   = 4 IF LINE PRINTER                            C       02 03629
                    3638 *                                                                                          02 03630
010203 000000 A     3639 DEVTST ENTR    0                                                                           02 03631
010204 120400 A     3640        ADD     V$LUT1          ADDRESS OF LOGICAL UNIT TABLE                               02 03632
010205 005012 A     3641        TAB                                                                                 02 03633
010206 016000 A     3642        LDA     0,2             GET DISPLACEMENT INTO DST'S                                 02 03634
010207 150463 A     3643        ANA     BM377                                                                       02 03635
010210 057000 I     3644        STA     LUN             SAVE ACTUAL LUN                                             02 03636
010211 005311 A     3645        DAR                                                                                 02 03637
010212 057000 I     3646        STA     TEMP                                                                        02 03638
010213 004201 A     3647        ASLA    1                                                                           02 03639
010214 127000 I     3648        ADD     TEMP                                                                        02 03640
010215 120355 A     3649        ADD     V$DSTB          ADDRESS OF DST'S                                            02 03641
010216 005014 A     3650        TAX                                                                                 02 03642
010217 005002 A     3651        TZB                                                                                 02 03643
010220 015001 A     3652        LDA     1,1             GET DEVICE NAME                                             02 03644
010221 006130 A     3653        ERAI    'SP'            IS IT A SPOOLER                                        E.2********
010222 151720 A
010223 001016 A     3654        JANZ    DEVTS1          NO                                                     E.2********
010224 010242 R
010225 015000 A     3655        LDA     0,1             DEVICE NUMBER (BITS 12-4)                              E.2********
010226 004352 A     3656        LSRA    10              POSITITION MSB OF UNIT NUMBER                          E.2********
010227 150467 A     3657        ANA     BM7                                                                    E.2********
010230 120402 A     3658        ADD     V$LUT3          SPOOL LUT BASE                                         E.2********
010231 005114 A     3659        INCR    014             ADJUST PAST LUT SIZE WORD TO X                         E.2********
010232 015000 A     3660        LDA     0,1             CURRENT DST ENTRY NUMBER                               E.2********
010233 150463 A     3661        ANA     RHW                                                                    E.2********
010234 005311 A     3662        DAR                                                                            E.2********
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010235 054056 A 3663          STA     OBTA                                                    E.2********
010236 004201 A 3664          ASLA    1               TIMES 2                                 E.2********
010237 124054 A 3665          ADD     OBTA            PLUS 1                                  E.2********
010240 120355 A 3666          ADD     V$DSTB                                                  E.2********
010241 005014 A 3667          TAX                                                             E.2********
010242 015001 A 3668 DEVTS1   LDA     1,1                                                     E.2********
010243 150462 A 3669          ANA     LHW                                                        02 03645
010244 006130 A 3670          ERAI    0142000         IS IT AN RMD?                              02 03646
010245 142000 A
010246 001010 A 3671          JAZ     DEVTS4                                                     02 03647
010247 010311 R
010250 015001 A 3672          LDA     1,1                                                        02 03648
010251 006130 A 3673          ERAI    0141720         IS IT A CARD PUNCH?                        02 03649
010252 141720 A
010253 001010 A 3674          JAZ     DEVTS3                                                     02 03650
010254 010310 R
010255 015001 A 3675          LDA     1,1                                                        02 03651
010256 006130 A 3676          ERAI    0141722         IS IT A CARD READER?                       02 03652
010257 141722 A
010260 001010 A 3677          JAZ     DEVTS2                                                     02 03653
010261 010307 R
010262 015001 A 3678          LDA     1,1                                                        02 03654
010263 006130 A 3679          ERAI    0146320         2S IT A LINE PRINTER?                C     02 03655
010264 146320 A
010265 001010 A 3680          JAZ     DEVST1                                               C     02 03656
010266 010306 R
010267 015001 A 3681          LDA     1,1                                                     E.2********
010270 006130 A 3682          ERAI    'CT'            IS IT A CRT                             E.2********
010271 141724 A
010272 001010 A 3683          JAZ     DEVST1          GOOD AS A LINE PRINTER                  E.2********
010273 010306 R
010274 015001 A 3684          LDA     1,1                                                     E.2********
010275 150462 A 3685          ANA     LHW                                                     E.2********
010276 006130 A 3686          ERAI    0152000         IS IT A TTY                             E.2********
010277 152000 A
010300 001010 A 3687          JAZ     DEVST1          GOOD AS A LINE PRINTER                  E.2********
010301 010306 R
010302 005021 A 3688 DEVST0   TBA                                                          C     02 03657
010303 027000 I 3689          LDB     LUN             RETURN WITH LUN IN B-REG                   02 03658
010304 001000 A 3690          JMP*    DEVTST                                                     02 03659
010305 110203 R
010306 005122 A 3691 DEVST1   IBR                                                          C     02 03660
010307 005122 A 3692 DEVTS2   IBR                                                                02 03661
010310 005122 A 3693 DEVTS3   IBR                                                                02 03662
010311 005122 A 3694 DEVTS4   IBR                                                                02 03663
010312 001000 A 3695          JMP     DEVST0                                               C     02 03664
010313 010302 R
                    3696 *                                                                       02 03665
                    3697 *                                                                       02 03666
                    3698 *      BINARY TO ASCII CONVERSION                                       02 03667
                    3699 *                                                                       02 03668
010314 000000 A 3700 OBTA     ENIR    0                                                          02 03669
010315 074036 A 3701          STX     OBTZ+1          SAVE X                                     02 03670
010316 005012 A 3702          TAB                                                                02 03671
010317 005001 A 3703          TZA                                                                02 03672
010320 006170 A 3704          DIVI    1000                                                       02 03673
010321 001750 A
010322 004050 A 3705          LRLB    8               A=REMAINDER,B=QUOTIENT                     02 03674
010323 064005 A 3706          STB     OBTC+1          FIRST CHARACTER                            02 03675
010324 005012 A 3707          TAB                                                                02 03676
010325 005001 A 3708          TZA                                                                02 03677
010326 006170 A 3709          DIVI    100             FIND HUNDREDS DIGIT                        02 03678
010327 000144 A
010330 006030 A 3710 OBTC     LDXI    *                                                          02 03679
010331 010330 R
010332 005064 A 3711          MERG    064             B OR X TO X,CHARS 1,2                      02 03680
010333 005012 A 3712          TAB                                                                02 03681
010334 005001 A 3713          TZA                                                                02 03682
010335 006170 A 3714          DIVI    10                                                         02 03683
010336 000012 A
010337 004050 A 3715          LRLB    8               POSITION THIRD CHAR                        02 03684
010340 005032 A 3716          MERG    032             A OR B TO B, CHARS 3,4                     02 03685
010341 005041 A 3717          TXA                     GET CHARS 1,2                              02 03686
010342 001010 A 3718          JAZ     OBTG            BOTH CHARS 1,2 ARE ZERO                    02 03687
010343 010362 R
010344 150462 A 3719          ANA     LHW             CHECK CHAR 1 FOR ZERO                      02 03688
010345 001016 A 3720          JANZ    OBTE            NO                                         02 03689
010346 010357 R
010347 014027 A 3721          LDA     OBBZ            YES, SUPPRESS LEADING ZERO                 02 03690
010350 005051 A 3722 OBTD     MERG    051             X OR A TO A, CHARS 1,2                     02 03691
010351 034027 A 3723          LDX     OBBZE                                                      02 03692
010352 005062 A 3724          MERG    062             X OR B TO B, CHARS 3,4                     02 03693
010353 006030 A 3725 OBTZ     LDXI    *               RESTORE X                                  02 03694
010354 010353 R
010355 001000 A 3726          JMP*    OBTA                                                       02 03695
010356 110314 R
                    3727 *                                                                       02 03696
                    3728 * ENTER IF NO LEADING ZERO                                             02 03697
                    3729 *                                                                       02 03698
010357 014021 A 3730 OBTE     LDA     OBBZE                                                      02 03699
010360 001000 A 3731          JMP     OBTD                                                       02 03700
010361 010350 R
                    3732 *                                                                       02 03701
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                    3733 * ENTER IF CHARS 1,2 LEADING ZEROS                                    02 03702
                    3734 *                                                                     02 03703
010362 004450 A     3735 OBTG   LLRL    8           CHECK CHAR 3                               02 03704
010363 001016 A     3736        JANZ    OBTI        NOT ZERO                                   02 03705
010364 010373 R
010365 004450 A     3737 OBTF   LLRL    8           SUPPRESS CHAR 3, MOVE CHAR 4               02 03706
010366 114010 A     3738        ORA     OBBZ                                                   02 03707
010367 005012 A     3739        TAB                 B= CHAR 3,4                                02 03708
010370 014007 A     3740 OBTH   LDA     OB2BLK      SUPPRESS CHARS 3,4                         02 03709
010371 001000 A     3741        JMP     OBTZ                                                   02 03710
010372 010353 R
010373 114002 A     3742 OBTI   ORA     OBZERO      CHAR 3 IN A                                02 03711
010374 001000 A     3743        JMP     OBTF                                                   02 03712
010375 010365 R
010376 000260 A     3744 OBZERO DATA    0260                                                   02 03713
010377 120260 A     3745 OBBZ   DATA    0120260                                                02 03714
010400 120240 A     3746 OB2BLK DATA    0120240                                                02 03715
010401 130260 A     3747 OB2ZE  DATA    0130260                                                02 03716
                    3748 *                                                                     02 03717
                    3749 *                                                                     02 03718
                    3750 *                                                                     02 03719
                    3751 *                                                                     02 03720
                    3752 * APPEND SPACE CHARACTER TO PRINT LINE                                02 03721
                    3753 *                                                                     02 03722
010402 000000 A     3754 MOPB   ENTR    0                                                      02 03723
010403 064063 A     3755        STB     BUFP        SAVE RECORD ORIGIN                         02 03724
010404 014063 A     3756        LDA     TBYT        GET BYTE COUNT                             02 03725
010405 005012 A     3757        TAB                 SAVE BYTE COUNT                            02 03726
010406 150421 A     3758        ANA     BS0         ODD NUMBER OF BYTES?                       02 03727
010407 001016 A     3759        JANZ    MOPB0                                                  02 03728
010410 010413 R
010411 006047 A     3760        INRE    FCB15       NO, INCREMENT WORD COUNT                   02 03729
010412 007731 R
010413 005021 A     3761 MOPB0  TBA                                                            02 03730
010414 144116 A     3762        SUB     D132                                                   02 03731
010415 001004 A     3763        JAN     MOPB1                                                  02 03732
010416 010420 R
010417 024113 A     3764        LDB     D132                                                   02 03733
010420 064022 A     3765 MOPB1  STB     MOPB3                                                  02 03734
010421 005001 A     3766        TZA                                                            02 03735
010422 054004 A     3767        STA     APK1        RESET BYTE COUNT                           02 03736
010423 017000 I     3768        LDA     K240        GET LEADING SPACE                          02 03737
010424 054004 A     3769 MOPB2  STA     APK3                                                   02 03738
