VOLUME 2

E.2 VORTEX/VORTEX II LISTINGS

SUPPLEMENT

92L9905-013B

VORTEX

THESE ARE SUPPLEMENTAL LISTINGS ONLY. THE MODULES IN THIS VOLUME REPLACE THE SAME MODULES IN THE E VORTEX LISTINGS (92L0705-019E). THESE LISTINGS REPLACE THE E.1 LISTINGS (92L9905-013A). THE END OF THE COMMON MODULE CONTAINS THE EDIT CHANGES FROM RELEASE E TO RELEASE E.2. AN ENTRY NAME TO PROGRAM NAME CROSS REFERENCE LIST IS INCLUDED WITH THE COMMON MODULE. A LISTINGS OF THE E.2 SGL IS INCLUDED AT THE END OF THE VORTEX AND VORTEX II MODULES.

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E.2 VORTEX LISTINGS

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VSSGEN1	1	V1
VSSGEN2	48	V1
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VSSGEN1	1	V2
VSSGEN2	53	V2
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VSSNAP	411	V1
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VSSTWD	404	V1
VSSTWD	598	V2
VSSYTASK	178	V1
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VSTYA	517	V1
VSTYA	357	V2
VSBG	297	
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V1WCSETF	410	V1
V2WCSETF	623	V2
XDCDMP	476	

```
       000001 A  VORTEX SET     1         PUT LAST FOR VORTEX                    V2  03 00001
                 *  THIS IS A COPYRIGHTED PROGRAM. COPYRIGHT 1972 BY VARAIN DATA MACHINE 03 00002
                 *                                                                   03 00003
                 *       V.D.M.   PART   NO.        92L0805-003D                     03 00004
                 *                                                                   03 00005
                 *                                          RELEASED    03/01/74     03 00006
                 *                                                                   03 00007
                 *                V$SGEN1                                            03 00008
                 *                                                                   03 00009
                 *                                                                   03 00010
                        TITLE   V$SGEN1                                              03 00011
       000001 A  V75    SET     1                                            V75********
                        NAME    SGEN1                                                03 00012
                        EXT     IDCS                                                 03 00013
                        EJEC                                                         03 00014
                 *                                                                   03 00015
                 *              *   *   *   SGEN COMMON DATA AREA   *   *   *        03 00016
                 *                                                                   03 00017
       000001 A  X      EQU     1                                                    03 00018
       000002 A  B      EQU     2                                                    03 00019
       000005 A  LIS    EQU     5              LD EQUIVALENT                         03 00020
       000003 A  DC     EQU     3              SD EQUIVALENT                         03 00021
       000002 A  DIR    EQU     2              SI EQUIVALENT                         03 00022
000500                  ORG     0500                                                 03 00023
                        EJEC                                                         03 00024
                 *                                                                   03 00025
                 *              *   STACK CONTROL BLOCK   *                          03 00026
                 *                                                                   03 00027
000500           SGSCB0 BSS     2              EQUIP STACK (HIGHEST STACK IN MEMORY) 03 00028
000502 000006 A         DATA    6                                                V2  03 00029
000503           SGSCB1 BSS     2              ASSIGN STACK                          03 00030
000505 000004 A         DATA    4                                                    03 00031
000506           SGSCB2 BSS     2              ADD/DELETE/REPLACE STACK              03 00032
000510 000005 A         DATA    5                                                    03 00033
000511           SGSCB3 BSS     2              PARTITION PARAMETER STACK             03 00034
000513 000004 A         DATA    4                                                    03 00035
000514           SGSCB4 BSS     2              INTERRUPT MODULE STACK                03 00036
000516 000005 A         DATA    5                                                    03 00037
000517           SGSCB5 BSS     2              RESIDENT TASK NAME STACK              03 00038
000521 000003 A         DATA    3                                                    03 00039
000522           SGSCB6 BSS     2              LOADER TABLE STACK                    03 00040
000524 000005 A         DATA    5                                                    03 00041
000525           SGSCB7 BSS     2              DATA PATCH STACK                      03 00042
000527 000005 A         DATA    5                                                    03 00043
000530           SGSCB8 BSS     2              TASK ENTRY NAME STACK                 03 00044
000532 000005 A         DATA    5                                                    03 00045
000533           SGSCB9 BSS     2              TEMPORARY STACK                       03 00046
000535 000005 A         DATA    5                                                    03 00047
000536           SGSC10 BSS     2              OVERLAY DIRECTORY STACK               03 00048
000540 000007 A         DATA    7                                                    03 00049
000541           SGSC11 BSS     2              RELO DATA FIX-UP STACK                03 00050
000543 000001 A         DATA    1                                                    03 00051
000544           SGSC12 BSS     2              ADD-ON FIX-UP STACK                   03 00052
000546 000001 A         DATA    1                                                    03 00053
000547 177777 A  ESCB   DATA    -1             MUST GO AT END OF STACK CONTROL BLOCK 03 00054
       000544 A  BSTACK EQU     SGSC12         MUST POINT TO BASE OF LOWEST STACK    03 00055
                        EJEC                                                         03 00056
                 *                                                                   03 00057
                 *              *   *   *   I/O TABLES   *   *   *                   03 00058
                 *                                                                   03 00059
000550           $LUN   BSS     1                                                    03 00060
000551           $PUN   BSS     1                                                    03 00061
       000551 A  $LUB   EQU     *-1            LOGICAL UNIT TABLE BASE           V2  03 00062
       000551 A  LUT    EQU     $LUB                                             V2  03 00063
000552                  BSS     22             LOGICAL UNIT TABLE                V2  03 00064
                 *                                                                   03 00065
       000576 A  $PUB   EQU     *-2            PHYSICAL UNIT TABLE BASE              03 00066
000600           PUT    BSS     44             PYSICAL UNIT TABLE                V2  03 00067
                 *                               WD 0---BITS 7-0=DEVICE ADDR.    -35 03 00068
                 *                                      BITS15-8=BIC NO.         -35 03 00069
                 *                               WD.1---DRIVER DST ADDR.         -35 03 00070
                        EJEC                                                         03 00071
                 *                                                                   03 00072
                 *              *   *   *   MISC. PARAMETERS   *   *   *             03 00073
                 *                                                                   03 00074
000554           SGSIZE BSS     1              SIZE OF MAIN MEMORY                   03 00075
000555           TPROG  BSS     1              ADDR. OF HIGHEST LOADED LOCATION      03 00076
000556           SCBASE BSS     1              HIGHEST AVAILABLE STACK LOCATION      03 00077
000557 000000 A  V$BVN  DATA    0              BOTTOM OF VORTEX NUCLEUS              03 00078
000560 000000 A  V$LIT  DATA    0              TOP OF LITERAL POOL                   03 00079
000561           V$CRDR BSS     1              ADDR OF CORE RESIDENT DIRECTORY       03 00080
000562           ADCRDR BSS     1              ABSOLUTE ADDR OF 'V$CRDR'             03 00081
000563           AD$CAM BSS     1              ABSOLUTE ADDR OF 'V$CAM'              03 00082
                        EJEC                                                         03 00083
                 *                                                                   03 00084
                 *              *   *   *   DATA BUFFERS   *   *   *                 03 00085
                 *                                                                   03 00086
000664           SGIBUF BSS     120            INPUT BUFFER                          03 00087
001054           ITEM   BSS     10             STACK ITEM BUFFER                     03 00088
       001130 A  BTSIZ  EQU     600                                            E2505 03 00089
001066           SGOBUF BSS     BTSIZ          OUTPUT BUFFER. MAKE ROOM FOR PST  -35 03 00090
                 *                               AND BAD TRACK TABLE.            -35 03 00091
       001066 A  SGVBUF EQU     SGOBUF         VIRTUAL MEMORY BUFFER                 03 00092
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002216                94 SGPBUF BSS     120         PST BUFFER                          03 00093
002406                95 SGLBUF BSS     60          LIST BUFFER                         03 00094
002502                96 TBUF1  BSS     10          DATA MANIPULATION BUFFER            03 00095
002514                97 TBUF2  BSS     10          DATA MANIPULATION BUFFER            03 00096
                      98        EJEC                                                    03 00097
       002526 A       99 MT     EQU     *                                               03 00098
002526 000000 A      100        DATA    000000                                          03 00099
002527 000001 A      101        DATA    000001                                          03 00100
002530 000002 A      102        DATA    000002                                          03 00101
002531 000004 A      103        DATA    000004                                          03 00102
002532 000010 A      104        DATA    000010                                          03 00103
002533 000020 A      105        DATA    000020                                          03 00104
       002534 A      106 K32    EQU     *                                            V2 03 00105
002534 000040 A      107        DATA    000040                                          03 00106
002535 000100 A      108        DATA    000100                                          03 00107
002536 000200 A      109        DATA    000200                                          03 00108
002537 000400 A      110        DATA    000400                                          03 00109
002540 001000 A      111        DATA    001000                                          03 00110
002541 002000 A      112        DATA    002000                                          03 00111
002542 004000 A      113        DATA    004000                                          03 00112
002543 010000 A      114        DATA    010000                                          03 00113
002544 020000 A      115        DATA    020000                                          03 00114
002545 040000 A      116        DATA    040000                                          03 00115
002546 100000 A      117        DATA    0100000                                         03 00116
002547 177776 A      118        DATA    0177776                                         03 00117
002550 177775 A      119        DATA    0177775                                         03 00118
002551 177773 A      120        DATA    0177773                                         03 00119
002552 177767 A      121        DATA    0177767                                         03 00120
002553 177757 A      122        DATA    0177757                                         03 00121
002554 177737 A      123        DATA    0177737                                         03 00122
002555 177677 A      124        DATA    0177677                                         03 00123
002556 177577 A      125        DATA    0177577                                         03 00124
002557 177377 A      126        DATA    0177377                                         03 00125
002560 176777 A      127        DATA    0176777                                         03 00126
002561 175777 A      128        DATA    0175777                                         03 00127
002562 173777 A      129        DATA    0173777                                         03 00128
002563 167777 A      130        DATA    0167777                                         03 00129
002564 157777 A      131        DATA    0157777                                         03 00130
002565 137777 A      132        DATA    0137777                                         03 00131
002566 077777 A      133        DATA    0077777                                         03 00132
002567 177777 A      134        DATA    0177777                                         03 00133
002570 177400 A      135        DATA    0177400                                         03 00134
002571 000377 A      136        DATA    0000377                                         03 00135
002572 000003 A      137        DATA    000003                                          03 00136
002573 000005 A      138        DATA    000005                                          03 00137
002574 000006 A      139        DATA    000006                                          03 00138
002575 000007 A      140        DATA    000007                                          03 00139
002576 000011 A      141        DATA    000011                                          03 00140
002577 000012 A      142        DATA    000012                                          03 00141
002600 000017 A      143        DATA    00017                                           03 00142
002601 000037 A      144        DATA    00037                                           03 00143
002602 000077 A      145        DATA    00077                                           03 00144
002603 000177 A      146        DATA    00177                                           03 00145
002604 000777 A      147        DATA    00777                                           03 00146
002605 001777 A      148        DATA    01777                                           03 00147
                     149        EJEC                                                    03 00148
                     150 *                                                              03 00149
                     151 *                  * * ERROR MESSAGE CODE NUMBERS * *          03 00150
                     152 *                                                              03 00151
                     153 *                                                              03 00152
002606 130260 A      154 ER00   DATA    '00'                                            03 00153