010425 002000 A     3770        CALL    PAK         INSERT CHAR INTO PRINTER BUFFER            02 03739
010426 010471 R
010427 000000 A     3771 APK1   DATA    0                                                      02 03740
010430 011065 R     3772 APK2   DATA    RPGLD                                                  02 03741
010431 000000 A     3773 APK3   DATA    0                                                      02 03742
010432 014010 A     3774        LDA     MOPB3                                                  02 03743
010433 001010 A     3775        JAZ*    MOPB        MOVE COMPLETE                              02 03744
010434 110402 R
010435 005311 A     3776        DAR                                                            02 03745
010436 054004 A     3777        STA     MOPB3                                                  02 03746
010437 002000 A     3778        CALL    INPC        GET BYTE FROM RECORD                       02 03747
010440 010444 R
010441 001000 A     3779        JMP     MOPB2                                                  02 03748
010442 010424 R
010443 000000 A     3780 MOPB3  DATA    0                                                      02 03749
010444 000000 A     3781 INPC   ENTR    0                                                      02 03750
010445 014021 A     3782        LDA     BUFP        FIRST CHAR?                                02 03751
010446 001004 A     3783        JAN     INP2        ODD/EVEN CHARACTER TEST                    02 03752
010447 010457 R
010450 005012 A     3784 INP1   TAB                                                            02 03753
010451 016000 A     3785        LDA     0,2         GET ODD CHAR                               02 03754
010452 004350 A     3786        LSRA    8           RIGHT JUSTIFY                              02 03755
010453 005222 A     3787        CPB                                                            02 03756
010454 064012 A     3788        STB     BUFP                                                   02 03757
010455 001000 A     3789        JMP*    INPC        RETURN                                     02 03758
010456 110444 R
010457 005211 A     3790 INP2   CPA                                                            02 03759
010460 005012 A     3791        TAB                                                            02 03760
010461 016000 A     3792        LDA     0,2         GET EVEN CHAR                              02 03761
010462 150463 A     3793        ANA     BM377                                                  02 03762
010463 005122 A     3794        IBR                                                            02 03763
010464 064002 A     3795        STB     BUFP                                                   02 03764
010465 001000 A     3796        JMP*    INPC                                                   02 03765
010466 110444 R
010467 000000 A     3797 BUFP   DATA    0                                                      02 03766
010470 000000 A     3798 TBYT   DATA    0                                                      02 03767
                    3799 *                                                                     02 03768
                    3800 *                                                                     02 03769
010471 000000 A     3801 PAK    ENTR    0                                                      02 03770
010472 005002 A     3802        TZB                                                            02 03771
010473 006017 A     3803        LDAE*   PAK         GET BYTE COUNT                             02 03772
010474 110471 R
010475 006047 A     3804        INRE*   PAK         INCREMENT IT                               02 03773
010476 110471 R
010477 006047 A     3805        INRE    PAK                                                    02 03774
010500 010471 R
010501 004541 A     3806        LLSR    1                                                      02 03775
010502 006127 A     3807        ADDE*   PAK         ADD BUFFER ORIGIN                          02 03776
010503 110471 R
010504 006047 A     3808        INRE    PAK                                                    02 03777
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010235 054056 A 3663          STA     DBTA                                                    E.2********
010236 004201 A 3664          ASLA    1               TIMES 2                                 E.2********
010237 124054 A 3665          ADD     DBTA            PLUS 1                                  E.2********
010240 120355 A 3666          ADD     V$DSTB                                                  E.2********
010241 005014 A 3667          TAX                                                             E.2********
010242 015001 A 3668 DEVTS1   LDA     1,1                                                     E.2********
010243 150462 A 3669          ANA     LHW                                                        02 03645
010244 006130 A 3670          ERAI    0142000         IS IT AN RMD?                              02 03646
010245 142000 A
010246 001010 A 3671          JAZ     DEVTS4                                                     02 03647
010247 010311 R
010250 015001 A 3672          LDA     1,1                                                        02 03648
010251 006130 A 3673          ERAI    0141720         IS IT A CARD PUNCH?                        02 03649
010252 141720 A
010253 001010 A 3674          JAZ     DEVTS3                                                     02 03650
010254 010310 R
010255 015001 A 3675          LDA     1,1                                                        02 03651
010256 006130 A 3676          ERAI    0141722         IS IT A CARD READER?                       02 03652
010257 141722 A
010260 001010 A 3677          JAZ     DEVTS2                                                     02 03653
010261 010307 R
010262 015001 A 3678          LDA     1,1                                                        02 03654
010263 006130 A 3679          ERAI    0146320         2S IT A LINE PRINTER?                C     02 03655
010264 146320 A
010265 001010 A 3680          JAZ     DEVST1                                               C     02 03656
010266 010306 R
010267 015001 A 3681          LDA     1,1                                                     E.2********
010270 006130 A 3682          ERAI    'CT'            IS IT A CRT                             E.2********
010271 141724 A
010272 001010 A 3683          JAZ     DEVST1          GOOD AS A LINE PRINTER                  E.2********
010273 010306 R
010274 015001 A 3684          LDA     1,1                                                     E.2********
010275 150462 A 3685          ANA     LHW                                                     E.2********
010276 006130 A 3686          ERAI    0152000         IS IT A TTY                             E.2********
010277 152000 A
010300 001010 A 3687          JAZ     DEVST1          GOOD AS A LINE PRINTER                  E.2********
010301 010306 R
010302 005021 A 3688 DEVSTO   TBA                                                          C     02 03657
010303 027000 I 3689          LDB     LUN             RETURN WITH LUN IN B-REG                   02 03658
010304 001000 A 3690          JMP*    DEVTST                                                     02 03659
010305 110203 R
010306 005122 A 3691 DEVST1   IBR                                                          C     02 03660
010307 005122 A 3692 DEVTS2   IBR                                                                02 03661
010310 005122 A 3693 DEVTS3   IBR                                                                02 03662
010311 005122 A 3694 DEVTS4   IBR                                                                02 03663
010312 001000 A 3695          JMP     DEVSTO                                               C     02 03664
010313 010302 R
                    3696 *                                                                       02 03665
                    3697 *                                                                       02 03666
                    3698 *        BINARY TO ASCII CONVERSION                                     02 03667
                    3699 *                                                                       02 03668
010314 000000 A 3700 DBTA     ENTR    0                                                          02 03669
010315 074036 A 3701          STX     DBTZ+1          SAVE X                                     02 03670
010316 005012 A 3702          TAB                                                                02 03671
010317 005001 A 3703          TZA                                                                02 03672
010320 006170 A 3704          DIVI    1000                                                       02 03673
010321 001750 A
010322 004050 A 3705          LRLB    8               A=REMAINDER,B=QUOTIENT                     02 03674
010323 064005 A 3706          STB     DBTC+1          FIRST CHARACTER                            02 03675
010324 005012 A 3707          TAB                                                                02 03676
010325 005001 A 3708          TZA                                                                02 03677
010326 006170 A 3709          DIVI    100             FIND HUNDREDS DIGIT                        02 03678
010327 000144 A
010330 006030 A 3710 DBTC     LDXI    *                                                          02 03679
010331 010330 R
010332 005064 A 3711          MERG    064             B OR X TO X,CHARS 1,2                      02 03680
010333 005012 A 3712          TAB                                                                02 03681
010334 005001 A 3713          TZA                                                                02 03682
010335 006170 A 3714          DIVI    10                                                         02 03683
010336 000012 A
010337 004050 A 3715          LRLB    8               POSITION THIRD CHAR                        02 03684
010340 005032 A 3716          MERG    032             A OR B TO B, CHARS 3,4                     02 03685
010341 005041 A 3717          TXA                     GET CHARS 1,2                              02 03686
010342 001010 A 3718          JAZ     DBTG            BOTH CHARS 1,2 ARE ZERO                    02 03687
010343 010362 R
010344 150462 A 3719          ANA     LHW             CHECK CHAR 1 FOR ZERO                      02 03688
010345 001016 A 3720          JANZ    DBTE            NO                                         02 03689
010346 010357 R
010347 014027 A 3721          LDA     DBBZ            YES, SUPPRESS LEADING ZERO                 02 03690
010350 005051 A 3722 DBTD     MERG    051             X OR A TO A, CHARS 1,2                     02 03691
010351 034027 A 3723          LDX     DBBZE                                                      02 03692
010352 005062 A 3724          MERG    062             X OR B TO B, CHARS 3,4                     02 03693
010353 006030 A 3725 DBTZ     LDXI    *               RESTORE X                                  02 03694
010354 010353 R
010355 001000 A 3726          JMP*    DBTA                                                       02 03695
010356 110314 R
                    3727 *                                                                       02 03696
                    3728 * ENTER IF NO LEADING ZERO                                             02 03697
                    3729 *                                                                       02 03698
010357 014021 A 3730 DBTE     LDA     DBZE                                                       02 03699
010360 001000 A 3731          JMP     DBTD                                                       02 03700
010361 010350 R
                    3732 *                                                                       02 03701
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                    3733 * ENTER IF CHARS 1,2 LEADING ZEROS                                  02 03702
                    3734 *                                                                   02 03703
010362 004450 A     3735 OBTG   LLRL    8           CHECK CHAR 3                             02 03704
010363 001016 A     3736        JANZ    OBTI        NOT ZERO                                 02 03705
010364 010373 R
010365 004450 A     3737 OBTF   LLRL    8           SUPPRESS CHAR 3, MOVE CHAR 4             02 03706
010366 114010 A     3738        ORA     OBBZ                                                 02 03707
010367 005012 A     3739        TAB                 B= CHAR 3,4                              02 03708
010370 014007 A     3740 OBTH   LDA     OB2BLK      SUPPRESS CHARS 3,4                       02 03709
010371 001000 A     3741        JMP     OBTZ                                                 02 03710
010372 010353 R
010373 114002 A     3742 OBTI   ORA     OBZERO      CHAR 3 IN A                              02 03711
010374 001000 A     3743        JMP     OBTF                                                 02 03712
010375 010365 R
010376 000260 A     3744 OBZERO DATA    0260                                                 02 03713
010377 120260 A     3745 OBBZ   DATA    0120260                                              02 03714
010400 120240 A     3746 OB2BLK DATA    0120240                                              02 03715
010401 130260 A     3747 OB2ZE  DATA    0130260                                              02 03716
                    3748 *                                                                   02 03717
                    3749 *                                                                   02 03718
                    3750 *                                                                   02 03719
                    3751 *                                                                   02 03720
                    3752 * APPEND SPACE CHARACTER TO PRINT LINE                               02 03721
                    3753 *                                                                   02 03722
010402 000000 A     3754 MOPB   ENTR    0                                                    02 03723
010403 064063 A     3755        STB     BUFP        SAVE RECORD ORIGIN                       02 03724
010404 014063 A     3756        LDA     TBYT        GET BYTE COUNT                           02 03725
010405 005012 A     3757        TAB                 SAVE BYTE COUNT                          02 03726
010406 150421 A     3758        ANA     BS0         ODD NUMBER OF BYTES?                     02 03727
010407 001016 A     3759        JANZ    MOPB0                                                02 03728
010410 010413 R
010411 006047 A     3760        INRE    FCB15       NO, INCREMENT WORD COUNT                 02 03729
010412 007731 R
010413 005021 A     3761 MOPB0  TBA                                                          02 03730
010414 144116 A     3762        SUB     D132                                                 02 03731
010415 001004 A     3763        JAN     MOPB1                                                02 03732
010416 010420 R
010417 024113 A     3764        LDB     D132                                                 02 03733
010420 064022 A     3765 MOPB1  STB     MOPB3                                                02 03734
010421 005001 A     3766        TZA                                                          02 03735
010422 054004 A     3767        STA     APK1        RESET BYTE COUNT                         02 03736
010423 017000 I     3768        LDA     K240        GET LEADING SPACE                        02 03737
010424 054004 A     3769 MOPB2  STA     APK3                                                 02 03738
010425 002000 A     3770        CALL    PAK         INSERT CHAR INTO PRINTER BUFFER          02 03739
010426 010471 R
010427 000000 A     3771 APK1   DATA    0                                                    02 03740
010430 011065 R     3772 APK2   DATA    RPGLD                                                02 03741
010431 000000 A     3773 APK3   DATA    0                                                    02 03742
010432 014010 A     3774        LDA     MOPB3                                                02 03743
010433 001010 A     3775        JAZ*    MOPB        MOVE COMPLETE                            02 03744
010434 110402 R
010435 005311 A     3776        DAR                                                          02 03745
010436 054004 A     3777        STA     MOPB3                                                02 03746
010437 002000 A     3778        CALL    INPC        GET BYTE FROM RECORD                     02 03747
010440 010444 R
010441 001000 A     3779        JMP     MOPB2                                                02 03748
010442 010424 R
010443 000000 A     3780 MOPB3  DATA    0                                                    02 03749
010444 000000 A     3781 INPC   ENTR    0                                                    02 03750
010445 014021 A     3782        LDA     BUFP        FIRST CHAR?                              02 03751
010446 001004 A     3783        JAN     INP2        ODD/EVEN CHARACTER TEST                  02 03752
010447 010457 R
010450 005012 A     3784 INP1   TAB                                                          02 03753
010451 016000 A     3785        LDA     0,2         GET ODD CHAR                             02 03754
010452 004350 A     3786        LSRA    8           RIGHT JUSTIFY                            02 03755
010453 005222 A     3787        CPB                                                          02 03756
010454 064012 A     3788        STB     BUFP                                                 02 03757
010455 001000 A     3789        JMP*    INPC        RETURN                                   02 03758
010456 110444 R
010457 005211 A     3790 INP2   CPA                                                          02 03759
010460 005012 A     3791        TAB                                                          02 03760
010461 016000 A     3792        LDA     0,2         GET EVEN CHAR                            02 03761
010462 150463 A     3793        ANA     BM377                                                02 03762
010463 005122 A     3794        IBR                                                          02 03763
010464 064002 A     3795        STB     BUFP                                                 02 03764
010465 001000 A     3796        JMP*    INPC                                                 02 03765
010466 110444 R
010467 000000 A     3797 BUFP   DATA    0                                                    02 03766
010470 000000 A     3798 TBYT   DATA    0                                                    02 03767
                    3799 *                                                                   02 03768
                    3800 *                                                                   02 03769
010471 000000 A     3801 PAK    ENTR    0                                                    02 03770
010472 005002 A     3802        TZB                                                          02 03771
010473 006017 A     3803        LDAE*   PAK         GET BYTE COUNT                           02 03772
010474 110471 R
010475 006047 A     3804        INRE*   PAK         INCREMENT IT                             02 03773
010476 110471 R
010477 006047 A     3805        INRE    PAK                                                  02 03774
010500 010471 R
010501 004541 A     3806        LLSR    1                                                    02 03775
010502 006127 A     3807        ADDE*   PAK         ADD BUFFER ORIGIN                        02 03776
010503 110471 R
010504 006047 A     3808        INRE    PAK                                                  02 03777
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010505 010471 R
010506 005014 A 3809          TAX                                                    02 03778
010507 004041 A 3810          LRLB    1                                              02 03779
010510 015000 A 3811          LDA     0,1                                            02 03780
010511 006156 A 3812          ANAE    MSKE,2                                         02 03781
010512 010531 R
010513 055000 A 3813          STA     0,1       MASK OUT BYTE SLOT                   02 03782
010514 006017 A 3814          LDAE*   PAK                                            02 03783
010515 110471 R
010516 006047 A 3815          INRE    PAK                                            02 03784
010517 010471 R
010520 001020 A 3816          JBZ     PAK2                                           02 03785
010521 010526 R
010522 115000 A 3817 PAK1     ORA     0,1       INSERT BYTE                          02 03786
010523 055000 A 3818          STA     0,1       RESTORE WORD                         02 03787
010524 001000 A 3819          JMP*    PAK                                            02 03788
010525 110471 R
010526 004250 A 3820 PAK2     LRLA    8                                              02 03789
010527 001000 A 3821          JMP     PAK1                                           02 03790
010530 010522 R
010531 000000 A 3822 MSKE     DATA    0,0177400                                      02 03791
010532 177400 A
010533 000204 A 3823 D132     DATA    132                                            02 03792
               3824 *                                                               02 03793
               3825 *                                                               02 03794
               3826 *         SUBROUTINE TO CONVERT HOLLERITH TO ASCII              02 03795
               3827 *                                                               02 03796
               3828 *         CALLING SEQUENCE                                      02 03797
               3829 *         LDA             CARD COL BINARY (HOLLERITH)           02 03798
               3830 *         JMPM            HOAS                                  02 03799
               3831 *         RETURN                                                02 03800
               3832 *                                                               02 03801
               3833 *         RETURNS ASCII IN A REG                                02 03802
               3834 *         B AND X REGS PRESERVED                                02 03803
               3835 *                                                               02 03804
010534 000000 A 3836 HOAS     ENTRY             HOLLERITH TO ASCII CONVERSION       02 03805
010535 064325 A 3837          STB     TEM1                                           02 03806
010536 074325 A 3838          STX     TEM1+1                                         02 03807
010537 005002 A 3839          TZB                                                    02 03808
010540 134054 A 3840          ERA     HOA9      CHECK 0-2-8                          02 03809
010541 001010 A 3841          JAZ     HOA2                                           02 03810
010542 010603 R
010543 134051 A 3842          ERA     HOA9                                           02 03811
010544 004551 A 3843          LLSR    9         SPLIT OFF ZONE                       02 03812
010545 006120 A 3844          ADDI    HOA4      ZONE BASE TABLE ADR                  02 03813
010546 010610 R
010547 005014 A 3845          TAX                                                    02 03814
010550 005021 A 3846          TBA               DIGIT PORTION                        02 03815
010551 035000 A 3847          LDX     0,1       ZONE VALUE                           02 03816
010552 005112 A 3848          INCR    012                                            02 03817
010553 154034 A 3849          ANA     HOA4                                           02 03818
010554 003010 A 3850          XAZ     HOA3      IF NO ROW 1,3,5,7, OR 9              02 03819
010555 010607 R
010556 005123 A 3851          INCR    023                                            02 03820
010557 154033 A 3852          ANA     HOA5                                           02 03821
010560 003010 A 3853          XAZ     HOA3      IF NO ROW 2,3,6, OR 7                02 03822
010561 010607 R
010562 004401 A 3854          LASL    1                                              02 03823
010563 005021 A 3855          TBA                                                    02 03824
010564 154032 A 3856          ANA     HOA8                                           02 03825
010565 003010 A 3857          XAZ     HOA3      IF NO ROW 4,5,6, OR 7                02 03826
010566 010607 R
010567 004401 A 3858          LASL    1                                              02 03827
010570 005021 A 3859          TBA                                                    02 03828
010571 154023 A 3860          ANA     HOA6                                           02 03829
010572 003010 A 3861          XAZ     HOA3      IF NO ROW 8 OR 9                     02 03830
010573 010607 R
010574 005041 A 3862          TXA                                                    02 03831
010575 006030 A 3863 HOA1     LDXI    HOA7                                           02 03832
010576 010620 R
010577 002000 A 3864          CALL    IFETCH                                         02 03833
010600 011042 R
010601 001000 A 3865          JMP*    HOAS                                           02 03834
010602 110534 R
010603 006010 A 3866 HOA2     LDAI    16                                    B.2 02 03835
010604 000020 A
010605 001000 A 3867          JMP     HOA1                                           02 03836
010606 010575 R
010607 005064 A 3868 HOA3     MERGE   064                                            02 03837
               3869 *                                                               02 03838
               3870 *         SEQUENCE OF HOA CONSTANTS IS CRITICAL                 B.2 02 03839
               3871 *                                                               B.2 02 03840
010610 125200 A 3872 HOA4     DATA    0'25200,060,040                               B.2 02 03841
010611 000060 A
010612 000040 A
010613 063000 A 3873 HOA5     DATA    063000,020                                    B.2 02 03842
010614 000020 A
010615 003000 A 3874 HOA6     DATA    03000,060                                     B.2 02 03843
010616 000060 A
010617 036000 A 3875 HOA8     DATA    036000                                             02 03844
       010615 R 3876 HOA9     EQU     HOA6                                          B.2 02 03845
010620 121275 A 3877 HOA7     DATA    '"=',0123700,'@:987654321 ',0157253,'<<.[IHGFEDCBA&'    02 03846
010621 123700 A
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010622 121672 A
010623 134670 A
010624 133666 A
010625 132664 A
010626 131662 A
010627 130640 A
010630 157253 A
010631 124274 A
010632 127333 A
010633 144710 A
010634 143706 A
010635 142704 A
010636 141702 A
010637 140646 A
010640 156273 A 3878      DATA    '\;)*$!RQPONMLKJ-?>',0157645,',JZYXWVUTS/0'                    02 03847
010641 124652 A
010642 122241 A
010643 151321 A
010644 150317 A
010645 147315 A
010646 146313 A
010647 145255 A
010650 137676 A
010651 157645 A
010652 126335 A
010653 155331 A
010654 154327 A
010655 153325 A
010656 152323 A
010657 127660 A
                3879 *                                                                          02 03848
                3880 *          SUBROUTINE TO CONVERT ASCII TO HOLLERITH                        02 03849
                3881 *                                                                          02 03850
                3882 *          CALLING SEQUENCE                                                02 03851
                3883 *          LDA             ASCII                                           02 03852
                3884 *          JMPM            ASHO                                            02 03853
                3885 *          RETURN                                                          02 03854
                3886 *                                                                          02 03855
                3887 *          RETURNS HOLLERITH CARD COL BINARY IN A REG                      02 03856
                3888 *          B AND X REGS PRESERVED                                          02 03857
                3889 *                                                                          02 03858
010660 000000 A 3890 ASHO  ENTRY                                                                02 03859
010661 157000 I 3891       ANA     077                                                          02 03860
010662 006120 A 3892       ADDI    ASHT            TABLE BASE ADR                               02 03861
010663 010671 R
010664 004460 A 3893       LLRL    16              EXCHANGE AR-BR                               02 03862
010665 026000 A 3894       LDB     0,2             HOLLERITH 12 BITS                            02 03863
010666 004460 A 3895       LLRL    16              EXCHANGE AR-BR                               02 03864
010667 001000 A 3896       JMP*    ASHO            RETURN                                       02 03865
010670 110660 R
010671 000042 A 3897 ASHT  DATA    00042,04400,04200,04100,04040,04020,04010,04004              02 03866
010672 004400 A
010673 004200 A
010674 004100 A
010675 004040 A
010676 004020 A
010677 004010 A
010700 004004 A
010701 004002 A 3898       DATA    04002,04001,02400,02200,02100,02040,02020,02010              02 03867
010702 004001 A
010703 002400 A
010704 002200 A
010705 002100 A
010706 002040 A