002607 130261 A      155 ER01   DATA    '01'                                            03 00154
002610 130262 A      156 ER02   DATA    '02'                                            03 00155
002611 130263 A      157 ER03   DATA    '03'                                            03 00156
002612 130264 A      158 ER04   DATA    '04'                                            03 00157
002613 130265 A      159 ER05   DATA    '05'                                            03 00158
002614 130266 A      160 ER06   DATA    '06'                                            03 00159
002615 130267 A      161 ER07   DATA    '07'                                            03 00160
002616 130270 A      162 ER08   DATA    '08'                                            03 00161
002617 130271 A      163 ER09   DATA    '09'                                            03 00162
002620 130660 A      164 ER10   DATA    '10'                                            03 00163
002621 130661 A      165 ER11   DATA    '11'                                            03 00164
002622 130662 A      166 ER12   DATA    '12'                                            03 00165
002623 130663 A      167 ER13   DATA    '13'                                            03 00166
002624 130664 A      168 ER14   DATA    '14'                                            03 00167
002625 130665 A      169 ER15   DATA    '15'                                            03 00168
002626 131260 A      170 ER20   DATA    '20'                                            03 00169
002627 131261 A      171 ER21   DATA    '21'                                            03 00170
002630 131262 A      172 ER22   DATA    '22'                                            03 00171
002631 131263 A      173 ER23   DATA    '23'                                            03 00172
002632 131264 A      174 ER24   DATA    '24'                                            03 00173
002633 131265 A      175 ER25   DATA    '25'                                            03 00174
002634 131266 A      176 ER26   DATA    '26'                                            03 00175
002635 131660 A      177 ER30   DATA    '30'                                            03 00176
002636 131661 A      178 ER31   DATA    '31'                                            03 00177
002637 131662 A      179 ER32   DATA    '32'                                            03 00178
002640 131663 A      180 ER33   DATA    '33'                                            03 00179
002641 131664 A      181 ER34   DATA    '34'                                            03 00180
002642 132260 A      182 ER40   DATA    '40'                                            03 00181
002643 132261 A      183 ER41   DATA    '41'                                            03 00182
002644 132262 A      184 ER42   DATA    '42'                                            03 00183
002645 132263 A      185 ER43   DATA    '43'                                            03 00184
002646 132264 A      186 ER44   DATA    '44'                                            03 00185
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002647 132265 A  187 ER45    DATA    '45'                                                  03 00186
002650 132266 A  188 ER46    DATA    '46'                                                  03 00187
002651 132267 A  189 ER47    DATA    '47'                                                  03 00188
002652 132270 A  190 ER48    DATA    '48'                                                  03 00189
                 191         EJEC                                                          03 00190
002653           192 ISTART  BSS     0           *  * START OF COMMON AREA INITIALIZED *  * 03 00191
                 193 *                                                                     03 00192
                 194 *               *   *   *  ERROR RECOVERY TABLE  *   *   *            03 00193
                 195 *                                                                     03 00194
002653 000000 A  196 DREC    DATA    0              RECOVERY FLAG                          03 00195
002654 000000 A  197 INUNIT  DATA    0              CURRENT INPUT UNIT                     03 00196
002655 000000 A  198 MFLAG   DATA    0              RECOVERY MODE FLAG                     03 00197
                 199 *                                                                     03 00198
                 200         EJEC                                                          03 00199
                 201 *                                                                     03 00200
                 202 *               LOAD MODULE GENERATOR INTERFACE TABLE                 03 00201
                 203 *                                                                     03 00202
                 204 *                  THIS TABLE CONTAINS INPUT PARAMETERS               03 00203
                 205 *                  ESSENTIAL TO LOAD MODULE GENERATOR OPERATION       03 00204
                 206 *                                                                     03 00205
                 207 *                                                                     03 00206
002656 000000 A  208 SGBARS  DATA    0              BASE ADDRESS OF ROOT SEGMENT           03 00207
002657 000000 A  209 SGBSNR  DATA    0              BASE SECTOR NUMBER OF ROOT SEGMENT     03 00208
002660 000000 A  210 SGBIAP  DATA    0              BASE ADDRESS OF SG$IAD                 03 00209
002661 000000 A  211 SGBLIT  DATA    0              BASE ADDRESS OF SG$LIT                 03 00210
002662 000000 A  212 SGBADD  DATA    0              BASE ADDRESS OF OVERLAY DIRECTORY      03 00211
002663 000000 A  213 SGODSZ  DATA    0              OVERLAY DIRECTORY SIZE                 03 00212
002664 000000 A  214 SGRPGM  DATA    0              SG$PGM FOR ROOT SEGMENT                03 00213
002665 000000 A  215 SGRPED  DATA    0              SG$PED FOR ROOT SEGMENT                03 00214
002666 000000 A  216 SGCIIL  DATA    0              SG$IIL - CURRENT INDIRECT LITERAL PNTR 03 00215
002667 000000 A  217 SGCIDL  DATA    0              SG$IDL - CURRENT DIRECT LITERAL PNTR   03 00216
002670 000000 A  218 SGERSE  DATA    0              PNTR INTO LOADER TABLE STACK FOR ROOT SEG  03 00217
002671 000000 A  219 SGCLUN  DATA    0              LOGICAL UNIT NUMBER FOR CURRENT SEGMENT    03 00218
002672 000000 A  220 SGCKEY  DATA    0              PROTECT KEY FOR CURRENT SEGMENT BUILD      03 00219
002673 000000 A  221 SGCSGN  DATA    0              SEGMENT NUMBER OF CURRENT SEGMENT      03 00220
002674 000000 A  222 SGTALT  DATA    0              TASK AND LOAD TYPE OF CURRENT SEGMENT  03 00221
002675 000000 A  223 SGCXEQ  DATA    0              SG$XEQ - EXECUTION ADDR OF CURRENT SEGMENT 03 00222
002676 000000 A  224 SGCHSN  DATA    0              SG$HSN - HIGHEST SECTOR NUM CURRENT SEG    03 00223
002677 000000 A  225 SGCPGM  DATA    0              SG$PGM FOR CURRENT SEGMENT             03 00224
002700 000000 A  226 SGCPED  DATA    0              SG$PED FOR CURRENT SEGMENT             03 00225
002701 000000 A  227 SGCBAD  DATA    0              BASE ADDRESS OF CURRENT SEGMENT        03 00226
002702 000000 A  228 SGCBSN  DATA    0              BASE SECTOR NUMBER OF CURRENT SEGMENT  03 00227
002703 000000 A  229 SG5OBP  DATA    0              OUTPUT BUFFER POINTER                  03 00228
                 230         EJEC                                                          03 00229
                 231 *               *   *   *  MISC. DATA STORE  *   *   *                03 00230
                 232 *                                                                     03 00231
002704 000000 A  233 SGCLK1  DATA    0              *                                      03 00232
002705 000000 A  234 SGCLK2  DATA    0              *   REAL-TIME CLOCK PARAMETERS         03 00233
002706 000000 A  235 SGCLK3  DATA    0              *                                      03 00234
                 236 *                                                                     03 00235
002707 000000 A  237 SGMRY1  DATA    0              *                                      03 00236
002710 000000 A  238 SGMRY2  DATA    0              *   MAIN MEMORY PARAMETERS             03 00237
002711 000000 A  239 SGMRY3  DATA    0              *                                      03 00238
                 240         IFF     VORTEX-2                                         V2   03 00239
                 241 SGMRY4  DATA    0              PHYSICAL PAGE COUNT               V2   03 00240
                 242 *                                                                     03 00241
002712 000000 A  243 SGEDR1  DATA    0              * NUMBER OF EMPTY TIDB'S               03 00242
002713 000000 A  244 SGEDR2  DATA    0              * STACK SIZE                           03 00243
002714 000000 A  245 SGEDR3  DATA    0              *  NUM REASSIGN. LOG. UNITS            03 00244
002715 000000 A  246 SGEDR4  DATA    0              *  NUM NON-REASSIGN. LOG. UNITS        03 00245
002716 000000 A  247 SGEDR5  DATA    0              * NUM OP-COM REASSIGN. LOG. UNITS      03 00246
002717 000000 A  248 SGEDR6  DATA    0              * MAX. PARTITION VALUE                 03 00247
002720 000000 A  249 SGEDR7  DATA    0              * (NOT USED)                           03 00248
002721 000000 A  250 SGEDR8  DATA    0              * PAGE SIZE                            03 00249
002722 000000 A  251 SGEDR9  DATA    0              * CHARACTER CODE FLAG                  03 00250
002723 000000 A  252 SGEDRA  DATA    0              * LIST FLAG                            03 00251
                 253 *                                                                     03 00252
002724 000000 A  254 SGLUN1  DATA    0              *   TOTAL NUMBER OF LOGICAL UNITS      03 00253
002725 000000 A  255 SGLUN2  DATA    0              *                                      03 00254
002726 000000 A  256 SGLUN3  DATA    0              *                                      03 00255
                 257 *                                                                     03 00256
002727 000000 A  258 SGTMP1  DATA    0              *                                      03 00257
002730 000000 A  259 SGTMP2  DATA    0              *   GENERAL PURPOSE TEMPORARY STORAGE  03 00258
002731 000000 A  260 SGTMP3  DATA    0              *                                      03 00259
                 261         IFF     VORTEX-1                                         V2   03 00260
                 262         GOTO    1                                                V2   03 00261
                 263 *                                                                V2   03 00262
                 264 V$RFC   DATA    0              BASE ADDRESS OF FOREGROUND COMMON V2   03 00263
                 265 V$BTB   DATA    0              BASE ADDRESS OF USER BLOCK        V2   03 00264
                 266 V$GFCB  DATA    0              BASE ADDRESS OF GLOBAL FCB'S      V2   03 00265
                 267 V$TRT   DATA    0              TOP ADDRESS OF RESIDENT TASKS     V2   03 00266
                 268 1       CONT                                                     V2   03 00267
002732 002733 A  269 SGMOD   DATA    *+1            ADDR OF RMD MODEL INDIC.       -35     03 00268
                 270 *               WORD 0 = ADDRESS OF *+1                               03 00269
                 271 *               WORDS 1-4 INDIC. FOR EACH RMD SPECIFIED ON SYS DIR.   03 00270
002733 000000 A  272         DATA    0              RMD 1   0=MODEL A,B            -35     03 00271
002734 000000 A  273         DATA    0              RMD2                           -35     03 00272
002735 000000 A  274         DATA    0              RMD 3                          -35     03 00273
002736 000000 A  275         DATA    0              RMD 4                          -35     03 00274
                 276         IFT     V75                                             V75********
002737 000000 A  277 SGMRY5  DATA    0              V75 FLAG                         V75********
002740           278 IEND    BSS     0              *  * END OF COMMON AREA INITIALIZED *  *  03 00275
                 279         EJEC                                                          03 00276
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             280 ******************************************************************* 03 00277
             281 *                                                                   03 00278
             282 ****     MASK TABLE DESCRIPTION                                 *** 03 00279
             283 *                                                                   03 00280
             284 ******************************************************************* 03 00281
002526 A     286 ZERO     EQU     MT            ZERO WORD                            03 00283
002527 A     287 BS0      EQU     MT+1          BIT MASK CONTENTS 000001             03 00284
002530 A     288 BS1      EQU     MT+2                            000002             03 00285
002531 A     289 BS2      EQU     MT+3                            000004             03 00286
002532 A     290 BS3      EQU     MT+4                            000010             03 00287
002533 A     291 BS4      EQU     MT+5                            000020             03 00288
002534 A     292 BS5      EQU     MT+6                            000040             03 00289
002535 A     293 BS6      EQU     MT+7                            000100             03 00290
002536 A     294 BS7      EQU     MT+8                            000200             03 00291
002537 A     295 BS8      EQU     MT+9                            000400             03 00292
002540 A     296 BS9      EQU     MT+10                           001000             03 00293
002541 A     297 BS10     EQU     MT+11                           002000             03 00294
002542 A     298 BS11     EQU     MT+12                           004000             03 00295
002543 A     299 BS12     EQU     MT+13                           010000             03 00296
002544 A     300 BS13     EQU     MT+14                           020000             03 00297
002545 A     301 BS14     EQU     MT+15                           040000             03 00298
002546 A     302 BS15     EQU     MT+16                          0100000             03 00299
002547 A     303 BR0      EQU     MT+17         BIT MASK CONTENTS  0177776           03 00300
002550 A     304 BR1      EQU     MT+18                            0177775           03 00301
002551 A     305 BR2      EQU     MT+19                            0177773           03 00302
002552 A     306 BR3      EQU     MT+20                            0177767           03 00303
002553 A     307 BR4      EQU     MT+21                            0177757           03 00304
002554 A     308 BR5      EQU     MT+22                            0177737           03 00305
002555 A     309 BR6      EQU     MT+23                            0177677           03 00306
002556 A     310 BR7      EQU     MT+24                            0177577           03 00307
002557 A     311 BR8      EQU     MT+25                            0177377           03 00308
002560 A     312 BR9      EQU     MT+26                            0176777           03 00309
002561 A     313 BR10     EQU     MT+27                            0175777           03 00310
002562 A     314 BR11     EQU     MT+28                            0173777           03 00311
002563 A     315 BR12     EQU     MT+29                            0167777           03 00312
002564 A     316 BR13     EQU     MT+30                            0157777           03 00313
002565 A     317 BR14     EQU     MT+31                            0137777           03 00314
002566 A     318 BR15     EQU     MT+32                            0077777           03 00315
002567 A     319 NEG      EQU     MT+33         SET ALL BITS                         03 00316
002570 A     320 LHW      EQU     MT+34         LEFT HALF WORD MASK 0177400          03 00317
002571 A     321 RHW      EQU     MT+35         RIGHT HALF WORD MASK    0377         03 00318
002527 A     322 ONE      EQU     MT+1          CONTAINS NUMBER  1                   03 00319
002530 A     323 TWO      EQU     MT+2          CONTAINS NUMBER  2                   03 00320
002572 A     324 THREE    EQU     MT+36         CONTAINS NUMBER  3                   03 00321
002531 A     325 FOUR     EQU     MT+3          CONTAINS NUMBER  4                   03 00322
002573 A     326 FIVE     EQU     MT+37         CONTAINS NUMBER  5                   03 00323
002574 A     327 SIX      EQU     MT+38         CONTAINS NUMBER  6                   03 00324
002575 A     328 SEVEN    EQU     MT+39         CONTAINS NUMBER  7                   03 00325
002532 A     329 EIGHT    EQU     MT+4          CONTAINS NUMBER  8                   03 00326
002576 A     330 NINE     EQU     MT+40         CONTAINS NUMBER  9                   03 00327
002577 A     331 TEN      EQU     MT+41         CONTAINS NUMBER 10                   03 00328
002527 A     332 BM1      EQU     MT+1          BIT MASK WORD 00001                  03 00329
002572 A     333 BM3      EQU     MT+36         BIT MASK WORD  00003                 03 00330
002575 A     334 BM7      EQU     MT+39         BIT MASK WORD  00007                 03 00331
002600 A     335 BM17     EQU     MT+42         BIT MASK WORD  00017                 03 00332
002601 A     336 BM37     EQU     MT+43         BIT MASK WORD  00037                 03 00333
002602 A     337 BM77     EQU     MT+44         BIT MASK WORD  00077                 03 00334
002603 A     338 BM177    EQU     MT+45         BIT MASK WORD  00177                 03 00335
002571 A     339 BM377    EQU     MT+35         BIT MASK WORD  00377                 03 00336
002604 A     340 BM777    EQU     MT+46         BIT MASK WORD  00777                 03 00337
002605 A     341 BM1777   EQU     MT+47         BIT MASK WORD  01777                 03 00338
             342          EJEC                                                       03 00339
             343 ******************************************************************* 03 00340
             344 *                                                                   03 00341
             345 ****     BIT TEST BIT DESIGNATION                               *** 03 00342
             346 *                                                                   03 00343
             347 ******************************************************************* 03 00344
000040 A     349 RA0      EQU     040           BT JUMPS WHEN A REGISTER IS 0        03 00346
000000 A     350 RA1      EQU     000           BT JUMPS WHEN A REGISTER IS 1        03 00347
000060 A     351 RB0      EQU     060           BT JUMPS WHEN B REGISTER IS 0        03 00348
000020 A     352 RB1      EQU     020           BT JUMPS WHEN B REGISTER IS 1        03 00349
             354 ******************************************************************* 03 00351
             355 *                                                                   03 00352
             356 **       THE BIT CHECKED                                            03 00353
             357 *                                                                   03 00354
             358 ******************************************************************* 03 00355
000000 A     360 B0       EQU     0                                                  03 00357
000001 A     361 B1       EQU     1                                                  03 00358
000002 A     362 B2       EQU     2                                                  03 00359
000003 A     363 B3       EQU     3                                                  03 00360
000004 A     364 B4       EQU     4                                                  03 00361
000005 A     365 B5       EQU     5                                                  03 00362
000006 A     366 B6       EQU     6                                                  03 00363
000007 A     367 B7       EQU     7                                                  03 00364
000010 A     368 B8       EQU     8                                                  03 00365
000011 A     369 B9       EQU     9                                                  03 00366
000012 A     370 B10      EQU     10                                                 03 00367
000013 A     371 B11      EQU     11                                                 03 00368
000014 A     372 B12      EQU     12                                                 03 00369
000015 A     373 B13      EQU     13                                                 03 00370
000016 A     374 B14      EQU     14                                                 03 00371
000017 A     375 B15      EQU     15                                                 03 00372
             376          EJEC                                                       03 00373
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003000                  377          ORG     03000                                  -35      03 00374
                        378 *                                                                03 00375
                        379 *        SG3DPI                                                  03 00376
                        380 *                                                                03 00377
                        381 *                PURPOSE:  TO INITIALIZE CERTAIN STACKS AND      03 00378
                        382 *                          PARAMETERS.                           03 00379
                        383 *                                                                03 00380
                        384 *                CALLING SEQUENCE:   JMP  SG3DPI                 03 00381
                        385 *                                                                03 00382
                        386 *                RETURN PARAMETERS:  NONE                        03 00383
                        387 *                                                                03 00384
                        388 *                                                                03 00385
003000                  389 SGEN1   BSS     0                                                03 00386
003000                  390 SG3DPI  BSS     0                                                03 00387
003000 006030 A         391         LDXI    ISTART          INITIALIZE ALL                   03 00388
003001 002653 A
003002 005002 A         392         TZB                       COMMON DATA AREA CELLS         03 00389
003003 065000 A         393 DPI1    STB     0,X                 BETWEEN 'ISTART' AND 'IEND'  03 00390
003004 005145 A         394         INCR    045                   TO ZERO                    03 00391
003005 006140 A         395         SUBI    SGMOD                                            03 00392
003006 002732 A
003007 001004 A         396         JAN     DPI1                                             03 00393
003010 003003 A
                        397 *                                                                03 00394
                        398         IFT     VORTEX-2                                    V2   03 00395
                        399         GOTO    1                                           V2   03 00396
                        400       * LDA     K32                                         V2   03 00397
                        401         STA     SGMRY4                                      V2   03 00398
                        402 1       CONT                                                V2   03 00399
003011 010000 L         403         LDA     =035777                                          03 00400
003012 052707 A         404         STA     SGMRY1      INITIALIZE MAIN MEMORY SIZE          03 00401
003013 010000 L         405         LDA     =100                                             03 00402
003014 052704 A         406         STA     SGCLK1      INITIALIZE CLOCK PARAMETERS          03 00403
003015 052703 A         407         STA     SGCLK2                                           03 00404
003016 010000 L         408         LDA     =20                                              03 00405
003017 052706 A         409         STA     SGCLK3                                           03 00406
                        410 *                                                                03 00407
003020 010000 L         411         LDA     =12         INITIALIZE LOGICAL UNIT BLOCK SIZES  03 00408
003021 052724 A         412         STA     SGLUN1                                           03 00409
003022 012574 A         413         LDA     SIX                                              03 00410
003023 052725 A         414         STA     SGLUN2                                           03 00411
                        415 *                                                                03 00412
003024 006030 A         416         LDXI    SGSCB0      INITIALIZE ALL                       03 00413
003025 000500 A
003026 020656 A         417         LDB     SGBASE        STACK CONTROL BLOCK ADDRESSES      03 00414
003027 065000 A         418 DP3     STB     0,X             TO HIGHEST STACK LOCATION        03 00415
003030 065001 A         419         STB     1,X                                              03 00416
003031 005144 A         420         IXR                                                      03 00417
003032 005144 A         421         IXR                                                      03 00418
003033 005144 A         422         IXR                                                      03 00419
003034 015000 A         423         LDA     0,X                                              03 00420
003035 001002 A         424         JAP     DP3                                              03 00421
003036 003027 A
                        425 *                                                                03 00422
003037 010000 L         426         LDA     =ASTACK     DUMP ALL NOMINAL                     03 00423
003040 030000 L         427 DP7     LDX     =SGSCB1       DEVICE ASSIGNMENTS                 03 00424
003041 005012 A         428         TAB                                                      03 00425
003042 063053 A         429         STB     DP8                                              03 00426
003043 015000 A         430         LDA     0,B                                              03 00427
003044 001010 A         431         JAZ     DP4             INTO 'SGSCB1'                    03 00428
003045 003057 A
003046 002000 A         432         CALL    SGPUT                                            03 00429
003047 010624 A
003050 001004 A         433         JAN     DP6                                              03 00430
003051 003067 A
003052 006010 A         434         LDAI    0                                                03 00431
003053 000000 A
003054 120505 A         436 DP8     ADD     SGSCB1+2    BUMP ASTACK TABLE POINTER       V2   03 00433
003055 001000 A         437         JMP     DP7                                              03 00434
003056 003040 A
                        438 *                                                                03 00435
003057 020000 L         439 DP4     LDB     =DP5                                             03 00436
003060 002000 A         440         CALL    SG$SC,0     ASK FOR DIRECTIVES               C   03 00437
003061 011443 A
003062 000000 A
003063 001040 A         441         JXZ     SG3DIR      IF NO ERRORS                         03 00438
003064 003216 A
                        442 *                                                                03 00439
003065 012620 A         443         LDA     ER10        WRITE ERROR                          03 00440
003066 001006 A         444         DATA    01006                                            03 00441
003067 012632 A         445 DP6     LDA     ER24        IF STACK OVERFLOW                    03 00442
003070 002000 A         446         CALL    $ERPRO        COST ERROR MESSAGE,                03 00443
003071 011173 A
003072 001000 A         447         JMP     SG3DPI          AND TRY AGAIN.                   03 00444
003073 003000 A
003074 000010 A         448 DP5     DATA    8,'INPUT DIRECTIVES'                             03 00445
003075 144716 A
003076 150325 A
003077 152240 A
003100 142311 A
003101 151305 A
003102 141724 A
```

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003103 144726 A
003104 142723 A
                    449          EJEC                                                    03 00446
                    450 *                                                                03 00447
                    451 *                    TABLE OF ALL NOMINAL DEVICE ASSIGNMENTS     03 00448
                    452 *                                                                03 00449
003105              453 ASTACK   BSS     0                                               03 00450
003105 142260 A     454          DATA    'D00BFL'                                        03 00451
003106 130302 A
003107 143314 A
003110 000552 A     455          DATA    0552        FLAG=FIXED                          03 00452
003111 142260 A     456          DATA    'D00CBL'                                        03 00453
003112 130303 A
003113 141314 A
003114 000551 A     457          DATA    0551        FLAG=FIXED                          03 00454
003115 142260 A     458          DATA    'D00DDM'                                        03 00455
003116 130304 A
003117 147715 A
003120 000550 A     459          DATA    0550        FLAG=FIXED                          03 00456
003121 142260 A     460          DATA    'D00ACL'                                        03 00457
003122 130301 A
003123 141714 A
003124 000547 A     461          DATA    0547        FLAG=FIXED                          03 00458
003125 142260 A     462          DATA    'DC0FSW'                                        03 00459
003126 130306 A
003127 151727 A
003130 000546 A     463          DATA    0546        FLAG=FIXED                          03 00460
003131 142260 A     464          DATA    'D00ECU'                                        03 00461
003132 130305 A
003133 141725 A
003134 000545 A     465          DATA    0545        FLAG=FIXED                          03 00462
003135 152331 A     466          DATA    'TY00DO'                                        03 00463
003136 130260 A
003137 142317 A
003140 021014 A     467          DATA    021014      FLAG=TY,LP                          03 00464
003141 152331 A     468          DATA    'TY00DI'                                        03 00465
003142 130260 A
003143 142311 A
003144 024013 A     469          DATA    024013      FLAG=TY,I                           03 00466
003145 142325 A     470          DATA    'DUM PO'                                        03 00467
003146 146640 A
003147 150317 A
003150 050012 A     471          DATA    050012      FLAG=RMD,MT                         03 00468
003151 142325 A     472          DATA    'DUM GO'                                        03 00469
003152 146640 A
003153 143717 A
003154 050011 A     473          DATA    050011      FLAG=RMD,MT                         03 00470