010707 002020 A
010710 002010 A
010711 002004 A 3899       DATA    02004,02002,02001,01200,01100,01040,01020,01010              02 03868
010712 002002 A
010713 002001 A
010714 001200 A
010715 001100 A
010716 001040 A
010717 001020 A
010720 001010 A
010721 001004 A 3900       DATA    01004,01002,01001,04202,02006,01202,03000,01022      B.2     02 03869
010722 001002 A
010723 001001 A
010724 004202 A
010725 002006 A
010726 001202 A
010727 003000 A
010730 001022 A
010731 000000 A 3901       DATA    00000,02202,00006,00102,02102,01042,04000,00022              02 03870
010732 002202 A
010733 000006 A
010734 000102 A
010735 002102 A
010736 001042 A
010737 004000 A
010740 000022 A
010741 004022 A 3902       DATA    04022,02022,02042,04012,01102,02000,04102,01400              02 03871
010742 002022 A
010743 002042 A
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010744 004012 A
010745 001102 A
010746 002000 A
010747 004102 A
010750 001400 A
010751 001000 A 3903        DATA    01000,00400,00200,00100,00040,00020,00010,00004          02 03872
010752 000400 A
010753 000200 A
010754 000100 A
010755 000040 A
010756 000020 A
010757 000010 A
010760 000004 A
010761 000002 A 3904        DATA    00002,00001,00202,02012,04042,00012,01012,01006          02 03873
010762 000001 A
010763 000202 A
010764 002012 A
010765 004042 A
010766 000012 A
010767 001012 A
010770 001006 A
                3905 *                                                                       02 03874
                3906 *          SUBROUTINE TO CONVERT ASCII TO COLLATING SEQUENCE            02 03875
                3907 *                                                                       02 03876
                3908 *          CALLING SEQUENCE                                             02 03877
                3909 *          LDA             ASCII CHAR                                   02 03878
                3910 *          JMPM            COLA                                         02 03879
                3911 *          RETURN                                                       02 03880
                3912 *                                                                       02 03881
                3913 *          RETURNS WITH COLLATING VALUE IN A REG                        02 03882
                3914 *          B AND X REGS PRESERVED                                       02 03883
                3915 *                                                                       02 03884
010771 000000 A 3916 COLATE ENTR                                                             02 03885
010772 064070 A 3917        STB     TEM1                                                     02 03886
010773 074070 A 3918        STX     TEM1+1                                                   02 03887
010774 006030 A 3919        LDXI    COLT                                                     02 03888
010775 011002 R
010776 002000 A 3920        CALL    TFETCH                                                   02 03889
010777 011042 R
011000 001000 A 3921        JMP*    COLATE          RETURN                                   02 03890
011001 110771 R
                3922 *                  ASCII TO COLLATING SEQUENCE CONVERSION TABLE         02 03891
        011002 R 3923 COLT  EQU     *                                                        02 03892
                3924 SATA   FORM    8,8                                                      02 03893
011002 076301 A 3925        SATA    124,193                                                  02 03894
011003 141303 A 3926        SATA    194,195                                                  02 03895
011004 142305 A 3927        SATA    196,197                                                  02 03896
011005 143307 A 3928        SATA    198,199                                                  02 03897
011006 144311 A 3929        SATA    200,201                                                  02 03898
011007 150722 A 3930        SATA    209,210                                                  02 03899
011010 151724 A 3931        SATA    211,212                                                  02 03900
011011 152726 A 3932        SATA    213,214                                                  02 03901
011012 153730 A 3933        SATA    215,216                                                  02 03902
011013 154742 A 3934        SATA    217,226                                                  02 03903
011014 161744 A 3935        SATA    227,228                                                  02 03904
011015 162746 A 3936        SATA    229,230                                                  02 03905
011016 163750 A 3937        SATA    231,232                                                  02 03906
011017 164512 A 3938        SATA    233,74                                                   02 03907
011020 057740 A 3939        SATA    95,224                                                   02 03908
011021 047555 A 3940        SATA    79,109                                                   02 03909
011022 040132 A 3941        SATA    64,90                                                    02 03910
011023 077573 A 3942        SATA    127,123                                                  02 03911
011024 055554 A 3943        SATA    91,108                                                   02 03912
011025 050175 A 3944        SATA    80,125                                                   02 03913
011026 046535 A 3945        SATA    77,93                                                    02 03914
011027 056116 A 3946        SATA    92,78                                                    02 03915
011030 065540 A 3947        SATA    107,96                                                   02 03916
011031 045541 A 3948        SATA    75,97                                                    02 03917
011032 170361 A 3949        SATA    240,241                                                  02 03918
011033 171363 A 3950        SATA    242,243                                                  02 03919
011034 172365 A 3951        SATA    244,245                                                  02 03920
011035 173367 A 3952        SATA    246,247                                                  02 03921
011036 174371 A 3953        SATA    248,249                                                  02 03922
011037 075136 A 3954        SATA    122,94                                                   02 03923
011040 046176 A 3955        SATA    76,126                                                   02 03924
011041 067157 A 3956        SATA    110,111                                                  02 03925
                3957 *          SUBROUTINE TO FETCH A VALUE FROM A PACKED TABLE              02 03926
011042 000000 A 3958 TFETCH ENTR                                                             02 03927
011043 074004 A 3959        STX     TADR                                                     02 03928
011044 157000 I 3960        ANA     077                                                      02 03929
011045 005002 A 3961        TZB                                                              02 03930
011046 004541 A 3962        LLSR    1               HALVE TABLE INCREMENT                    02 03931
011047 006120 A 3963        ADDI    **                                                       02 03932
011050 111047 R
        011050 R 3964 TADR  EQU     *-1                                                      02 03933
011051 005014 A 3965        TAX                                                              02 03934
011052 015000 A 3966        LDA     0,1                                                      02 03935
011053 003020 A 3967        XBZ     TFER                                                     02 03936
011054 011062 R
011055 157003 I 3968        ANA     BYT1                                                     02 03937
011056 024004 A 3969        LDB     TEM1                                                     02 03938
011057 034004 A 3970        LDX     TEM1+1                                                   02 03939
011060 001000 A 3971        JMP*    TFETCH                                                   02 03940
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011061 111042 R
011062 004350 A 3972 TFER   LSRA    8                                                    02 03941
011063 000000 A 3973 TEM1   DATA    0,0                                                  02 03942
011064 000000 A
               3974         EJEC                                                         02 03943
               3975 ********************************************************************** 02 03944
               3976 *                                                                    02 03945
               3977 *                RPG IV LOADER                                       02 03946
               3978 *                                                                    02 03947
               3979 ********************************************************************** 02 03948
    011065 R   3980 RPGLD  EQU     *                                                    02 03949
011065 014443 A 3981        LDA     LDADR       STARTING BYTE ADDR FOR LOADING           02 03950
011066 054433 A 3982        STA     CBLC        CURRENT BYTE LOC COUNTER                 02 03951
011067 004341 A 3983        LSRA    1           COMPUTE WORD LOC.                        02 03952
011070 057000 I 3984        STA     TMP1                                                 02 03953
011071 144425 A 3985        SUB     CORE        COMPUTE NEG.LOAD AREA SIZE AND PUT       02 03954
011072 027000 I 3986        LDB     TMP1        WORD LOC COUNTER IN B-REG.               02 03955
011073 037000 I 3987        LDX     NA          BLANKS                                   02 03956
011074 076000 A 3988 CNLOC  STX     0,2         CLEAR PROGRAM AREA FROM LOAD ADDRESS     02 03957
011075 005122 A 3989        IBR                 UP TO THE END OF THE WORK SPACE          02 03958
011076 005111 A 3990        IAR                                                          02 03959
011077 001004 A 3991        JAN     CNLOC       CLEAR NEXT LOC                           02 03960
011100 011074 R
011101 001000 A 3992        JMP     GNDIR       START LOADING OBJECT TEXT                02 03961
011102 011433 R
011103 177777 A 3993 LORMD  DATA    -1                                               C   02 03962
               3994 *                                                                    02 03963
011104 177777 A 3995 BIRMD  DATA    -1                                                   02 03964
011105 000000 A 3996 BIRF   DATA    0           BI LOGICAL RECORD FLAG                   02 03965
               3997 *                                                                    02 03966
               3998 * ABSOLUTE ORIGIN                                                    02 03967
               3999 *                                                                    02 03968
011106 004250 A 4000 AORG   LRLA    8           SHIFT BIT TO HIGH 8 BITS                 02 03969
011107 057000 I 4001        STA     TMP           AND SAVE                               02 03970
011110 002000 A 4002        JMPM    GBYT        GET A BYTE                               02 03971
011111 011347 R
011112 117000 I 4003        ORA     TMP         BUILD 16 BIT WORD                        02 03972
011113 054406 A 4004 AORO   STA     CBLC        RESET CURRENT LOC COUNTER                02 03973
011114 017000 I 4005        LDA     TMPXX       IS THIS A ORG DIRECTIVE                  02 03974
011115 001002 A 4006        JAP     GND1        YES, GO TO SAVE DATA ROUTINE             02 03975
011116 011437 R
011117 001000 A 4007        JMP     GNDIR       GET NEXT DIRECTIVE                       02 03976
011120 011433 R
               4008 *                                                                    02 03977
               4009 * RELATIVE ORIGIN                                                    02 03978
               4010 *                                                                    02 03979
011121 124400 A 4011 XORGR  ADD     CBLC        RESET LOAD ADDR TO PREV + DISPLACEMENT   02 03980
011122 001000 A 4012        JMP     AORO                                                 02 03981
011123 011113 R
               4013 *                                                                    02 03982
               4014 * EXTERNAL REFERENCES                                                02 03983
               4015 *                                                                    02 03984
011124 034376 A 4016 EXREF  LDX     M3          NEG NAME LENGTH                          02 03985
011125 004250 A 4017        LRLA    8                                                    02 03986
011126 006055 A 4018        STAE    RPM3+7,1    1ST BYTE                                 02 03987
011127 002237 R
011130 002000 A 4019        JMPM    GBYT        GET A BYTE                               02 03988
011131 011347 R
011132 006115 A 4020        ORAE    RPM3+7,1                                             02 03989
011133 002237 R
011134 006055 A 4021        STAE    RPM3+7,1                                             02 03990
011135 002237 R
011136 005144 A 4022        IXR                                                          02 03991
011137 001040 A 4023        JXZ     TABSCH      TABLE SEARCH                             02 03992
011140 011145 R
011141 002000 A 4024        JMPM    GBYT        GET A BYTE                               02 03993
011142 011347 R
011143 001000 A 4025        JMP     EXREF+1     GET NEXT TWO CHARACTERS                  02 03994
011144 011125 R
               4026 *                                                                    02 03995
               4027 * TABLE SEARCH ROUTINE                                               02 03996
               4028 *                                                                    02 03997
011145 005102 A 4029 TABSCH INCR    0102                                                 02 03998
011146 006017 A 4030        LDAE    XSTAB       START FOR NAMES IN THE TABLE             02 03999
011147 000376 R
011150 057000 I 4031 TAB    STA     TMP                                                  02 04000
011151 057000 I 4032        STA     TMP1                                                 02 04001
011152 034350 A 4033        LDX     M3          NEG NAME LENGTH                          02 04002
011153 017000 I 4034 TABA   LDA*    TMP                                                  02 04003
011154 006135 A 4035        ERAE    RPM3+7,1    DOES THE TWO CHARACTERS OF THE NAME MATCH 02 04004
011155 002237 R
011156 001010 A 4036        JAZ     TAB2        YES, TRY NEXT 2 CHARS                    02 04005
011157 011162 R
011160 001000 A 4037        JMP     TAB1        NO,TRY NEXT ENTRY                        02 04006
011161 011174 R
011162 047000 I 4038 TAB2   INR     TMP                                                  02 04007
011163 005144 A 4039        IXR                                                          02 04008
011164 001040 A 4040        JXZ     TAB3        THRU CHECKING?                           02 04009
011165 011170 R
011166 001000 A 4041        JMP     TABA        GO COMPARE NEXT TWO CHARACTERS           02 04010
011167 011153 R
011170 005021 A 4042 TAB3   TBA                 YES, COMPUTE DISPLACEMENT                02 04011
011171 004202 A 4043        ASLA    2           FOR CALL INSTRUCTION                     02 04012
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011172 001000 A 4044          JMP     EXR1                                                  02 04013
011173 011223 R
011174 005021 A 4045 TAB1     TBA                   HAVE ALL ENTRIES BEEN COMPARED          02 04014
011175 006147 A 4046          SUBE    STAB                                                  02 04015
011176 001031 R
011177 001002 A 4047          JAP     PRIN          YES                                     02 04016
011200 011206 R
011201 005122 A 4048          IBR                   NO, TRY NEXT ENTRY                      02 04017
011202 017000 I 4049          LDA     TMP1                                                  02 04018
011203 127000 I 4050          ADD     D4                                                    02 04019
011204 001000 A 4051          JMP     TAB                                                   02 04020
011205 011150 R
                4052 *                                                                      02 04021
                4053 * PRINT NAMES OF MISSING PROGRAMS                                      02 04022
                4054 *                                                                      02 04023
       011206 R 4055 PRIN     EQU     *                                                     02 04024
011206 006010 A 4056          LDAI    RPM3                                                  02 04025
011207 002230 R
011210 006057 A 4057          STAE    FCB15+1                                           C   02 04026
011211 007732 R
011212 002000 A 4058          CALL    EWR           REPORT MISSING PROGRAM                  C   02 04027
011213 002174 R
011214 006010 A 4059          LDAI    EWR1                                                  C   02 04028
011215 002201 R
                4060 *                                                                      02 04029
011216 002000 A 4061          CALL    STAT          CHECK STATUS                            02 04030
011217 002063 R
011220 001026 A 4062          JBNZ    $ER           I/O ERROR                               02 04031
011221 002133 R
011222 017000 I 4063          LDA     D4            SET EXIT IF INVALID CALL IS EXECUTED    02 04032
                4064 * BUILD CALL INSTRUCTION WITH DISPLACEMENT IN TMPR                     02 04033
                4065 *                                                                      02 04034
011223 057000 I 4066 EXR1     STA     TMP           DISPLACEMENT                            02 04035
011224 014302 A 4067          LDA     K240                                                  02 04036
011225 002000 A 4068          JMPM    FILEB         SAVE CALL INSTRUCTION                   02 04037
011226 011377 R
011227 017000 I 4069          LDA     TMP                                                   02 04038
011230 002000 A 4070          JMPM    FILEB                                                 02 04039
011231 011377 R
011232 001000 A 4071          JMP     GNDIR         GET NEXT DIRECTIVE                      02 04040
011233 011433 R
                4072 *                                                                      02 04041
                4073 * GET NEXT OBJECT RECORD                                              02 04042
                4074 *                                                                      02 04043
011234 000000 A 4075 RECORD   ENTR    0                                                     02 04044
011235 017000 I 4076          LDA     BIRMD         IS BI A RMD?                            02 04045
011236 001010 A 4077          JAZ     REC2          NO                                      02 04046
011237 011271 R
011240 017000 I 4078          LDA     BIRF          YES, FIRST LOGICAL RECORD               02 04047
011241 001010 A 4079          JAZ     REC1                                                  02 04048
011242 011260 R
011243 005211 A 4080          CPA                   NO, SECOND LOGICAL RECORD               02 04049
011244 057000 I 4081          STA     BIRF          UPDATE LOGICAL RECORD FLAG              02 04050
011245 006010 A 4082          LDAI    CRBF+60                                               02 04051
011246 000273 R
011247 054066 A 4083          STA     SEQ+1         MODIFY POINTERS TO PROCESS              02 04052
011250 006010 A 4084          LDAI    CRBF+120      SECOND LOGICAL RECORD                   02 04053
011251 000367 R
011252 054047 A 4085          STA     CKS1+1                                                02 04054
011253 054251 A 4086          STA     LLCBF                                                 02 04055
011254 006020 A 4087          LDBI    CRBF+62                                               02 04056
011255 000275 R
011256 001000 A 4088          JMP     REC4                                                  02 04057
011257 011316 R
                4089 *                                                                      02 04058
                4090 *                                                                      02 04059
011260 005211 A 4091 REC1     CPA                                                           02 04060
011261 057000 I 4092          STA     BIRF          UPDATE LOGICAL RECORD FLAG              02 04061
011262 006010 A 4093          LDAI    CRBF                                                  02 04062
011263 000177 R
011264 054051 A 4094          STA     SEQ+1         MODIFY POINTERS TO PROCESS              02 04063
011265 006010 A 4095          LDAI    CRBF+60       FIRST LOGICAL RECORD                    02 04064
011266 000273 R
011267 054032 A 4096          STA     CKS1+1                                                02 04065
011270 054234 A 4097          STA     LLCBF                                                 02 04066
                4098 REC2     READ    FCB1,BI,0,0   READ RECORD SYSTEM BINARY               02 04067
011271 006505 A
011272 000404 A
011273 100000 A
011274 000006 A
011275 000002 R
011276 000000 A
011277 000000 A
011300 006010 A 4099          LDAI    REC2                                                  02 04068
011301 011271 R
011302 002000 A 4100          CALL    STAT          CHECK STATUS                            02 04069
011303 002063 R
011304 001026 A 4101          JBNZ    $ER                                                   02 04070
011305 002133 R
011306 006020 A 4102 REC3     LDBI    CRBF+2        GET POINTER TO 3RD WORD                 02 04071
011307 000201 R
011310 017000 I 4103          LDA     CRBF                                                  02 04072
011311 157000 I 4104          ANA     NSGN          FIRST RECORD?                           02 04073
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011312 001010 A 4105          JAZ      REC4                                          02 04074
011313 011316 R
011314 006020 A 4106          LDBI     CRBF+11      YES, START AT 12TH WORD          02 04075
011315 000212 R
011316 064202 A 4107 REC4     STB      PT1                                           02 04076
011317 034206 A 4108          LDX      M60          COMPUTE CHECKSUM                 02 04077
011320 005001 A 4109          TZA                                                    02 04078
011321 006135 A 4110 CKS1     ERAE     CRBF+60,1                                     02 04079
011322 000273 R
011323 005144 A 4111          IXR                                                    02 04080
011324 001040 A 4112          JXZ      CKS2                                          02 04081
011325 011330 R
011326 001000 A 4113          JMP      CKS1                                          02 04082
011327 011321 R
011330 001010 A 4114 CKS2     JAZ      SEQ                                           02 04083
011331 011335 R
011332 010466 A 4115          LDA      SIX          CHECKSUM ERROR                   02 04084
011333 001000 A 4116          JMP      $ER3                                          02 04085
011334 002165 R
011335 006017 A 4117 SEQ      LDAE     CRBF         TEST SEQUENCE NUMBER             02 04086
011336 000177 R
011337 157000 I 4118          ANA      BYT1         8 BITS ONLY                      02 04087
011340 144167 A 4119          SUB      SEQN                                          02 04088
011341 044166 A 4120          INR      SEQN               FOR NEXT TIME              02 04089
011342 001010 A 4121          JAZ*     RECORD                                        02 04090
011343 111234 R
011344 010467 A 4122          LDA      SEVEN        SEQUENCE ERROR                   02 04091
011345 001000 A 4123          JMP      $ER3                                          02 04092
011346 002165 R
                 4124 * SAVE INDEX;GET A BYTE FROM CRBF                              02 04093
                 4125 *                                                              02 04094
011347 000000 A 4126 GBYT     PZE                                                    02 04095
011350 077000 I 4127          STX      TMP2         SAVE INDEX                       02 04096
011351 014147 A 4128          LDA      PT1          CHECK TO SEE IF LAST WORD        02 04097
011352 144152 A 4129          SUB      LLCBF        OF RECORD HAS BEEN PROCESSED     02 04098
011353 002002 A 4130          JAPM     RECORD       YES                              02 04099
011354 011234 R
011355 027000 I 4131          LDB*     PT1          GET CURRENT WORD                 02 04100
011356 014141 A 4132          LDA      HLFWI        DETERMINE WHICH HALF OF THE      02 04101
011357 044140 A 4133          INR      HLFWI        WORD TO EXTRACT                  02 04102
011360 157000 I 4134          ANA      BIDT                                          02 04103
011361 005014 A 4135          TAX                                                    02 04104
011362 001010 A 4136          JAZ      GBYT1                                         02 04105
011363 011365 R
011364 044134 A 4137          INR      PT1          STEP BUFFER POINTER              02 04106
011365 006015 A 4138 GBYT1    LDAE     SHF8,1       LOGICAL RIGHT 8 OR 0             02 04107
011366 000173 R
011367 054003 A 4139          STA      GBYT2                                         02 04108
011370 005021 A 4140          TBA                                                    02 04109
011371 006155 A 4141          ANAE     F8BTS,1      EXTRACT 1ST OR LAST 8 BITS       02 04110
011372 000175 R
011373 004340 A 4142 GBYT2    LSRA     0            8/0                              02 04111
011374 037000 I 4143          LDX      TMP2         RESET INDEX                      02 04112
011375 001000 A 4144          JMP*     GBYT                                          02 04113
011376 111347 R
                 4145 *                                                              02 04114
                 4146 * FILE DATA OF CALL INSTRUCTION A BYTE AT A TIME               02 04115
                 4147 *                                                              02 04116
011377 000000 A 4148 FILEB    PZE                                                    02 04117
011400 057000 I 4149          STA      TMP2                                          02 04118
011401 014120 A 4150          LDA      CBLC         COMPUTE CURRENT WORD LOC         02 04119
011402 004341 A 4151          LSRA     1            FROM CURRENT BYTE LOC            02 04120
011403 057000 I 4152          STA      TMP1                                          02 04121
011404 144112 A 4153          SUB      CORE         IS PROGRAM TOO BIG               02 04122
011405 001004 A 4154          JAM      FIL1         NO                               02 04123
011406 011412 R
       011407 R 4155 PTB      EQU      *                                             02 04124
011407 010423 A 4156          LDA      FOUR         PROGRAM TOO BIG                  02 04125
011410 001000 A 4157          JMP      $ER3                                          02 04126
011411 002165 R
011412 014107 A 4158 FIL1     LDA      CBLC                                          02 04127
011413 157000 I 4159          ANA      BIDT                                          02 04128
011414 024107 A 4160          LDB      SHT8                                          02 04129
011415 001010 A 4161          JAZ      FIL2                                          02 04130
011416 011420 R
011417 027000 I 4162          LDB      SHF0                                          02 04131
011420 064002 A 4163 FIL2     STB      FIL4                                          02 04132
011421 017000 I 4164          LDA      BYT1                                          02 04133
011422 027000 I 4165          LDB      TMP2                                          02 04134
011423 005000 A 4166 FIL4     NOP                                                    02 04135
011424 004250 A 4167          LRLA     8                                             02 04136
011425 157000 I 4168          ANA*     TMP1                                          02 04137
011426 005031 A 4169          MERGE    031                                           02 04138
011427 057000 I 4170          STA*     TMP1                                          02 04139
011430 044071 A 4171          INR      CBLC                                          02 04140
011431 001000 A 4172          JMP*     FILEB                                         02 04141
011432 111377 R
                 4173 *                                                              02 04142
                 4174 * GET NEXT DIRECTIVE                                           02 04143
                 4175 *                                                              02 04144
011433 002000 A 4176 GNDIR    JMPM     GBYT         GET A BYTE FROM CRBF             02 04145
011434 011347 R
011435 001010 A 4177          JAZ      XHLT         END DIRECTIVE WHEN A-REG. IS ZERO 02 04146
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011436 011503 R
011437 005014 A 4178 GND1   TAX                                                  02 04147
011440 147000 I 4179        SUB     D10         CK FOR VALID DIRECTIVE           02 04148
011441 001002 A 4180        JAP     GARB                                         02 04149