003155 142325 A     474          DATA    'DUM SS'                                        03 00471
003156 146640 A
003157 151723 A
003160 050010 A     475          DATA    050010      FLAG=RMD,MT                         03 00472
003161 142325 A     476          DATA    'DUM BO'                                        03 00473
003162 146640 A
003163 141317 A
003164 052007 A     477          DATA    052007      FLAG=RMD,MT,O                       03 00474
003165 142325 A     478          DATA    'DUM BI'                                        03 00475
003166 146640 A
003167 141311 A
003170 054006 A     479          DATA    054006      FLAG=RMD,MT,I                       03 00476
003171 152331 A     480          DATA    'TY00LO'                                        03 00477
003172 130260 A
003173 146317 A
003174 073005 A     481          DATA    073005      FLAG=RMD,MT,LP,TY,O                 03 00478
003175 152331 A     482          DATA    'TY00PI'                                        03 00479
003176 130260 A
003177 150311 A
003200 074004 A     483          DATA    074004      FLAG=RMD,MT,TY,I                    03 00480
003201 152331 A     484          DATA    'TY00SO'                                        03 00481
003202 130260 A
003203 151717 A
003204 020003 A     485          DATA    020003      FLAG=TY                             03 00482
003205 152331 A     486          DATA    'TY00SI'                                        03 00483
003206 130260 A
003207 151711 A
003210 074002 A     487          DATA    074002      FLAG=RMD,MT,TY,I                    03 00484
003211 152331 A     488          DATA    'TY00DC'                                        03 00485
003212 130260 A
003213 147703 A
003214 020001 A     489          DATA    020001      FLAG=TY                             03 00486
003215 000000 A     490          DATA    0           END-OF-TABLE FLAG                   03 00487
                    491          EJEC                                                    03 00488
                    492 *                                                                03 00489
                    493 *        SG3DIR                                                  03 00490
                    494 *                                                                03 00491
                    495 *        PURPOSE:  SG3DIR READS DIRECTIVES AND ROUTES THEM       03 00492
                    496 *                  TO THE APPLICABLE PROCESSING ROUTINE.         03 00493
                    497 *                                                                03 00494
                    498 *        CALLING SEQUENCE:  JMP  SG3DIR                          03 00495
                    499 *                                                                03 00496
                    500 *        RETURN PARAMETERS:  NONE                                03 00497
                    501 *                                                                03 00498
                    502 *                                                                03 00499
003216              503 SG3DIR   BSS     0                                               03 00500
```

```
003216 002000 A  504        CALL   SGRSI      READ DIRECTIVE FROM 'DIR' UNIT          03 00501
003217 011531 A
003220 001046 A  505        JXNZ   DIR1         IF I/O ERROR                          03 00502
003221 003263 A
003222 006505 A  506 DIR5   JSR    SGGFI,X     GET DIRECTIVE DESIGNATOR                03 00503
003223 010713 A
003224 003270 A  507        DATA   DIR2,3      STORE 3 CHARS. FROM SGIBUF TO DIR2.-35   03 00504
003225 000003 A
003226 142531 A  508        SUB    FOUR                                               03 00505
003227 001002 A  509        JAP    DIR1        IF MORE THAN THREE CHAR IN DIRECTIVE    03 00506
003230 003263 A
003231 005021 A  510        TBA                                                        03 00507
003232 140000 L  511        SUB    =0254                                               03 00508
003233 001016 A  512        JANZ   DIR1        IF NOT TERMINATED BY A COMMA            03 00509
003234 003263 A
003235 006030 A  513        LDXI   DPTAB       DIRECTIVE PROCESSOR ADDR TABLE          03 00510
003236 003272 A
003237 015000 A  514 DIR3   LDA    0,X           GET FIRST TWO CHAR                    03 00511
003240 001010 A  515        JAZ    DIR1        IF END OF TABLE                         03 00512
003241 003263 A
003242 133270 A  516        ERA    DIR2                                               03 00513
003243 001013 A  517        JANZ   DIR4        IF NO MATCH ON FIRST TWO CHAR           03 00514
003244 003256 A
003245 015001 A  518        LDA    1,X           GET THIRD CHAR                        03 00515
003246 133271 A  519        ERA    DIR2+1                                             03 00516
003247 150000 L  520        ANA    =0177400                                           03 00517
003250 001016 A  521        JANZ   DIR4        IF NO MATCH ON THIRD CHARACTER          03 00519
003251 003256 A
003252 015002 A  522        LDA    2,X                                                03 00519
003253 053255 A  523        STA    DIR6        SAVE ADDRESS OF PROCESSING ROUTINE      03 00520
003254 001000 A  524        JMP    0             AND GO TO IT                          03 00521
003255 000000 A
003255           525 DIR6   BES    0                                                  03 00522
003256 005144 A  526 DIR4   IXR                                                       03 00523
003257 005144 A  527        IXR                 BUMP PNTR TO NEXT TABLE ENTRY          03 00524
003260 005144 A  528        IXR                                                       03 00525
003261 001000 A  529        JMP    DIR3         CONTINUE                              03 00526
003262 003237 A
                 530 *                                                              03 00527
                 531 *                          *  * ERROR PROCESSING *  *          03 00528
003263           532 DIR1   BSS    0                                                  03 00529
003263 012607 A  533        LDA    ER01         GET ERROR MESSAGE                     03 00530
003264 002000 A  534        CALL   SG3ASC         POST ERROR AND RECOVER              03 00531
003265 011323 A
003266 001000 A  535        JMP    DIR5                                               03 00532
003267 003222 A
003270           536 DIR2   BSS    3                                                  03 00533
                 537 *                                                              03 00534
                 538 *                          *  * DIRECTIVE PROCESSOR ADDR TABLE *  *  03 00535
                 539 *                                                              03 00536
                 540 *                                                              03 00537
003272           541 DPTAB  BSS    0                                                  03 00538
003272 140704 A  542        DATA   'ADD'                                            03 00539
003273 142240 A
003274 003350 A  543        DATA   SG3ADD                                           03 00540
003275 142305 A  544        DATA   'DEL'                                            03 00541
003276 146240 A
003277 003352 A  545        DATA   SG3DEL                                           03 00542
003300 151305 A  546        DATA   'REP'                                            03 00543
003301 150240 A
003302 003354 A  547        DATA   SG3REP                                           03 00544
003303 146301 A  548        DATA   'LAD'                                            03 00545
003304 142240 A
003305 003356 A  549        DATA   SG3LAD                                           03 00546
003306 146304 A  550        DATA   'LDE'                                            03 00547
003307 142640 A
003310 003360 A  551        DATA   SG3LDE                                           03 00548
003311 146322 A  552        DATA   'LRE'                                            03 00549
003312 142640 A
003313 003362 A  553        DATA   SG3LRE                                           03 00550
003314 141714 A  554        DATA   'CLK'                                            03 00551
003315 145640 A
003316 004644 A  555        DATA   SG3CLK                                           03 00552
003317 146722 A  556        DATA   'MRY'                                            03 00553
003320 154640 A
003321 004104 A  557        DATA   SG3MRY                                           03 00554
003322 150322 A  558        DATA   'PR1'                                            03 00555
003323 152240 A
003324 004750 A  559        DATA   SG3PR1                                           03 00556
003325 150311 A  560        DATA   'PIM'                                            03 00557
003326 146640 A
003327 004463 A  561        DATA   SG3PIM                                           03 00558
003330 142721 A  562        DATA   'DSP'                                            03 00559
003331 150240 A
003332 004160 A  563        DATA   SG3DSP                                           03 00560
003333 140723 A  564        DATA   'ASN'                                            03 00561
003334 147240 A
003335 003476 A  565        DATA   SG3ASN                                           03 00562
003336 152320 A  566        DATA   'TSK'                                            03 00563
003337 145640 A
003340 004706 A  567        DATA   SG3TSK                                           03 00564
003341 142306 A  568        DATA   'ELF'                                            03 00565
003342 143240 A
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003343 005136 A   569          DATA    SG3DEF                                                  D.1 03 00566
003344 142704 A   570          DATA    'EDR'                                                       03 00567
003345 151240 A
003346 005211 A   571          DATA    SG3EDR                                                      03 00568
003347 000000 A   572          DATA    0               END-OF-TABLE FLAG                           03 00569
                  573          EJEC                                                                03 00570
                  574 *                                                                            03 00571
                  575 *        SG3ADR                                                              03 00572
                  576 *                                                                            03 00573
                  577 *                PURPOSE:  UNPACK "ADD","DEL", AND "REP" DIRECTIVES AND    03 00574
                  578 *                          STORE INFORMATION                                 03 00575
                  579 *                                                                            03 00576
                  580 *                CALLING SEQUENCE:  INDIRECT JUMP THROUGH DIR PROC TABLE   03 00577
                  581 *                                                                            03 00578
                  582 *                RETURN PARAMETERS:  NONE                                  03 00579
                  583 *                                                                            03 00580
                  584 *                                                                            03 00581
003350            585 SG3ADD   BSS     0               * * ADD AFTER CON. REC./OBJ. MOD. ENTRY   03 00582
003350 012532 A   586          LDA     EIGHT                                                       03 00583
003351 001006 A   587          DATA    01006                                                       03 00584
                  588 *                                                                            03 00585
003352            589 SG3DEL   BSS     0               * * DELETE CON. REC./OBJ. MOD. ENTRY * * 03 00586
003352 012531 A   590          LDA     FOUR                                                        03 00587
003353 001006 A   591          DATA    01006                                                       03 00588
                  592 *                                                                            03 00589
003354            593 SG3REP   BSS     0               * * REPLACE CON. REC./OBJ. MOD. ENTRY *   03 00590
003354 010000 L   594          LDA     =12                                                         03 00591
003355 001006 A   595          DATA    01006                                                       03 00592
                  596 *                                                                            03 00593
003356            597 SG3LAD   BSS     0               * * ADD AFTER LOAD MODULE ENTRY * *       03 00594
003356 012530 A   598          LDA     TWO                                                         03 00595
003357 001006 A   599          DATA    01006                                                       03 00596
                  600 *                                                                            03 00597
003360            601 SG3LDE   BSS     0               * * DELETE LOAD MODULE ENTRY * *          03 00598
003360 005101 A   602          INCR    01                                                          03 00599
003361 001006 A   603          DATA    01006                                                       03 00600
                  604 *                                                                            03 00601
003362            605 SG3LRE   BSS     0               * * REPLACE LOAD MODULE ENTRY * *         03 00602
003362 012572 A   606          LDA     THREE                                                       03 00603
003363 051060 A   607          STA     ITEM+4                                                      03 00604
                  608 *                                                                            03 00605
003364 010000 L   609 ADR5     LDA     ='   '          CLEAR ITEM BUFFER                          03 00606
003365 051054 A   610          STA     ITEM                                                        03 00607
003366 051055 A   611          STA     ITEM+1                                                      03 00608
003367 051056 A   612          STA     ITEM+2                                                      03 00609
003370 051057 A   613          STA     ITEM+3                                                      03 00610
003371 006505 A   614          JSR-    SGGNI,X         GET NEXT ADR NAME                          03 00611
003372 010717 A
003373 001054 A   615          DATA    ITEM                                                        03 00612
003374 000010 A   616          DATA    8                                                           03 00613
003375 142576 A   617          SUB     NINE                                                        03 00614
003376 001002 A   618          JAP     ADR2            IF MORE THAN EIGHT CHAR                    03 00615
003377 003471 A
003400 005021 A   619          TBA                                                                 03 00616
003401 140000 L   620          SUB     =0215                                                       03 00617
003402 001010 A   621          JAZ     ADR3            IF END-OF-RECORD TERMINATOR                03 00618
003403 003425 A
003404 140000 L   622          SUB     =037                                                        03 00619
003405 001016 A   623          JANZ    ADR1            IF NOT COMMA (OR E-O-R) TERMINATOR         03 00620
003406 003467 A