011442 011511 R
011443 127000 I 4181        ADD     D10                                          02 04150
011444 024056 A 4182        LDB     M3                                           02 04151
011445 147000 I 4183        SUB     D5          DORG DIR?                        02 04152
011446 001004 A 4184        JAN     GND3        NO                               02 04153
011447 011451 R
011450 027000 I 4185        LDB     D3                                           02 04154
011451 067000 I 4186 GND3   STB     TMPXX                                        02 04155
011452 006015 A 4187        LDAE    ITMTBL,1    DETERMINE ADDR OF CORRECT DIRECTIVE 02 04156
011453 000366 R
011454 057000 I 4188        STA     TMP         ROUTINE AND SAVE                 02 04157
011455 147000 I 4189        SUB     ITMTBL+3    IS ADDRESS XDATA                 02 04158
011456 001010 A 4190        JAZ     GND2        YES                              02 04159
011457 011465 R
011460 014041 A 4191        LDA     CBLC        DETERMINE IF LOC COUNTER IS TOO BIG 02 04160
011461 004341 A 4192        LSRA    1                                            02 04161
011462 144034 A 4193        SUB     CORE                                         02 04162
011463 001002 A 4194        JAP     PTB         YES                              02 04163
011464 011407 R
011465 002000 A 4195 GND2   JMPM    GBYT        GET A BYTE FROM CRBF             02 04164
011466 011347 R
011467 001000 A 4196        JMP*    TMP         GO TO DIRECTIVE ROUTINE          02 04165
011470 100130 R
                4197 *                                                           02 04166
                4198 * SAVE DATA ITEMS - TMP CONTAINS THE NUMBER OF BYTES TO BE SAVED 02 04167
                4199 *                                                           02 04168
011471 005014 A 4200 XDATA  TAX             PUT BYTE COUNT IN INDEX              02 04169
011472 002000 A 4201        JMPM    GBYT    GET A BYTE                           02 04170
011473 011347 R
011474 002000 A 4202        JMPM    FILEB   FILE BYTE IN CURRENT BYTE LOC        02 04171
011475 011377 R
011476 005344 A 4203        DXR             DECREASE BYTE COUNT                  02 04172
011477 001040 A 4204        JXZ     GNDIR   GET NEXT DIRECTIVE                   02 04173
011500 011433 R
011501 001000 A 4205        JMP     XDATA+1 GET NEXT BYTE OF DATA                02 04174
011502 011472 R
                4206 *                                                           02 04175
                4207 * INITIALIZE FOR RUNTIME                                   02 04176
                4208 *                                                           02 04177
011503 017000 I 4209 XHLT   LDA     BIAG                                         02 04178
011504 001010 A 4210        JAZ     NOTX        LOAD OK?                         02 04179
011505 011514 R
011506 057000 I 4211        STA     INTP        YES                              02 04180
011507 001000 A 4212        JMP     INT         GO TO RUNTIME INTERPRETER        02 04181
011510 002415 R
       011511 R 4213 GARB   EQU     *                                            02 04182
011511 010465 A 4214        LDA     FIVE        INVALID OBJECT RECORD            02 04183
011512 001000 A 4215        JMP     $ER3                                         02 04184
011513 002165 R
       011514 R 4216 NOTX   EQU     *                                            02 04185
011514 010424 A 4217        LDA     EIGHT       PROGRAM NOT EXECUTABLE           02 04186
011515 001000 A 4218        JMP     $ER3                                         02 04187
011516 002165 R
011517 000000 A 4219 CORE   DATA    0                                            02 04188
011520 000000 A 4220 HLFWI  DATA    0           HALF WORD INDICATOR              02 04189
011521 000273 R 4221 PT1    DATA    CRBF+60     BUFFER POINTER                   02 04190
011522 000000 A 4222 CBLC   DATA    0           CURRENT BYTE LOCATION            02 04191
011523 177775 A 4223 M3     DATA    -3                                           02 04192
011524 004450 A 4224 SHT8   DATA    004450      LONG LOGICAL SHIFT LEFT 8        02 04193
011525 000273 R 4225 LLCBF  DATA    CRBF+60     LAST BUFFER LOCATION +1          02 04194
011526 177704 A 4226 M60    DATA    -60                                          02 04195
011527 000240 A 4227 K240   DATA    0240                                         02 04196
011530 000001 A 4228 SEQN   DATA    1           SEQUENCE COUNT                   02 04197
                4229        EJEC                                                 02 04198
                4230 ********************************************************** 02 04199
                4231 *                                                          02 04200
                4232 *       NOTE-   LOADING OF OBJECT CODE STARTS AT LOCATION 012400. ANY 02 04201
                4233 *               MODIFICATION TO THE RUNTIME/LOADER THAT CAUSES THIS 02 04202
                4234 *               ADDRESS TO CHANGE REQUIRES THAT 'RTLC' IN THE COMPILER 02 04203
                4235 *               BE CHANGED TO A NEW VALUE.                 02 04204
                4236 ********************************************************** 02 04205
011531 027200 A 4237 LDADR  DATA    013500*2    LOAD ADDRESS POINTER             C 02 04206
       011531 R 4238 LODPT  EQU     *-1                                          02 04207
                4239 ********************************************************** 02 04208
                4240 *                                                        * 02 04209
                4241 *               RPG IV LOADER INITIALIZATION             * 02 04210
                4242 *               (THE FOLLOWING CODE IS OVERLAID BY OBJECT TEXT) * 02 04211
                4243 *                                                        * 02 04212
                4244 ********************************************************** 02 04213
       011532 R 4245 RPGRT  EQU     *                                            02 04214
011532 010317 A 4246        LDA     V$LLUP      GET LAST UNPROTECTED WORD        02 04215
011533 006057 A 4247        STAE    CORE        MARK END OF CORE                 02 04216
011534 011517 R
011535 006057 A 4248        STAE    WSTA        MARK LIMITS OF WORK STACK        02 04217
011536 000713 R
011537 057000 I 4249        STA     WG                                           02 04218
011540 157000 I 4250        ANA     BIT1                                         02 04219
011541 057000 I 4251        STA     WBIT                                         02 04220
011542 010054 A 4252        LDA     V$LCNT                                       02 04221
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011543 057000 I 4253          STA     LINE                                                    02 04222
011544 057000 I 4254          STA     LCNT                                                    02 04223
011545 006017 A 4255          LDAE    ADRA                                                    02 04224
011546 000434 R
011547 004201 A 4256          ASLA    1                                                       02 04225
011550 005111 A 4257          IAR                                                             02 04226
011551 006057 A 4258          STAE    ADRA            CREATE BYTE POINTERS                    02 04227
011552 000434 R
011553 005111 A 4259          IAR                                                             02 04228
011554 006057 A 4260          STAE    ADRC                                                    02 04229
011555 000436 R
011556 006017 A 4261          LDAE    ATB2            FROM WORD POINTERS                      02 04230
011557 000441 R
011560 004201 A 4262          ASLA    1                                                       02 04231
011561 006057 A 4263          STAE    ATB2                                                    02 04232
011562 000441 R
011563 006017 A 4264          LDAE    IXE1                                                    02 04233
011564 000703 R
011565 004201 A 4265          ASLA    1                                                       02 04234
011566 006057 A 4266          STAE    IXE1                                                    02 04235
011567 000703 R
011570 010421 A 4267          LDA     BS0                                                     02 04236
011571 006030 A 4268          LDXI    V$JCB                                                   02 04237
011572 000412 A
011573 035000 A 4269          LDX     0,1                                                     02 04238
011574 015000 A 4270          LDA     0,1                                                     02 04239
011575 006137 A 4271          ERAE    NA              IS OBJECT ON CATALOGUED FILE?           02 04240
011576 000165 R
011577 001010 A 4272          JAZ     RPGL1           NO                                      02 04241
011600 011631 R
011601 006020 A 4273          LDBI    FCB1+7                                                  02 04242
011602 000011 R
011603 015000 A 4274          LDA     0,1             YES, MOVE FILE NAME                     02 04243
011604 056000 A 4275          STA     0,2             TO FCB                                  02 04244
011605 015001 A 4276          LDA     1,1                                                     02 04245
011606 056001 A 4277          STA     1,2                                                     02 04246
011607 015002 A 4278          LDA     2,1                                                     02 04247
011610 056002 A 4279          STA     2,2                                                     02 04248
011611 006057 A 4280          STAE    BIRMD           INDICATE OBJECT FILE ON RMD             02 04249
011612 011104 R
011613 014040 A 4281          LDA     RPGL2+3                                                 02 04250
011614 150462 A 4282          ANA     LHW                                                     02 04251
011615 006110 A 4283          ORAI    105             PUT LUN OF BACKGROUND LIBRARY           02 04252
011616 000151 A
011617 054034 A 4284          STA     RPGL2+3         IN OPEN REQUEST BLOCK                   02 04253
011620 006017 A 4285          LDAE    REC2+3                                                  02 04254
011621 011274 R
011622 150462 A 4286          ANA     LHW             AND READ REQUEST BLOCK                  02 04255
011623 006110 A 4287          ORAI    105                                                     02 04256
011624 000151 A
011625 006057 A 4288          STAE    REC2+3                                                  02 04257
011626 011274 R
011627 001000 A 4289          JMP     RPGL2           GO OPEN OBJECT FILE                     02 04258
011630 011651 R
               4290 *                                                                         02 04259
       011631 R 4291 RPGL1    EQU     *                                                       02 04260
011631 006010 A 4292          LDAI    BI                                                      02 04261
011632 000006 A
011633 002000 A 4293          CALL    DEVTST          CHECK IF BI IS A RMD                    02 04262
011634 010203 R
011635 005311 A 4294          DAR                                                             02 04263
011636 001010 A 4295          JAZ     RPGL2           YES                                     02 04264
011637 011651 R
011640 006010 A 4296          LDAI    60                                                      02 04265
011641 000074 A
011642 006057 A 4297          STAE    FCB1            NO, MODIFY RECORD LENGTH                02 04266
011643 000002 R
011644 005001 A 4298          TZA                                                             02 04267
011645 006057 A 4299          STAE    BIRMD                                                   02 04268
011646 011104 R
011647 001000 A 4300          JMP     RPGL2A                                          C       02 04269
011650 011660 R
               4301 RPGL2     OPEN    FCB1,BI,0,0     OPEN/REWIND OBJECT FILE                 02 04270
011651 006505 A
011652 000404 A
011653 100000 A
011654 003006 A
011655 000002 R
011656 000000 A
011657 000000 A
       011660 R 4302 RPGL2A   EQU     *                                               C       02 04271
011660 006010 A 4303          LDAI    13                                              C       02 04272
011661 000015 A
011662 002000 A 4304          CALL    DEVTST          CHECK IF 13 IS A RMD            C       02 04273
011663 010203 R
011664 005311 A 4305          DAR                                                     C       02 04274
011665 001016 A 4306          JANZ    RPGL4           JUMP IF NOT                     C       02 04275
011666 011714 R
               4307 RPGL3     OPEN    FCB13,13,0,0    OPEN/REWIND PI FILE             C       02 04276
011667 006505 A
011670 000404 A
011671 100000 A
011672 003015 A
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011673 007173 R
011674 000000 A
011675 000000 A
011676 006010 A 4308          LDAI    RPGL3                                    C   02 04277
011677 011667 R
011700 002000 A 4309          CALL    STAT          CHECK STATUS               C   02 04278
011701 002063 R
011702 004460 A 4310          LLRL    16                                       C   02 04279
011703 006130 A 4311          ERAI    020                                      C   02 04280
011704 000020 A
011705 001016 A 4312          JANZ    RPGL4                                    C   02 04281
011706 011714 R
011707 006130 A 4313          ERAI    020                                      C   02 04282
011710 000020 A
011711 004460 A 4314          LLRL    16                                       C   02 04283
011712 001000 A 4315          JMP     $ER                                      C   02 04284
011713 002133 R
                4316 RPGL4    OPEN    FCB14,14,0,0  AND PO                     C   02 04285
011714 006505 A
011715 000404 A
011716 100000 A
011717 003016 A
011720 007663 R
011721 000000 A
011722 000000 A
011723 006010 A 4317          LDAI    RPGL4                                    C   02 04286
011724 011714 R
011725 002000 A 4318          CALL    STAT                                     C   02 04287
011726 002063 R
011727 004460 A 4319          LLRL    16                                       C   02 04288
011730 006130 A 4320          ERAI    020                                      C   02 04289
011731 000020 A
011732 001016 A 4321          JANZ    RPGL5                                    C   02 04290
011733 011741 R
011734 006130 A 4322          ERAI    020                                      C   02 04291
011735 000020 A
011736 004460 A 4323          LLRL    16                                       C   02 04292