                  624 *                                                                            03 00621
003407 030000 L   625          LDX     =SGSCB9                                                     03 00622
003410 020000 L   626          LDB     =ITEM                                                       03 00623
003411 002000 A   627          CALL    SGPUT           PUT NAME IN TEMPORARY BUFFER               03 00624
003412 010624 A
003413 001004 A   628          JAN     ADR4            IF STACK OVERFLOW                          03 00625
003414 003465 A
003415 001000 A   629          JMP     ADR5                                                        03 00626
003416 003364 A
                  630 *                                                                            03 00627
003417 030000 L   631 ADR0     LDX     =SGSCB9                                                     03 00628
003420 020000 L   632          LDB     =ITEM                                                       03 00629
003421 002000 A   633          CALL    SGGET           GET ITEM FROM TEMPORARY STACK              03 00630
003422 011111 A
003423 001004 A   634          JAN     SG3DIR          * * RETURN IF STACK EMPTY * *              03 00631
003424 003216 A
                  635 *                                                                            03 00632
003425 030000 L   636 ADR3     LDX     =SGSCB2                                                     03 00633
003426 020000 L   637          LDB     =ITEM                                                       03 00634
003427 005301 A   638          DECR    A1                                                          03 00635
003430 002000 A   639          CALL    SGSRE           SEARCH ADR STACK FOR MATCH                 03 00636
003431 011356 A
003432 000004 A   640          DATA    4                                                           03 00637
003433 005041 A   641          TXA                                                                 03 00638
003434 001004 A   642          JAN     ADR7            IF NO MATCH                                03 00639
003435 003457 A
                  643 *                                                                            03 00640
003436 011060 A   644          LDA     ITEM+4          CHECK MATCH FOR SAME MODIFICATION BITS SET 03 00641
003437 004342 A   645          LSRA    2                                                           03 00642
003440 001010 A   646          JAZ     ADR8                                                        03 00643
003441 003443 A
003442 012576 A   647          LDA     NINE                                                        03 00644
003443 122572 A   648 ADR8     ADD     THREE                                                       03 00645
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003444 155004 A   649          ANA     4,X                                    03 00646
003445 001010 A   650          JAZ     ADR3    IF MOD BITS NOT SET            03 00647
003446 003452 A
003447 131060 A   651          ERA     ITEM+4                                 03 00648
003450 001016 A   652          JANZ    ADR2    ERROR IF FIELDS DO NOT AGREE   03 00649
003451 003471 A
003452 015004 A   653 ADR9     LDA     4,X                                    03 00650
003453 111060 A   654          ORA     ITEM+4                                 03 00651
003454 055004 A   655          STA     4,X     UPDATE MODIFICATION BITS IF NO CONFLICT 03 00652
003455 001000 A   656          JMP     ADR0 .  GO GET NEXT ITEM               03 00653
003456 003417 A
                  657 *                                                        03 00654
003457 030000 L   658 ADR7     LDX     =SGSCB2                                03 00655
003460 020000 L   659          LDB     =ITEM                                  03 00656
003461 002000 A   660          CALL    SGPUT   PUT NEW ENTRY IN ADR STACK     03 00657
003462 010624 A
003463 001002 A   661          JAP     ADR0    GO GET NEXT ITEM               03 00658
003464 003417 A
                  662 *                                                        03 00659
003465 012632 A   663 ADR4     LDA     ER24    POST "STACK OVERFLOW ERROR" MESSAGE 03 00660
003466 001006 A   664          DATA    01006                                  03 00661
003467 012607 A   665 ADR1     LDA     ER01    POST 'SYNTAX ERROR' MESSAGE    03 00662
003470 001006 A   666          DATA    01006                                  03 00663
003471 012610 A   667 ADR2     LDA     ER02    POST 'PARAMETER ERROR' MESSAGE 03 00664
003472 002000 A   668          CALL    SG3ASC                                 03 00665
003473 011323 A
003474 001001 A   669          JMP     SGPUR   PURGE TEMPORARY STACK AND RETURN 03 00666
003475 011634 A
                  670          EJEC                                           03 00667
                  671 *                                                        03 00668
                  672 *        SG3ASN                                         03 00669
                  673 *                                                        03 00670
                  674 *        PURPOSE:  UNPACK "ASN" DIRECTIVES AND STORE INFORMATION 03 00671
                  675 *                                                        03 00672
                  676 *        CALLING SEQUENCE:  INDIRECT JUMP THROUGH DIR PROC TABLE 03 00673
                  677 *                                                        03 00674
                  678 *        RETURN PARAMETERS:  NONE                       03 00675
                  679 *                                                        03 00676
                  680 *                                                        03 00677
003476            681 SG3ASN BSS     0               * * ENTRY POINT * *       03 00678
003476 006505 A   682          JSR,    SGGNI,X      GET NEXT LOGICAL UNIT NUMBER 03 00679
003477 010717 A
003500 001057 A   683          DATA    ITEM+3                                 03 00680
003501 000004 A   684          DATA    4                                      03 00681
003502 053520 A   685          STA     ASN4         NO. OF CHRS. FETCHED -35  03 00682
003503 140009 L   686          SUB     =5                                     03 00683
003504 001002 A   687          JAP     ASN1         IF MORE THAN 4 DIGITS     03 00684
003505 004010 A
003506 005021 A   688          TBA                                            03 00685
003507 140000 L   689          SUB     =0272                                  03 00686
003510 050533 A   690          STO     ASN5                                   03 00687
003511 001010 A   691          JAZ     ASN3         IF COLON TERMINATOR       03 00688
003512 003516 A
003513 142572 A   692          SUB     =THREE                                 03 00689
003514 001015 A   693          JANZ    ASN1         IF NOT EQUAL SIGN (OR COLON) TERMINATOR 03 00690
003515 004010 A
                  694 *                                                        03 00691
003516 030000 L   695 ASN3     LDX     =ITEM+3                                03 00692
003517 006010 A   696          LDI     0                                      03 00693
003520 000000 A
003520            697 ASN4     RES     0                                      03 00694
003521 002000 A   698          CALL    SGCNV        CONVERT LOGICAL UNIT NUM TO BINARY 03 00695
003522 010412 A
003523 001001 A   699          JOF     ASN2         IF ERROR                  03 00696
003524 004012 A
003525 005021 A   700          TBA                                            03 00697
003526 142537 A   701          SUB     =38                                    03 00698
003527 001002 A   702          JAP     ASN2         IF OUT OF BOUNDS          03 00699
003530 004012 A
003531 061057 A   703          STB     ITEM+3                                 03 00700
003532 006010 A   704          LDAI    0                                      03 00701
003533 000000 A
003533            705 ASN5     RES     0                                      03 00702
003534 020000 L   706          LDB     =' '                                   03 00703
003535 061056 A   707          STB     ITEM+2       STORE BLANKS IF NO LOG. UNIT NAME GIVEN 03 00704
003536 001016 A   708          JANZ    ASN6                                   03 00705
003537 003553 A
003540 006505 A   709          JSR     SGGNI,X      GET LOGICAL UNIT NAME     03 00706
003541 010717 A
003542 001056 A   710          DATA    ITEM+2                                 03 00707
003543 000002 A   711          DATA    2                                      03 00708
003544 142572 A   712          SUB     THREE                                  03 00709
003545 001002 A   713          JAP     ASN1         IF TOO MANY CHARACTERS    03 00710
003546 004010 A
003547 005021 A   714          TBA                                            03 00711
003550 140000 L   715          SUB     =0275                                  03 00712
003551 001016 A   716          JANZ    ASN1         IF NOT EQUAL SIGN TERMINATOR 03 00713
003552 004010 A
                  717 *                                                        03 00714
003553 010000 L   718 ASN6     LDA     ='00'                                  03 00715
003554 051057 A   719          STA     ITEM+1       INITIALIZE PHYSICAL UNIT TO "00" 03 00716
003555 006505 A   720          JSR     SGGNI,X      GET PHYSICAL UNIT NAME    03 00717
003556 010717 A
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003557 001054 A  721          DATA    ITEM                                                    03 00718
003560 000004 A  722          DATA    4                                                       03 00719
003561 140000 L  723          SUB     =5                                                      03 00720
003562 001002 A  724          JAP     ASN1        IF TOO MANY CHARACTERS                      03 00721
003563 004010 A
003564 005021 A  725          TBA                                                             03 00722
003565 140000 L  726          SUB     =0215                                                   03 00723
003566 053662 A  727          STA     ASN7                                                    03 00724
003567 001010 A  728          JAZ     ASN8        IF END OF DIRECTIVE                         03 00725
003570 003574 A
003571 142601 A  729          SUB     BM37                                                    03 00726
003572 001016 A  730          JANZ    ASN1        IF NOT SEMICOLON (OR E-O-R) TERMINATOR      03 00727
003573 004010 A
               731 *                              LOOP TO FIND PHYS. UNIT NAME, SET TYPE FLA  03 00728
003574 030000 L  732 ASN8     LDX     =ASND1                                                  03 00729
003575 015000 A  733 ASN9     LDA     0,X                                                     03 00730
003576 001010 A  734          JAZ     ASN101      IF END OF TABLE                             03 00731
003577 003627 A
003600 131054 A  735          ERA     ITEM                                                    03 00732
003601 005144 A  736          IXR                                                             03 00733
003602 005144 A  737          IXR                                                             03 00734
003603 001016 A  738          JANZ    ASN9        IF MATCH NOT FOUND, CONTINUE                03 00735
003604 003575 A
               739 *                                                                          03 00736
003605 005344 A  740          DXR                                                             03 00737
003606 015000 A  741          LDA     0,X         GET TYPE FLAG                               03 00738
003607 111057 A  742 ASN91    DRA     ITEM+3        AND                                       03 00739
003610 051057 A  743          STA     ITEM+3        PUT IN ENTRY                              03 00740
               744 *                                                                          03 00741
               745 *                              SEARCH TEMP. STACK FOR MATCHING L.U. NUM    03 00742
003611 010533 A  746          LDA     SGSCB9                                                  03 00743
003612 005014 A  747 ASN10    TAX                                                             03 00744
003613 140534 A  748          SUB     SGSCB9+1                                                03 00745
003614 001002 A  749          JAP     ASN11       IF NO MATCH FOUND                           03 00746
003615 003632 A
003616 015003 A  750          LDA     3,X                                                     03 00747
003617 131057 A  751          ERA     ITEM+3                                                  03 00748
003620 152571 A  752          ANA     RHW                                                     03 00749
003621 001010 A  753          JAZ     ASN2        IF MATCH FOUND                              03 00750
003622 004012 A
003623 005041 A  754          TXA                                                             03 00751
003624 122573 A  755          ADD     FIVE                                                    03 00752
003625 001000 A  756          JMP     ASN10       CONTINUE LOOKING                            03 00753
003626 003612 A
003627 014253 A  757 ASN101   LDA     ASND1X                                                  03 00754
003630 001000 A  758          JMP     ASN91                                                   03 00755
003631 003607 A
               759 *                                                                          03 00756
003632 011056 A  760 ASN11    LDA     ITEM+2                                                  03 00757
003633 130000 L  761          ERA     =' '                                                    03 00758
003634 001010 A  762          JAZ     ASN13       IF LOG. UNIT NAME IS BLANK                  03 00759
003635 003653 A
               763 *                                                                          03 00760
               764 *                              SEARCH TEMP. STACK FOR MATCHING L.U. NAME   03 00761
003636 010533 A  765          LDA     SGSCB9                                                  03 00762
003637 005014 A  766 ASN12    TAX                                                             03 00763
003640 140534 A  767          SUB     SGSCB9+1                                                03 00764
003641 001002 A  768          JAP     ASN13       IF NO MATCH FOUND                           03 00765
003642 003653 A
003643 015002 A  769          LDA     2,X                                                     03 00766
003644 131056 A  770          ERA     ITEM+2                                                  03 00767
003645 001010 A  771          JAZ     ASN2        IF MATCH FOUND                              03 00768
003646 004012 A
003647 005041 A  772          TXA                                                             03 00769
003650 122573 A  773          ADD     FIVE                                                    03 00770
003651 001000 A  774          JMP     ASN12       CONTINUE LOOKING                            03 00771
003652 003637 A
               775 *                                                                          03 00772
003653 030000 L  776 ASN13    LDX     =SGSCB9                                                 03 00773
003654 020000 L  777          LDB     =ITEM                                                   03 00774
003655 002000 A  778          CALL    SGPUT       PLACE ENTRY IN TEMP. STACK                  03 00775
003656 010624 A