011737 001000 A 4324          JMP     $ER                                      C   02 04293
011740 002133 R
                4325 RPGL5    OPEN    FCB15,15,0,0  AND LO                     C   02 04294
011741 006505 A
011742 000404 A
011743 100000 A
011744 003017 A
011745 007731 R
011746 000000 A
011747 000000 A
011750 006010 A 4326          LDAI    RPGL5                                    C   02 04295
011751 011741 R
011752 002000 A 4327          CALL    STAT                                     C   02 04296
011753 002063 R
011754 004460 A 4328          LLRL    16                                       C   02 04297
011755 006130 A 4329          ERAI    020                                      C   02 04298
011756 000020 A
011757 001016 A 4330          JANZ    RPGL6                                    C   02 04299
011760 011766 R
011761 006130 A 4331          ERAI    020                                      C   02 04300
011762 000020 A
011763 004460 A 4332          LLRL    16                                       C   02 04301
011764 001000 A 4333          JMP     $ER                                      C   02 04302
011765 002133 R
011766 006010 A 4334 RPGL6    LDAI    15                                       C   02 04303
011767 000017 A
011770 002000 A 4335          CALL    DEVTST        CHECK IF DEVICE 15 IS AN LP C   02 04304
011771 010203 R
011772 140423 A 4336          SUB     FOUR                                     C   02 04305
011773 001010 A 4337          JAZ     RPGLD                                    C   02 04306
011774 011065 R
011775 005001 A 4338          TZA                                              C   02 04307
011776 006057 A 4339          STAE    LOLP          FLAG = 0 IF NOT LP         C   02 04308
011777 010032 R
012000 001000 A 4340          JMP     RPGLD         GO LOAD OBJECT TEXT        C   02 04309
012001 011065 R
                4341 *                                                             02 04310
012002          4342          BSS     U-*+013777    ADJUST TO 6K               C   02 04311
013777 012345 A 4343 ENDMRK   DATA    012345                                       02 04312
       011532 R 4344          END     RPGRT                                        02 04313
ENTRY NAMES
011532 R RPGRT
EXTERNAL NAMES
000000 E GOFCB   000000 E V$EXEC 000000 E V$IOC   000000 E V$IOST
SYMBOLS
007644 R $CP0    002133 R $ER    002146 R $ER1    002157 R $ER2
002165 R $ER3    007703 R $PR0   007712 R $PR1    007154 R $READ
004510 R A002    004536 R A010   004542 R A011    003275 R AC00
003322 R AC01    003331 R AC02   003274 R ACRY    004477 R ADD
004501 R ADDS    004514 R ADIT   000434 R ADRA    000435 R ADRB
000436 R ADRC    000437 R ADRD   006271 R ADTO    000163 R ALFG
004471 R AO01    004451 R AONL   004444 R AONN    011106 R AORG
011113 R AORO    010427 R APK1   010430 R APK2    010431 R APK3
004553 R AQ01    004577 R AQ05   002253 R ARGERR 002257 R ARGU
002271 R ARGU1   002302 R ARGU2  002265 R ARGUX   005717 R ASC0
010660 R ASHO    010671 R ASHT   005723 R ASTR    000441 R ATB2
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005262 R ATMB   006373 R AUD    006423 R AUD1   006417 R AUDA
006441 R AUDB   000674 R AUDI   006420 R AUDN   000673 R AUDP
006416 R AUDS   000400 R B      000006 A BI     000706 R BIAA
000717 R BIAC   000665 R BIAD   000705 R BIAF   000707 R BIAG
000720 R BIAI   000705 R BIAR   000705 R BIAT   003041 R BID1
003045 R BID2   003036 R BIDE   000737 R BIDT   003025 R BIN1
003020 R BINX   011105 R BIRF   011104 R BIRMD  000626 R BIT0
000627 R BIT1   000630 R BIT2   000622 R BIT3   000646 R BLNK
000472 A BM17   000463 A BM377  000467 A BM7    005774 R BRF
005774 R BRFR   005777 R BRT    006000 R BRT1   005777 R BRTR
006010 R BRU    006023 R BRU2   006020 R BRU3   006017 R BRU4
006010 R BRUR   000421 A BS0    000433 A BS10   000435 A BS12
000425 A BS4    000426 A BS5    000431 A BS8    010101 R BUFEND
010467 R BUFP   000506 R BWRD   000175 R BYT0   000176 R BYT1
000734 R BYTF   000735 R BYTT   000401 R C      003566 R C000
003577 R C001   003602 R C002   003611 R C003   003614 R C004
006043 R CALL   000140 R CARY   011522 R CBLC   006560 R CBR1
000662 R CBRA   000663 R CBRC   006543 R CBRK   000655 R CCNT
000657 R CEOF   011321 R CKS1   011330 R CKS2   001256 R CLOSE
003457 R CM01   003472 R CM02   003502 R CM03   003467 R CMID
005721 R CMMA   000721 R CMMD   006352 R CMP    006360 R CMP1
000675 R CMPI   003451 R CMPN   003563 R CMPR   011074 R CNLOC
000136 R CNT1   000137 R CNT2   010771 R COLATE 011002 R COLT
011517 R CORE   007624 R CPAS   000177 R CRBF   000442 R CTAB
004644 R D001   004646 R D005   004664 R D010   004705 R D015
004712 R D030   004735 R D050   004744 R D055   010533 R D132
001674 R DATE   001715 R DATE1  001730 R DATE2  001745 R DATESW
001744 R DATEX  000654 R DCNT   003062 R DEB1   003057 R DEBI
005720 R DECI   006732 R DEL1   006760 R DEL2   006714 R DETO
010302 R DEVST0 010306 R DEVST1 010242 R DEVTS1 010307 R DEVTS2
010310 R DEVTS3 010311 R DEVTS4 010203 R DEVTST 004634 R DIV
004636 R DIVL   004763 R DMB3   000154 R DMBF   000152 R DMPT
000505 R DMSK   005722 R DOLL   000702 R DPOS   003700 R DR01
003701 R DR02   003666 R DRDM   005260 R EDMF   000424 A EIGHT
013777 R ENDMRK 006702 R ENT1   006707 R ENT2   006633 R ENTO
006710 R ENTX   007010 R ENTY   002174 R EWR    002201 R EWR1
002077 R EX1    002105 R EX2    002110 R EX3    002100 R EX4
002114 R EXCP   002024 R EXIT   011223 R EXR1   011124 R EXREF
002042 R EXX1   000175 R F8BTS  000002 R FCB1   007173 R FCB13
007663 R FCB14  007731 R FCB15  000015 R FCB2   000030 R FCB3
000043 R FCB4   000056 R FCB5   000071 R FCB6   000104 R FCB7
000126 R FCBPT  000117 R FCBPTT 002315 R FETN   002343 R FETR
011412 R FIL1   011420 R FIL2   011423 R FIL4   011377 R FILEB
000465 A FIVE   000423 A FOUR   000145 R FPTR   000430 R FRMA
000413 R FROM   002354 R FTMP   000664 R FTSW   003753 R G003
003764 R G005   003774 R G007   004004 R G010   004010 R G011
004012 R G012   004050 R G015   004054 R G020   004062 R G025
011511 R GARB   002721 R GBAI   011347 R GBYT   011365 R GBYT1
011373 R GBYT2  002730 R GETB   010102 R GETR   002777 R GETW
002607 R GFD1   002655 R GFD3   002610 R GFD4   002652 R GFD5
002603 R GFD6   002577 R GFD7   002632 R GFD9   004000 R GI01
004001 R GI02   004002 R GI03   004003 R GI04   003737 R GLE
003720 R GLEN   003751 R GLES   003746 R GLEX   003725 R GLNS
003176 R GNAI   011437 R GND1   011465 R GND2   011451 R GND3
011433 R GNDIR  000000 E GOFCB  007023 R GTAB   007035 R GTWL
006615 R GTX    006627 R GTX1   000677 R HIND   011520 R HLFWI
000377 R HO11   010575 R HOA1   010603 R HOA2   010607 R HOA3
010610 R HOA4   010613 R HOA5   010615 R HOA6   010620 R HOA7
010617 R HOA8   010615 R HOA9   010534 R HOAS   000035 A I1
000177 A I99    000001 A IC1    000025 A IE     000514 R IF
000024 A IG     000026 A IL     002410 R ILC    003011 R ILCB
000031 A IM     003710 R IN01   003713 R IN02   003136 R INCR
000636 R IND    003702 R INDM   000720 R INDP   010450 R INP1
010457 R INP2   000433 R INPA   010444 R INPC   002415 R INT
002435 R INT1   002455 R INT2   002477 R INT3   002436 R INT4
002453 R INT5   000634 R INTA   000635 R INTB   000722 R INTC
000723 R INTH   000724 R INTO   000711 R INTP   002414 R INTS
003123 R INUM   002407 R IOV    000027 A IP     000513 R IPRE
000366 R ITMTBL 000457 R IX1    000460 R IX2    000709 R IXE1
000704 R IXE2   002660 R IXER   000030 A IZ     011527 R K240
004126 R L005   004146 R L010   004162 R L014   004164 R L015
004200 R L021   004212 R L025   004217 R L026   004232 R L030
004253 R L035   004255 R L036   004250 R L039   004260 R L040
004304 R L044   004311 R L045   004315 R L055   004330 R L060
004335 R L062   004347 R L063   004354 R L065   004365 R L070
000407 R LCBF   000414 R LCBT   000730 R LCBX   000716 R LCNT
004437 R LD01   011531 R LDADR  004413 R LDI    004417 R LDIS
004066 R LDN    004072 R LDNS   006110 R LDXL   000733 R LFRI
000732 R LFRO   000462 A LHW    000715 R LINE   011525 R LLCBF
000700 R LNGT   003157 R LNUM   000005 A LO     011531 R LODPT
010032 R LOLP   007015 R LOO1   007003 R LOO2   006767 R LOOK
011103 R LORMD  000001 R LUN    000432 R LXA    000403 R M
004770 R M001   005007 R M005   005052 R M010   005122 R M015
005137 R M017   005144 R M020   005151 R M025   005166 R M026
005153 R M030   005155 R M031   005167 R M032   005172 R M035
005177 R M040   005224 R M050   005236 R M055   005252 R M060
011523 R M3     011526 R M60    000150 R MCPT   010033 R MOBF
010042 R MOBF1  010062 R MOBF2  010056 R MOBF3  010077 R MOBFT
010402 R MOPB   010413 R MOPB0  010420 R MOPB1  010424 R MOPB2
010443 R MOPB3  000623 R MOVC   000624 R MOVZ   000146 R MPPT
002411 R MSI1   002412 R MSI2   000625 R MSK0   000631 R MSKA
000632 R MSKB   000404 R MSKC   000405 R MSKD   010531 R MSKE
002413 R MSKL   000406 R MSKZ   000415 R MSOP   004764 R MUL
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004766 R MULS    006162 R MV      006170 R MV1     006176 R MV2
006201 R MV3     006244 R MV4     006247 R MV5     006271 R MVM1
006317 R MVM2    006335 R MVM4    006342 R MVM5    006310 R MVM6
006257 R MVMT    006135 R MVTO    006214 R MZT1    006231 R MZT2
000165 R NA      003527 R NC05    003543 R NC10    003550 R NC15
003560 R NC20    003512 R NCPR    000455 R NDEC    000502 R NIN1
000651 R NIND    000470 A NINE    000505 R NINT    000511 R NLE1
000512 R NLEN    000451 R NLS1    000452 R NLST    005716 R NNCB
011514 R NOTX    000622 R NSGN    000450 R NUMB    000454 R O10
000536 R O100    000537 R O106    000540 R O107    000455 R O11
000541 R O110    000456 R O12     000606 R O120    000457 R O13
000607 R O137    000460 R O14     000610 R O147    000461 R O15
000502 R O16     000505 R O17     000612 R O177    000446 R O2
000506 R O20     000617 R O200    005263 R O22     000510 R O26
000511 R O27     000447 R O3      000512 R O30     000513 R O32
000514 R O33     000450 R O4      000515 R O40     000560 R O400
000516 R O47     000451 R O5      000517 R O50     000452 R O6
000520 R O60     006256 R O67     000453 R O7      000527 R O77
003077 R OA      010400 R OB2BLK  010401 R OB2ZE   010377 R OBBZ
010314 R OBTA    010330 R OBTC    010350 R OBTD    010357 R OBTE
010365 R OBTF    010362 R OBTG    010370 R OBTH    010373 R OBTI
010353 R OBTZ    010376 R OBZERO  000561 R OM2     000421 A ONE
001102 R OPEN    000427 R ORAI    002405 R OTMP    010471 R PAK
010522 R PAK1    010526 R PAK2    002747 R PBAD    002740 R PBAI
000710 R PEND    006036 R PER     005731 R PERI    006036 R PERR
006516 R PF1     006532 R PFAU    006513 R PFC1    006505 R PFCO
006445 R PFD     006462 R PFD1    006503 R PFD2    000135 R PFDC
006521 R PFEQ    006524 R PFGR    006525 R PFLE    007525 R PNCH
003656 R PO01    003661 R PO02    003623 R POSI    003647 R POSO
005754 R POST    011206 R PRIN    007675 R PRNT    000727 R PSTI
011521 R PT1     011407 R PTB     002762 R PUTB    002677 R PUTL
000402 R R       000176 R RBUF    001337 R READ    011260 R REC1
011271 R REC2    011306 R REC3    011316 R REC4    000141 R RECF
000661 R RECG    011234 R RECORD  000142 R RECP    000660 R RECS
007205 R RED0    007213 R RED1    007477 R RED9    000143 R REND
000656 R REOF    005735 R RET     005750 R RET2    000726 R RETI
001555 R REW1    001562 R REW2    001532 R REWIND  000463 A RHW
007400 R RM01    007404 R RM02    007415 R RM04    007472 R RM05
007473 R RM06    007357 R RM09    000633 R RMSK    007413 R RNOT
011631 R RPGL1   011651 R RPGL2   011660 R RPGL2A  011667 R RPGL3
011714 R RPGL4   011741 R RPGL5   011766 R RPGL6   011065 R RPGLD
011532 R RPGRT   002212 R RPM1    002221 R RPM2    002230 R RPM3
007414 R RSCI    007257 R RST1    007261 R RST2    007221 R RST3
007226 R RST4    007242 R RST5    000404 R RTAB    003211 R RTOF
004614 R S001    004616 R S002    004625 R S003    000425 R SAL0
000426 R SAL8    000424 R SAR0    006077 R SAVX    007022 R SBL2
000422 R SBR1    000423 R SBR2    003437 R SCPW    003665 R SDL0
003240 R SDR0    003350 R SE01    003353 R SE02    011335 R SEQ
011530 R SEQN    003334 R SETS    000467 A SEVEN   006610 R SF
003423 R SF01    000725 R SFFG    006602 R SFI     002513 R SFR1
002502 R SFRM    003414 R SFTL    003635 R SFTR    003643 R SFTR1
000174 R SHF0    000173 R SHF8    011524 R SHT8    000626 R SIGN
006131 R SIM1    006122 R SIMX    003214 R SIN     000466 A SIX
005763 R SK4F    007603 R SKI0    007610 R SKI2    007617 R SKI3
007575 R SKIP    001601 R SKIPR   001624 R SKIPR1  001641 R SKIPR2
001644 R SKIPR3  001670 R SKIPR4  002547 R SLCB    007754 R SLEW
007763 R SLEW1   010130 R SOV     010002 R SPACE   010006 R SPC1
007743 R SPCE    003242 R SQ01    003253 R SQ03    003267 R SQ05
004412 R ST01    001031 R STAB    002063 R STAT    002065 R STAT1
002355 R STBCD   002371 R STF     004376 R STI     002523 R STO
002531 R STOF    005724 R STOP    004603 R SUBN    004605 R SUBP
003241 R SUBQ    000421 R SVTO    003374 R T001    011150 R TAB
011174 R TAB1    011162 R TAB2    011170 R TAB3    011153 R TABA
000144 R TABP    011145 R TABSCH  011050 R TADR    000743 R TBL1
000754 R TBL2    010470 R TBYT    005261 R TDMF    011063 R TEM1
000130 R TEMP    011062 R TFER    011042 R TFETCH  001746 R TIME
007146 R TLC1    007050 R TLU     007076 R TLU1    007120 R TLU5
007126 R TLU6    007131 R TLUC    000736 R TLUK    000130 R TMP
000131 R TMP1    000132 R TMP2    000131 R TMPA    000132 R TMPB
000133 R TMPC    000712 R TMPR    000134 R TMPX    000164 R TMPXX
000135 R TMPY    000420 R TO      000431 R TOA     000626 R TRUE
000422 A TWO     003357 R TWZE    010137 R TYPE    010164 R TYPE1
000000 R U       002237 R UCHK    005600 R UN1     005604 R UN2
005525 R UNB1    005522 R UNBL    005651 R UNCO    005631 R UNDS
005371 R UNE1    000652 R UNEC    005357 R UNEL    005415 R UNEX
005667 R UNF1    005707 R UNF2    005677 R UNF3    005671 R UNF4
005700 R UNF5    006051 R UNFR    005654 R UNFS    005400 R UNIF
005267 R UNLD    002706 R UNLI    005264 R UNLN    005313 R UNLS
005355 R UNMD    005506 R UNMS    005446 R UNNC    005645 R UNND
005422 R UNNF    005572 R UNNM    000653 R UNNO    005532 R UNOP
005612 R UNP1    005605 R UNPB    005640 R UNPC    000647 R UNSG
005554 R UNST    006064 R UNTO    000070 A V$DATE  000355 A V$DSTB
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000054 A V$LCNT  000317 A V$LLUP  000400 A V$LUT1  000402 A V$LUT3
000344 A V$TMN   000714 R W0      003101 R W001    003116 R W002
000172 R WBIT    001463 R WEOF    001506 R WEOF1   001513 R WEOF2
003100 R WMOV    000404 R WMSK    000701 R WQTR    000127 R WRFLG
007534 R WRI0    007536 R WRI3    007561 R WRI4    007566 R WRID
007512 R WRII    007507 R WRIT    001351 R WRIT1   001372 R WRIT2
001417 R WRIT3   001345 R WRITE   000713 R WSTA    003400 R XC01
003375 R XCHW    001320 R XCLOSE  011471 R XDATA   011503 R XHLT
006055 R XLFR    006070 R XLTO    001237 R XOPEN   011121 R XORGR
000376 R XSTAB   001444 R XWRIT   000171 R ZERO    000650 R ZIND
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003160 R ZWRK
  0 ERRORS ASSEMBLY COMPLETE

  892   $ER1       887    890
  898   $ER2       906    932
  902   $ER3      1480
    0   $READ      251
 1528   AC00      1548
 1544   AC01      1550
 1549   AC02      1541
 1527   ACRY      1529
    0   ADD        218    219
    0   ADDS       167    168
  139   ADRB       630      .
    0   ADTO       245
   94   ALFG      1876   1954   1961
 2077   AD01      2072   2074
 2061   ADNL       178    179    180    181
 2054   ADNN       201    202    203    204
    0   ADRG       109    109
  930   ARGERR     478    481    513    523    556    879    925    929    936
  934   ARGU       468    474    484    496    504    509    519    546    552
                   593    603    607    612    650    680    710    721    724
                   754    792    873    937
  944   ARGU1      950
  951   ARGU2      946
  941   ARGUX      467    545    592    649    679    709    753    791    960
  113   B         1702   1709   1891
  342   BIAF       353    354   1158
  355   BIAI       369
 1365   BID1      1373
 1368   BID2      1370
 1362   BIDE       802    813   1365
  370   BIDT      1368   1372
 1351   BIN1      1354   1356
 1346   BINX      1213   1352
  282   BITO       295    296   1086   1347   1492
  304   BLNK      1227
   46   BM17       809    820
   27   BM377      861      .
    0   BRF        238
    0   BRFR       239
    0   BRT        236
    0   BRTR       237
    0   BRU        234
    0   BRUR       235
   28   BS0       2069
   32   BS10       729
   33   BS12       618    727
   29   BS4        858
   30   BS5        863
   31   BS8        477    588
  297   BWRD      1350
  284   BYT0      1311
  283   BYT1      1165   1279
  366   BYTF      1706
  367   BYTT      1713
 1698   C000      1715
 1704   C001      1699
 1706   C002      1703
 1711   C003      1708
 1713   C004      1710
    0   CALL       242
   84   CARY      1508   1512   1528   1539   1545
  542   CLOSE      441    543
 1637   CM01      1657
 1646   CM02      1643
 1652   CM03      1650
 1644   CMID      1651
  356   CMMD      1080
    0   CMP       1714
  331   CMPI      1601   1609   1613   1633   1644   1676   1679   1690   1697
                  1804
 1631   CMPN      1645   1654   1673
 1695   CMPR      1701   1716   1850
   88   CNT1      1827   1847   1857   1870   1910   1930   1953   1975
   80   CNT2      1530   1533   1875   1903   1913   1991   1993
    0   CPAS       141
  107   CRBF        52    316
  147   CTAB       356
  750   DATE       443    751
  763   DATE1      770    778
  771   DATE2      766
  781   DATESW     762    765    767    772
  780   DATEX      760    763    775    777
 1382   DEB1      1390
 1379   DEBI       974    982   1392
    0   DETO       247
    0   DEVTST     626    832
    0   DIV        221    222
    0   DIVL       170    171
   93   DMBF      1566   1663   1669   1674   1681   1685   1688
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                1780   1873   1944   1945   1999
 292   DMSK     1737   1887
 336   DPOS     1888   1916   1920
1766   DR01     1762
1767   DR02     1763
1759   DRDM     1765   1948
   0   EJEC       17
   0   ENTO      246
   0   ENTR       16
 908   EWR       899    912
 858   EX1       855
 863   EX2       855
 865   EX3       855
 859   EX4       864    866
 871   EXCP      534    569    638    668    698    742    880
 830   EXIT      427    900
   0   EXREF     109    109
 836   EXX1      834
 106   F8BTS     283    284    973
  52   FCB1       67
   0   FCB13     835
   0   FCB14     837
   0   FCB15     838    898    910    911
  54   FCB2       68
  56   FCB3       69
  58   FCB4       70
  60   FCB5       71
  62   FCB6       72
  64   FCB7       73
  74   FCBPT     473    479    486    502    507    516    529    551    557
                 598    605    610    614    629    655    685    715
  66   FCBPTT    472    550    597    654    684    714
 968   FETN      469    475    505    510    520    547    553    594    608
                 613    651    681    711    722    725    984
 990   FETR      485    497    604    755    793    970    978    979    983
                 996
  36   FOUR      948
  89   FPTR     1159   1189
 134   FRMA      487    498   1115   1704
 122   FROM     1140   1142   1146   1148
 997   FTMP      488    499    757    795    994
1304   G003     1851
1310   G005     1855
1316   G007     1825
1323   G010     1813
1326   G011     1797
1328   G012     1858
1350   G015     1839
1352   G020     1840
1356   G025     1786
1266   GBAI      501   1022   1025   1068   1074   1095   1269   1705   1712
                1890   1977
1276   GETB     1267   1281
   0   GETR      874    969    991
1322   GETW     1278   1310   1329
1189   GFD1     1180
1221   GFD3     1182   1188
1190   GFD4     1192
1218   GFD5     1206
1186   GFD6     1184
1183   GFD7     1176
1204   GFD9     1201
1819   GI01     1811
1820   GI02     1805
1821   GI03     1806
1822   GI04     1807
1796   GLE       223    224    225
1785   GLEN      226    227    228
1803   GLES     1795   1799   1849
1800   GLEX      172    173    174
1788   GLNS      175    176    177
1471   GNAI     1473   1477
   0   GOFCB      15
   0   GTX       249
1334   ILCB     1268   1288   1339
1776   IN01     1781
1778   IN02     1775
1429   INCR     1427   1444   1472   1517
 301   IND       355   1088   1089
1771   INDM     1534   1777
 369   INDP     1486   2040
 107   INPA     1065
1065   INT       166    535    570    639    669    699    743    779    823
                1860   2025   2028   2080
1077   INT1     1072
1092   INT2     1070
1107   INT3     1100
1078   INT4     1108
1091   INT5     1084
 299   INTA     1073   1076   1094   1096   1101   1105
 300   INTB     1103   1106
 357   INTC     1078   1792   1794   1800   1802   1809   2017   2022   2055
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                2057  2061  2064  2068
 358  INTH      1067
 359  INTO      1079
 346  INTP       137  1066
1064  INTS      1818
1420  INUM      1428
1034  IX1       1936
1035  IX2       1853  2003
 337  IXE1      1225
 338  IXE2       337  1228
1223  IXER      1196  1198
1889  L005      1912
1900  L010      1973
1909  L014      1941  1949
1911  L015      1892  1955  1962  1967  1969
1921  L021      1927
1928  L025      1914  1921
1933  L026      2013
1940  L030      1904
1952  L035      1960  1984  2000
1954  L036      1976
1950  L039      1898
1956  L040      1896
1970  L044      1965
1974  L045      1951  1979
1977  L055      1957
1985  L060      1894
1990  L062      1996
1997  L063      1995
2001  L065      1880
2007  L070      2002
 121  LCBF       134  1698  1833
 123  LCBT       135  1700  1707  1829  1879  1884  1911  1959  1980
                1982  1983  2008
 363  LCBX       136
2047  LD01      2045
2027  LDI        200
2032  LDIS      1871  1931  1972  2027  2050  2054
1859  LDN        217
1864  LDNS      1787  1798  1841  1843  1859  1935  1939  2006
 365  LFRI      1122
 364  LFRO      1116  1143
  42  LHW        662   692
 334  LNGT      1421  1441  1443  1878  1900  1902  1915  1922  1925
                1940  1943  1985  1989
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    0 LOOK       248
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    0 M060      1532
    0 MERG        18
    0 MOBF       634
 281  MSK0      1083  1120  1193  1678
 288  MSKA      1174
 118  MSKC       291
 119  MSKD       290
    0 MUL        220
    0 MULS       169
    0 MVTO       243   244
1672  NC05      1689
1680  NC10      1675  1677
1684  NC15      1667
1690  NC20      1671  1687
1661  NCPR      1683  1691  1803
 270  NDEC      1917  1919  1986  1988
  41  NINE      1479
 273  NLE1      1877
 272  NLS1      1600  1603  1635  1882
 271  NLST      1257  1453  1514  1585  2011
 276  NSGN       287  1565  1789  1856  1971  1974
 269  NUMB      1364  1761  1773
 212  O100      1069  1092  1746
 213  O106      1820
 214  O107      1821
 160  O11        270  1956
 215  O110      1822
 161  O12       1520  1540  1543  1897  1968
 255  O120      1107
 162  O13       1034  1815  1966  2056
 163  O14       1035  1437  1767  1774  1895
 164  O15       1439
 183  O16        275  1893
 186  O17        274   292
 153  O2        1838
 187  O20        297  1071
 190  O27        273
 154  O3        1793  1831  1835  1950  1998
 191  O30        268
 192  O32       1042
 193  O33       1043  1964
 155  O4         269
 194  O40       1099
 156  O5         272
 196  O50       1381
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 157   06        271
 197   060      1077   1801
1393   0A       1391
   0   0BTA      893
 464   0PEN      439    465
 132   0RAI     2071
1029   0TMP     1021   1024   1026   1027
1294   PBAD     1302
1286   PBAI      769    774    807    811    818    822   1289
 345   PEND     1865   2036
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   0   PERI      150
   0   PERR      241
   0   PFAU      332
   0   PFC0      328
   0   PFD1      324
   0   PFEQ      327
   0   PFGR      325
   0   PFLE      326
1749   P001     1747
1752   P002     1745
1720   P0SI     1506   1726
1742   P0S0     1516   1547   1754   1908   1947
   0   PST       152
   0   PRNT      141
1307   PUTB     1287   1295   1316
1239   PUTL     1244
 115   R        1978
 316   RBUF      138    139    140
 377   READ      429    580
  87   REND      466    544    591    648    678    708    752    790    878
                 935
   0   RET       151
 689   REW1      687
 695   REW2      690    691    694    696
 676   REWIND    435    677
  45   RHW       773
 293   RMSK     1750
   0   RPGRT      10     14
 913   RPM1      892    895    896    897
 914   RPM2      904    905
 915   RPM3      931    953    956    959
1479   RTDF     1867   2037
 130   SAL0     2043
 131   SAL8     1313   1328
 129   SAR0     1732
   0   SAVX      262
1619   SCPW     1627   1672
1755   SDL0     1743
1500   SDR0     1490
1563   SE01     1559
1565   SE02     1561
1554   SETS     1562   1564   1567
   0   SF        260
1606   SF01     1615
 360   SFFG     1064   1785   1796   1812   1845
   0   SFI       261
1120   SFR1     1117
1114   SFRM     1119   1126   1828
1599   SFTL     1611   1906   1924   1992
1730   SFTR     1476   1538   1722   1725   1738
1726   SFTR1    1734
 104   SHFS      105
 296   SIGN     2019
   0   SIMX      263
1481   SIN      1233   1499   1854   1938   2005   2021
   0   SK4F      211
   0   SKIP      253
 706   SKIPR     437    707
 719   SKIPR1    717
 728   SKIPR2    726
 732   SKIPR3    720    731    733    740
 741   SKIPR4    738    739
1157   SLCB     1118   1133   1222   1231   1234
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1512   SQ03     1523
1520   SQ05     1509
2026   ST01     2024
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 853   STAT      533    568    637    667    697    734    857    862
 855   STAT1     854    855
1004   STBCD     877   1013
1020   STF       490    492    494   1028
2017   STI       206    207    208    209
1131   STO      1104   1134   1144
1138   STOF     1149   1842
   0   STOP      149
1504   SUBQ     1519
1582   T001     1580
 374   TBL1      799
 379   TBL2      142
  76   TEMP       95    800    812   1277   1280   1348   1355   1382   1384
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                1386  1389  1402  1405  1483  1493  1507  1586  1591
                1636  1652  1655  1723  1832  1836  1837
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  77  TMPA        96  1211  1215  1308  1312  1510  1521  1544  1731
                1735  1751  1899  1958  1963  1970
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  80  TMPX      1210  1216  1435  1474  1505  1513  1883  1907
  98  TMPXX       98   511   514   521   524   554   558   723   735
               737   872   876   942   945
  81  TMPY      1639  1642  1648  1649  1872  1918  1934  1987
 124  TO        1139  1141  1145  1147
 135  TOA        756   794  1132  1309  1315  1711  1889
 295  TRUE      1232  1482  1819  1852  1937  2004  2048
  35  TWO        512   522   555   627
1571  TWZE      1581  1791  1933
   0  TYPE       258
  50  U          470   548   595   601   620   625   652   658   663
               682   688   693   712   718   730
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   0  UNFR       229
   0  UNLD       265
1251  UNLI      1260
   0  UNLN       266
   0  UNTO       230
  43  V$DATE     764
  44  V$TMN      797
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               1572  1582  1584  1620  1634  1664  1680  1788  1790
               1814  1816  1817  1823  1846  1848  1866  1881  1905
               1923  1928  1932  1990  1997  2007  2020  2026  2033
               2035  2049  2066  2067  2073  2078  2079
1401  W001      1410  1414
1411  W002      1406
 103  WBIT      1434
 646  WEOF       433   647
 659  WEOF1      657
 665  WEOF2      660   661   664   666
1400  WMOV      1401  2012
 291  WMSK      1574  1622  1625  1929
 335  WQTR      1440  1537  1733  1744  1869  1946
  75  WRFLG      579   589   619   623
   0  WRIT       252
 591  WRIT1      581
 602  WRIT2      600
 617  WRIT3      615
 587  WRITE      431   590
1586  XC01      1595
1583  XCHW      1593  1844
 566  XCLOSE     562   563   567
   0  XDATA      109
   0  XLFR       184
   0  XLTO       185
 531  XOPEN      528   530   532
   0  XORGR      109
 635  XWRIT      621   622   624   628   636
 102  ZERO       806   810   817   821
1451  ZWRK      1463  1868
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