003657 011004 A  779          JAN     ASN14       IF "STACK OVERFLOW"                         03 00776
003660 004501 A
003661 005010 A  780          LDAI    0                                                       03 00777
003662 000000 A
003662           781 ASN7     RES     0                                                       03 00778
003663 001016 A  782          JANZ    SG3ASN      IF MORE DIRECTIVE FIELDS TO PROCESS         03 00779
003664 003476 A
               783 *                                                                          03 00780
               784 *                              MOVE TEMP. STACK ENTRIES TO ASN STACK       03 00781
               785 *                                                                          03 00782
003665 030000 L  786 ASN23    LDX     =SGSCB9                                                 03 00783
003666 020000 L  787          LDB     =ITEM                                                   03 00784
003667 002000 A  788          CALL    SGGET                                                   03 00785
003670 011111 A
003671 001004 A  789          JAN     SG3DIR      *  * RETURN IF ALL ITEMS MOVED *  *        03 00786
003672 003216 A
               790 *                                                                          03 00787
003673 011056 A  791          LDA     ITEM+2                                                  03 00788
003674 130000 L  792          ERA     =' '                                                    03 00789
003675 001010 A  793          JAZ     ASN15       IF L.U. NAME BLANK, DON'T SEARCH FOR NAME   03 00790
003676 003714 A
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                        794 *
003677 010503 A         795          LDA     SGSCB1      SEARCH ASSIGN STACK FOR MATCHING NAME
003700 005014 A         796 ASN16    TAX                                                      03 00792
003701 140504 A         797          SUB     SGSCB1+1                                         03 00793
003702 001002 A         798          JAP     ASN15       IF END OF STACK (NO MATCH)           03 00794
003703 003714 A                                                                               03 00795
003704 015002 A         799          LDA     2,X                                              03 00796
003705 131056 A         800          ERA     ITEM+2                                           03 00797
003706 001010 A         801          JAZ     ASN18       IF MATCH FOUND                       03 00798
003707 004017 A                                                                               03 00799
003710 005041 A         802          TXA                                                      03 00800
003711 122531 A         803          ADD     FOUR                                             03 00801
003712 001000 A         804          JMP     ASN16       CONTINUE                             03 00802
003713 003700 A                                                                               03 00803
                        805 *                                                                 03 00804
003714 010503 A         806 ASN15    LDA     SGSCB1      SEARCH ASSIGN STACK FOR MATCHING NUMBER 03 00805
003715 005014 A         807 ASN17    TAX                                                      03 00806
003716 140504 A         808          SUB     SGSCB1+1                                         03 00807
003717 001002 A         809          JAP     ASN19       IF END OF STACK (NO MATCH)           03 00808
003720 003732 A                                                                               03 00809
003721 015003 A         810          LDA     3,X                                              03 00810
003722 131057 A         811          ERA     ITEM+3                                           03 00811
003723 152571 A         812          ANA     RHW                                              03 00812
003724 001010 A         813          JAZ     ASN20       IF MATCH FOUND                       03 00813
003725 004024 A                                                                               03 00814
003726 005041 A         814          TXA                                                      03 00815
003727 122531 A         815          ADD     FOUR                                             03 00816
003730 001000 A         816          JMP     ASN17       CONTINUE                             03 00817
003731 003715 A                                                                               03 00818
                        817 *                                                                 03 00819
003732 011057 A         818 ASN19    LDA     ITEM+3      GET LOGICAL UNIT NUMBER              03 00820
003733 152571 A         819          ANA     RHW                                              03 00821
003734 140000 L         820          SUB     =101                                             03 00822
003735 001002 A         821          JAP     ASN19A      IF NOT FROM FIRST GROUP              03 00823
003736 003747 A                                                                               03 00824
003737 120000 L         822          ADD     =101                                             03 00825
003740 142724 A         823          SUB     SGLUN1                                           03 00826
003741 003004 A         824          XAN     TZA                                              03 00827
003742 004045 A                                                                               03 00828
003743 122724 A         825          ADD     SGLUN1                                           03 00829
003744 052724 A         826          STA     SGLUN1      STORE LARGER OF (SGLUN1) AND NEW UNIT NUM 03 00830
003745 001000 A         827          JMP     ASN19C                                           03 00831
003746 003770 A                                                                               03 00832
003747 140000 L         828 ASN19A   SUB     =79                                              03 00833
003750 001002 A         829          JAP     ASN19B      IF NOT FROM SECOND GROUP             03 00834
003751 003762 A                                                                               03 00835
003752 120000 L         830          ADD     =80                                              03 00836
003753 142725 A         831          SUB     SGLUN2                                           03 00837
003754 003004 A         832          XAN     TZA                                              03 00838
003755 004045 A                                                                               03 00839
003756 122725 A         833          ADD     SGLUN2                                           03 00840
003757 052725 A         834          STA     SGLUN2      STORE LARGER OF (SGLUN2) AND NEW UNIT NUM 03 00841
003760 001000 A         835          JMP     ASN19C                                           03 00842
003761 003770 A                                                                               03 00843
003762 005111 A         836 ASN19B   IAR                                                      03 00844
003763 142726 A         837          SUB     SGLUN3                                           03 00845
003764 003004 A         838          XAN     TZA                                              03 00846
003765 004045 A                                                                               03 00847
003766 122726 A         839          ADD     SGLUN3                                           03 00848
003767 052726 A         840          STA     SGLUN3      STORE LARGER OF (SGLUN3) AND NEW UNIT NUM 03 00849
003770                  841 ASN19C   BSS     0                                                03 00850
003770 010000 L         842          LDA     =077000                                          03 00851
003771 111057 A         843          ORA     ITEM+3                                           03 00852
003772 051057 A         844          STA     ITEM+3      SET ASSIGN FOR REASSIGNMENT TO ANY UNIT 03 00853
003773 030000 L         845          LDX     =SGSCB1                                          03 00854
003774 020000 L         846          LDQ     =ITEM                                            03 00855
003775 002000 A         847          CALL    SGPUT       MAKE ENTRY IN ASSIGN STACK           03 00856
003776 010624 A                                                                               03 00857
003777 001002 A         848          JAP     ASN23       IF ENTRY MADE (NO OVERFLOW)          03 00858
004000 003065 A                                                                               03 00859
                        849 *                                                                 03 00860
                        850 *                                                                 03 00861
                        851 *       POST ERROR MESSAGE AND RETURN                             03 00862
004001 012632 A         852 ASN14    LDA     ER24        "STACK OVERFLOW ERROR"               03 00863
004002 001006 A         853          DATA    01006                                            03 00864
004003 012633 A         854 ASN21    LDA     ER25                                             03 00865
004004 002000 A         855          CALL    SG3PRO      POST 'ASSIGN STACK ERROR' MESSAGE    03 00866
004005 011173 A                                                                               03 00867
004006 001000 A         856          JMP     SGRDPI        AND RESTART DIRECTIVE PROCESSING   03 00868
004007 003000 A                                                                               03 00869
                        857 *                                                                 03 00870
004010 012607 A         858 ASN1     LDA     ER01        "DIRECTIVE SYNTAX ERROR"             03 00871
004011 001006 A         859          DATA    01006                                            03 00872
004012 012610 A         860 ASN2     LDA     ER02        "PARAMETER ERROR"                    03 00873
004013 002000 A         861          CALL    SG3ASC      POST MESSAGE                         03 00874
004014 011323 A                                                                               03 00875
004015 001000 A         862          JMP     SGPUR       PURGE TEMPORARY STACK AND RETURN     03 00876
004016 011634 A                                                                               03 00877
                        863 *                                                                 03 00878
004017 015003 A         864 ASN18    LDA     3,X                                              03 00879
004020 131057 A         865          ERA     ITEM+3                                           03 00880
004021 152571 A         866          ANA     RHW                                              03 00881
004022 001015 A         867          JANZ    ASN21       IF L.U. NUMBERS DO NOT AGREE         03 00882
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004023 004003 A
                   868 *                                                                          03 00865
004024 015003 A    869 ASN20   LDA     3,X            GET ASSIGNABILITY FLAGS                     03 00866
004025 151057 A    870         ANA     ITEM+3         CHECK AGAINST NEW ASSIGNMENT                03 00867
004026 152570 A    871         ANA     LHW                                                        03 00868
004027 001010 A    872         JAZ     ASN21          ERROR, IF ASSIGNMENT ILLEGAL                03 00869
004030 004003 A
004031 011054 A    873         LDA     ITEM           OVERLAY OLD ENTRY WITH NEW                  03 00870
004032 055000 A    874         STA     0,X                                                        03 00871
004033 011055 A    875         LDA     ITEM+1                                                     03 00872
004034 055001 A    876         STA     1,X                                                        03 00873
004035 011056 A    877         LDA     ITEM+2                                                     03 00874
004036 130000 L    878         ERA     ='  '                                                      03 00875
004037 001010 A    879         JAZ     ASN23          IF NO NEW NAME, DON'T OVERLAY OLD NAME      03 00876
004040 003665 A
004041 011056 A    880         LDA     ITEM+2                                                     03 00877
004042 055002 A    881         STA     2,X            OTHERWISE, OVERLAY OLD NAME                 03 00878
004043 001000 A    882         JMP     ASN23          GO GET NEXT ENTRY TO MOVE                   03 00879
004044 003665 A
                   883 *                                                                          03 00880
004045 005001 A    884 TZA     TZA                                                                03 00881
                   885 *                                                                          03 00882
                   886 *                                                                          03 00883
004046 152331 A    887 ASND1   DATA    'TY'                                                       03 00884
004047 020000 A    888         DATA    020000                                                     03 00885
004050 141724 A    889         DATA    'CT'                                                       03 00886
004051 020000 A    890         DATA    020000                                                     03 00887
004052 142260 A    891         DATA    'D0'                                                       03 00888
004053 010000 A    892         DATA    010000                                                     03 00889
004054 142261 A    893         DATA    'D1'                                                       03 00890
004055 010000 A    894         DATA    010000                                                     03 00891
004056 142262 A    895         DATA    'D2'                                                       03 00892
004057 010000 A    896         DATA    010000                                                     03 00893
004060 142263 A    897         DATA    'D3'                                                       03 00894
004061 010000 A    898         DATA    010000                                                     03 00895
004062 146724 A    899         DATA    'MT'                                                       03 00896
004063 040000 A    900         DATA    040000                                                     03 00897
004064 150324 A    901         DATA    'PT'                                                       03 00898
004065 006000 A    902         DATA    06000                                                      03 00899
004066 141722 A    903         DATA    'CR'                                                       03 00900
004067 004000 A    904         DATA    04000                                                      03 00901
004070 141720 A    905         DATA    'CP'                                                       03 00902
004071 002000 A    906         DATA    02000                                                      03 00903
004072 146320 A    907         DATA    'LP'                                                       03 00904
004073 001000 A    908         DATA    01000                                                      03 00905
004074 142724 A    909         DATA    'ET'           EDITOR TERMINAL                             03 00906
004075 006000 A    910         DATA    06000                                                      03 00907
004076 146730 A    911         DATA    'MX'           MULTIPLEXER                                 03 00908
004077 006000 A    912         DATA    06000                                                      03 00909
004100 142303 A    913         DATA    'DC'           DATA SET                                    03 00910
004101 006000 A    914         DATA    06000                                                      03 00911
004102 000000 A    915         DATA    0                                                          03 00912
004103 006000 A    916 ASND1X  DATA    06000                                                      03 00913
                   917         EJEC                                                               03 00914
                   918 *                                                                          03 00915
                   919 *       SG3MRY                                                             03 00916
                   920 *                                                                          03 00917
                   921 *               PURPOSE:  UNPACK "MRY" DIRECTIVES AND STORE INFORMATION    03 00918
                   922 *                                                                          03 00919
                   923 *               CALLING SEQUENCE:  INDIRECT JUMP THROUGH DIR PROC TABLE    03 00920
                   924 *                                                                          03 00921
                   925 *               RETURN PARAMETERS:  NONE                                   03 00922
                   926 *                                                                          03 00923
                   927 *                                                                          03 00924
004104             928 SG3MRY  BSS     0                                                          03 00925
004104 010000 L    929         LDA     =0254                                                      03 00926
004105 002000 A    930         CALL    SG3GAC         GET AND CONVERT MEMORY SIZE                 03 00927
004106 010507 A
004107 062707 A    931         STB     SGMRY1           STORE IN COMMON DATA AREA                 03 00928
                   932 *                                                                          03 00929
                   933         IFF     VORTEX-2                                               V2  03 00930
                   934         LDA     =0254                                                  V2  03 00931
                   935         IFT     VORTEX-1                                                V75********
                   936         GOTO    1                                                       V75********
                   937         IFT     V75                                                     V75********
004110 005001 A    938         TZA                                                             V75********
                   939         IFF     V75                                                     V75********
                   940         LDA     =0215                                                      03 00933
                   941 1       CONT                                                            V75********
004111 002000 A    942         CALL    SG3GAC         GET AND CONVERT FOREGROUND COMMON SIZE      03 00934
004112 010507 A
004113 062710 A    943         STB     SGMRY2           STORE IN COMMON DATA AREA                 03 00935
                   944 *                                                                          03 00936
004114 005021 A    945         TBA                                                                03 00937
004115 142707 A    946         SUB     SGMRY1                                                     03 00938
004116 001002 A    947         JAP     SG3MRE         ERROR IF COMMON.GE.MEMORY               V2  03 00939
004117 004155 A
                   948         IFT     VORTEX-2                                               V2  03 00940
                   949         GOTO    1                                                      V2  03 00941
                   950         IFT     V75                                                     V75********
                   951         TZA                                                             V75********
                   952         IFF     V75                                                     V75********
                   953         LDA     =0215                                                  V2  03 00942
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                                954
                                955          CALL    SG3GAC          GET PHYSICAL PAGE COUNT
                                956          STB     SGMRY4          SAVE
                                957          DECR    #21
                                958          LSRA    8
                                959  1       JANZ    SG3MRE          MEMORY SIZE MUST BE .LE. 256 K
                                960          CONT
                                961          IFF     V75
                                962          GOTO    1
0004120 0006017 A               963          LDAE    SGSVCH          GET TERMINATOR
0004121 0110072 A
0004122 0140000 L               964          SUB     =#215
0004123 0001010 A               965          JAZ     SG3DIR          EXIT ON END OF LINE
0004124 0003216 A
0004125 0140000 L               966          SUB     =#37
0004126 0001010 A               967          JANZ    SG3MRE          ERROR IF TERMINATOR NOT COMMA
0004127 0004155 A
0004130 0006505 A               968          JSR     SGGNI,X         YES. GET NEXT PARAMETER
0004131 0110717 A
0004132 0002514 A               969          DATA    TBUF2
0004133 0000003 A               970          DATA    3
0004134 0142572 A               971          SUB     THREE
0004135 0001010 A               972          JANZ    SG3MRE          ERROR IF NOT 3 CHARS
0004136 0004155 A
0004137 0012514 A               973          LDA     TBUF2
0004140 0006130 A               974          ERAI    'V7'
0004141 0153267 A
0004142 0001010 A               975          JANZ    SG3MRE          ERROR IF NOT 'V7'
0004143 0004155 A
0004144 0012515 A               976          LDA     TBUF2+1
0004145 0006130 A               977          ERAI    '5 '
0004146 0132640 A
0004147 0152570 A               978          ANA     LHW
0004150 0001010 A               979          JANZ    SG3MRE          ERROR IF NOT '5 '
0004151 0004155 A
0004152 0042737 A               980          INR     SGMRY5          SET V75 FLAG
                                981  1       CONT
0004153 0001000 A               982          JMP     SG3DIR          EXIT
0004154 0003216 A
                0004155 A       983  SG3MRE  EQU     *               POST 'PARAMETER ERROR' MESSAGE
0004155 0126610 A               984          LDA     =ER02
0004156 0002000 A               985          CALL    SG3ASC
0004157 0111323 A
0004160 0001000 A               986          JMP     DIR5            GO PROCESS RECOVERY DIRECTIVE
0004161 0003222 A
                                987          EJEC
                                988  *
                                989  *       SG3EQP
                                990  *
                                991  *               PURPOSE:  UNPACK "EQP" DIRECTIVES AND STORE INFORMATION
                                992  *
                                993  *               CALLING SEQUENCE:  INDIRECT JUMP THROUGH DIR PROC TABLE
                                994  *
                                995  *               RETURN PARAMETERS:  NONE
                                996  *
                                997  *
0004162                         998  SG3EQP  BSS     0               *  * ENTRY POINT *  *
0004162 0100000 L               999          LDA     =*  *           BLANK NAME BUFFER
0004163 0051054 A              1000          STA     ITEM
0004164 0051055 A              1001          STA     ITEM+1
0004165 0006505 A              1002          JSR     SGGNI,X         GET CONTROLLER NAME
0004166 0110717 A
0004167 0001054 A              1003          DATA    ITEM
0004170 0000004 A              1004          DATA    4
0004171 0142570 A              1005          SUB     FIVE
0004172 0001003 A              1006          JAP     EQP1            IF MORE THAN 4 CHAR
0004173 0004447 A
0004174 0005021 A              1007          TBA
0004175 0100000 L              1008          LDA     =0254
0004176 0001016 A              1009          JANZ    EQP1            IF NOT TERMINATED BY COMMA
0004177 0004447 A
                               1010 *
0004200 0100000 L              1011          LDA     =0254
0004201 0002000 A              1012          CALL    SGGBAC          GET AND CONVERT CONTROLLER ADDRESS
0004202 0000007 A
0004203 0005021 A              1013          TBA
0004204 0142535 A              1014          SUB     BS6
0004205 0001003 A              1015          JAP     EQP2            IF OUT OF BOUNDS
0004206 0004451 A
0004207 0061056 A              1016          STB     ITEM+2
                               1017 *
0004210 0100000 L              1018          LDA     =0254
0004211 0002000 A              1019          CALL    SGGBAC          GET AND CONVERT NUMBER-OF-UNITS
0004212 0010597 A
0004213 0005021 A              1020          TBA
0004214 0001010 A              1021          JAZ     EQP2            IF OUT OF BOUNDS
0004215 0004451 A
0004216 0142570 A              1022          SUB     FIVE
0004217 0001002 A              1023          JAP     EQP2            IF OUT OF BOUNDS
0004220 0004451 A
0004221 0005021 A              1024          TBA
0004222 0004250 A              1025          LPLA    8
0004223 0111056 A              1026          ORA     ITEM+2
0004224 0051056 A              1027          STB     ITEM+2          PACK WITH CONTROLLER ADDR
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                  1027 *                                                                            03 00995
004225 010000 L 1028          LDA     =0254                                                        03 00996
004226 002000 A 1029          CALL    SG3GAC       GET AND CONVERT BIC ADDR                        03 00997
004227 010507 A
004230 005021 A 1030          TBA                                                                  03 00998
004231 142535 A 1031          SUB     BS6                                                          03 00999
004232 001002 A 1032          JAP     EQP2         IF OUT OF BOUNDS                                03 01000
004233 004451 A
004234 061057 A 1033          STB     ITEM+3                                                       03 01001
                  1034 *                                                                            03 01002
004235 005001 A 1035          TZA                                                        V2        03 01003
004236 051060 A 1036          STA     ITEM+4                                             V2        03 01004
004237 051061 A 1037          STA     ITEM+5                                             V2        03 01005
004240 002000 A 1038          CALL    SG3GAC       GET AND CONVERT RETRY COUNT                     03 01006
004241 010507 A
004242 054215 A 1039          STA     EQPT         SAVE TERMINATOR                       V2        03 01007
004243 005021 A 1040          TBA                                                                  03 01008
004244 142535 A 1041          SUB     BS6                                                          03 01009
004245 001002 A 1042          JAP     EQP2         IF OUT OF BOUNDS                                03 01010
004246 004451 A
004247 005021 A 1043          TBA                                                                  03 01011
004250 004250 A 1044          LRLA    8                                                            03 01012
004251 111057 A 1045          ORA     ITEM+3                                                       03 01013
004252 051057 A 1046          STA     ITEM+3       PACK WITH BIC ADDR                              03 01014
                  1047 *                                                                            03 01015
004253 014204 A 1048          LDA     EQPT                                               V2        03 01016
004254 140000 L 1049          SUB     =0215                                              V2        03 01017
004255 001010 A 1050          JAZ     EQP9         EXIT IF NO MORE PARAMETERS            V2        03 01018
004256 004377 A
004257 144176 A 1051          SUB     EQPCM                                              V2        03 01019
004260 001016 A 1052          JANZ    EQP2         ERROR IF TERMINATOR NOT EOL OR ','    V2        03 01020
004261 004451 A
004262 002000 A 1053 EQP10    CALL    SGGNC        GET NEXT CHAR                         V2        03 01021
004263 011033 A
004264 017000 I 1054          LDA     SGSVCH                                             V2        03 01022
004265 006140 A 1055          SUBI    0260                                               V2        03 01023
004266 000260 A
004267 001010 A 1056          JAZ     EQP10        IGNORE LEADING ZEROS                  V2        03 01024
004270 004262 A
004271 006140 A 1057          SUBI    ','-'0'                                             D.103    01025
004272 177774 A
004273 001010 A 1058          JAZ     EQP8         IF A COMMA; TREAT AS A NULL FIELD      D.103    01026
004274 004362 A
004275 017000 I 1059          LDA     SGSVCH                                             V2        03 01027
004276 144160 A 1060          SUB     EQPPT                                              V2        03 01028
004277 001016 A 1061          JANZ    EQP2         MUST BE '.'                           V2        03 01029
004300 004451 A
004301 006010 A 1062          LDAI    0130260      TWO ASCII ZEROS.                      F         ********
004302 130260 A
004303 054155 A 1063          STA     EQPT+1       ZERO OUT BUFFER.                      F         ********
004304 006505 A 1064          JSR     SGGNI,X      INPUT TWO ASCII DIGITS.               F         ********
004305 010717 A
004306 004461 A 1065          DATA    EQPT+1                                             F         ********
004307 000002 A 1066          DATA    2                                                  F         ********
004310 054147 A 1067          STB     EQPT         STORE TERMINATOR.                     F         ********
004311 005021 A 1068          TBA                  LOAD A WITH TERMINATOR.               F         ********
004312 140000 L 1069          SUB     =0215        IS IT EOL?                            F         ********
004313 001010 A 1070          JAZ     EQP10A       JUMP IF YES.                          F         ********
004314 004320 A
004315 144140 A 1071          SUB     EQPCM        IS IT COMMA?                          F         ********
004316 001016 A 1072          JANZ    EQP2         IF NO, ERROR.                         F         ********
004317 004451 A
004320 014140 A 1073 EQP10A   LDA     EQPT+1       IS THE BUFFER                         F         ********
004321 006140 A 1074          SUBI    0130260      LESS THAN TWO ZEROS?                  F         ********
004322 130260 A
004323 001004 A 1075          JAN     EQP2         YES -- PARAMETER ERROR.               F         ********
004324 004451 A
004325 006140 A 1076          SUBI    8            NO -- CONVERT .08 AND .09             F         ********
004326 000010 A
004327 001004 A 1077          JAN     EQP10B       TO .10 (BECAUSE LEADING ZEROS         F         ********
004330 004340 A
004331 006140 A 1078          SUBI    2                                                            ********
004332 000002 A
004333 001002 A 1079          JAP     EQP10B                                                       ********
004334 004340 A
004335 006010 A 1080          LDAI    0130660      MAKES THEM LOOK LIKE OCTAL)           F         ********
004336 130660 A
004337 054121 A 1081          STA     EQPT+1                                             F         ********
004340 006030 A 1082 EQP10B   LDXI    EQPT+1       BUFFER ADDRESS                        F         ********
004341 004461 A
004342 006010 A 1083          LDAI    2            NUMBER OF DIGITS.                     F         ********
004343 000002 A
004344 002000 A 1084          CALL    SGCNV        CONVERT ASCII TO BINARY.              F         ********
004345 010412 A
004346 001001 A 1085          JOF     EQP2         PARAMETER ERROR.                      F         ********
004347 004451 A
004350 005001 A 1086          TZA                  LOAD MS IN A. LS IS IN B.             F         ********
004351 004046 A 1087          LRLB    6            SHIFT LEFT 2 OCTAL PLACES             F         ********
004352 006170 A 1088          DIVI    100          CONVERT TO BINARY FRACTION.           F         ********
004353 000144 A
004354 004051 A 1089          LRLB    9            LEFT JUSTIFIED.                       F         ********
004355 061061 A 1090          STB     ITEM+5       STORE I/O FRACTION IN STACK.          F         ********
004356 014101 A 1091          LDA     EQPT         TERMINATOR.                           F         ********
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004357 140000 L 1092          SUB     =0215       IS IT EOL?                                    F  ********
004360 001010 A 1093          JAZ     EQP9        YES--THEN EXIT.                               F  ********
004361 004377 A
       004362 A 1094 EQP8     EQU     *                                                         V2 03 01063
004362 005001 A 1095          TZA                 DISABLE TERMINATOR TEST                       F  ********
004363 002000 A 1096          CALL    SG3GAC      GET MULTIPLEXOR ADDRESS                       V2 03 01064
004364 010507 A
004365 054072 A 1097          STA     EQPT        SAVE TERMINATOR                               V2 03 01065
004366 005021 A 1098          TBA                                                               V2 03 01066
004367 142535 A 1099          SUB     BS6                                                       V2 03 01067
004370 001002 A 1100          JAP     EQP2        ERROR IF .GT. 077                             V2 03 01068
004371 004451 A
004372 061060 A 1101          STB     ITEM+4                                                    V2 03 01069
004373 014064 A 1102          LDA     EQPT                                                      V2 03 01070
004374 140000 L 1103          SUB     =0215                                                     V2 03 01071
004375 001016 A 1104          JANZ    EQP1        ERROR IF NOT END OF LINE                      V2 03 01072
004376 004447 A
       004377 A 1105 EQP9     EQU     *                                                         V2 03 01073
004377 010500 A 1106          LDA     SGSCB0                                                       03 01074
004400 001000 A 1107          JMP     EQP6                                                         03 01075
004401 004404 A
004402 012727 A 1108 EQP5     LDA     SGTMP1      SEARCH EQUIP STACK FOR MATCHING CONTROLLER    03 01076
004403 120502 A 1109          ADD     SGSCB0+2    NAME (EXCLUSIVE OF MODEL CODE)                V2 03 01077
004404 005014 A 1110 EQP6     TAX                                                               03 01078
004405 072727 A 1111          STX     SGTMP1                                                    03 01079
004406 140501 A 1112          SUB     SGSCB0+1                                                  03 01080
004407 001010 A 1113          JAZ     EQP4        IF NO MATCH                                   03 01081
004410 004437 A
004411 015000 A 1114          LDA     0,X                                                       03 01082
004412 131054 A 1115          EPA     ITEM                                                      03 01083
004413 001016 A 1116          JANZ    EQP5                                                      03 01084
004414 004402 A
004415 015000 A 1117          LDA     0,X                                                       03 01085
004416 130000 L 1118          EPA     ='D '                                                     03 01086
004417 152570 A 1119          ANA     LHW                                                       03 01087
004420 001010 A 1120          JAZ     EQP7        MATCH FOUND ALREADY IF RMD                    03 01088
004421 004427 A
004422 015001 A 1121          LDA     1,X                                                       03 01089
004423 131055 A 1122          EPA     ITEM+1                                                    03 01090
004424 152570 A 1123          ANA     LHW                                                       03 01091
004425 001016 A 1124          JANZ    EQP5        IF NO MATCH                                   03 01092
004426 004402 A
004427         1125 EQP7      BSS     0                                                         03 01093
004427 074004 A 1126          STX     EQP3                                                      03 01094
004430 002000 A 1127          CALL    SGMOV       OVERLAY OLD ENTRY WITH NEW                    03 01095
004431 010620 A
004432 000006 A 1128          DATA    6                                                         V2 03 01096
004433 001054 A 1129          DATA    ITEM                                                      03 01097
004434 000000 A 1130 EQP3     DATA    0                                                         03 01098
004435 001000 A 1131          JMP     SG3DIR      GO TO PROCESS NEXT DIRECTIVE                  03 01099
004436 003216 A
               1132 *                                                                          03 01100
004437 030000 L 1133 EQP4     LDX     =SGSCB0                                                   03 01101
004440 020000 L 1134          LDB     =ITEM                                                     03 01102
004441 002000 A 1135          CALL    SGPUT       PUT ENTRY IN EQUIP STACK                      03 01103
004442 010624 A
004443 001002 A 1136          JAP     SG3DIR      GO TO PROCESS NEXT DIRECTIVE                  03 01104
004444 003216 A
               1137 *                                                                          03 01105
               1138 *                          *  * POST ERROR MESSAGES *  *                   03 01106
               1139 *                                                                          03 01107
004445 012632 A 1140          LDA     ER24        POST 'STACK OVERFLOW ERROR' MESSAGE           03 01108
004446 061000 A 1141          DATA    01006                                                     03 01109
004447 012607 A 1142 EQP1     LDA     ER01        POST "SYNTAX ERROR" MESSAGE                   03 01110
004450 001006 A 1143          DATA    01006                                                     03 01111
004451 012610 A 1144 EQP2     LDA     ER02        POST "PARAMETER ERROR" MESSAGE                03 01112
004452 002000 A 1145          CALL    SG3ASC                                                    03 01113
004453 011323 A
004454 001000 A 1146          JMP     DIR5        GO TO PROCESS RECOVERY DIRECTIVE              03 01114
004455 003232 A
004456 000037 A 1147 EQPCM    DATA    0254-0215                                                 V2 03 01115
004457 000256 A 1148 EQPPT    DATA    0256        ASCII '.'                                     V2 03 01116
004460         1149 EQPT      BSS     3                                                         V2 03 01117
               1150           END                                                               03 01118
               1151 *                                                                          03 01119
               1152 *         SG3PIM                                                           03 01120
               1153 *                                                                          03 01121
               1154 *                          PURPOSE:  UNPACK "PIM" DIRECTIVES AND STORE INFORMATION 03 01122
               1155 *                                                                          03 01123
               1156 *                          CALLING SEQUENCE:  INDIRECT JUMP THROUGH DIR PROC TABLE 03 01124
               1157 *                                                                          03 01125
               1158 *                          RETURN PARAMETERS:  NONE                        03 01126
               1159 *                                                                          03 01127
               1160 *                                                                          03 01128
004463         1161 SG3PIM    BSS     0                                                         03 01129
004463 010000 L 1162          LDA     =0254                                                     03 01130
004464 002000 A 1163          CALL    SG3GAC      GET AND CONVERT INTERRUPT LINE NUMBER         03 01131
004465 010507 A
004466 005021 A 1164          TBA                                                               03 01132
004467 142535 A 1165          SUB     BS6                                                       03 01133
004470 001002 A 1166          JAP     ERIP        IF OUT OF BOUNDS                              03 01134
004471 004637 A
004472 061054 A 1167          STB     ITEM                                                      03 01135
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                    1168 *                                                                                  03 01136
004473 010000 L     1169          LDA     ='  '        BLANK NAME BUFFER                                    03 01137
004474 051055 A     1170          STA     ITEM+1                                                            03 01138
004475 051056 A     1171          STA     ITEM+2                                                            03 01139
004476 051057 A     1172          STA     ITEM+3                                                            03 01140
004477 006505 A     1173          JSR     SGGNI,X      GET INTERRUPT PROCESSOR NAME                         03 01141
004500 010717 A
004501 001055 A     1174          DATA    ITEM+1                                                            03 01142
004502 000006 A     1175          DATA    6                                                                 03 01143
004503 142575 A     1176          SUB     SEVEN                                                             03 01144
004504 001002 A     1177          JAP     PIM1         IF MORE THAN SIX CHAR                                03 01145
004505 004635 A
004506 005021 A     1178          TBA                                                                       03 01146
004507 130000 L     1179          ERA     =0254                                                             03 01147
004510 001016 A     1180          JANZ    PIM1         IF NOT TERMINATED BY COMMA                           03 01148
004511 004635 A
                    1181 *                                                                                  03 01149
004512 010000 L     1182          LDA     =0254                                                             03 01150
004513 002000 A     1183          CALL    SG3GAC       GET AND CONVERT EVENT WORD                           03 01151
004514 010507 A
004515 061060 A     1184          STB     ITEM+4                                                            03 01152
                    1185 *                                                                                  03 01153
004516 006505 A     1186          JSR     SGGNI,X      GET DIRECT CONNECT FLAG                              03 01154
004517 010717 A
004520 001061 A     1187          DATA    ITEM+5                                                            03 01155
004521 000001 A     1188          DATA    1                                                                 03 01156
004522 005311 A     1189          DAR                                                                       03 01157
004523 001016 A     1190          JANZ    PIM1         IF MORE THAN ONE CHAR                                03 01158
004524 004635 A
004525 005021 A     1191          TBA                                                                       03 01159
004526 140000 L     1192          SUB     =0215                                                             03 01160
004527 054043 A     1193          STA     PIM4                                                              03 01161
004530 001010 A     1194          JAZ     PIM3                                                              03 01162
004531 004535 A
004532 140000 L     1195          SUB     =056                                                              03 01163
004533 001016 A     1196          JANZ    PIM1         IF FIELD NOT TERM. BY SEMICOLON OR E-O-R             03 01164
004534 004635 A
                    1197 *                                                                                  03 01165
004535 011061 A     1198 PIM3     LDA     ITEM+5                                                            03 01166
004536 004350 A     1199          LSRA    8                                                                 03 01167
004537 140000 L     1200          SUB     =0260                                                             03 01168
004540 001010 A     1201          JAZ     PIM5+1       IF NORMAL PROCESSOR                          V2      03 01169
004541 004553 A
004542 005012 A     1202          TAB                                                               V2      03 01170
004543 011054 A     1203          LDA     ITEM                                                              03 01171
004544 112546 A     1204          ORA     BS15                                                              03 01172
004545 005322 A     1205          DBR                                                               V2      03 01173
004546 001020 A     1206          JRZ     PIM5         TYPE 1                                       V2      03 01174
004547 004552 A
                    1207          IFT     VORTEX-2                                                  V2      03 01175
                    1208          GOTO    1                                                         V2      03 01176
                    1209          JRA     BS14         TYPE 2                                       V2      03 01177
                    1210          DBR                                                               V2      03 01178
                    1211 1        CONT                                                              V2      03 01179
004550 001026 A     1212          JBNZ    PIM2         ERROR IF NOT TYPE 2                          V2      03 01180
004551 004637 A
004552 051054 A     1213 PIM5     STA     ITEM                                                      V2      03 01181
                    1214 *                                                                                  03 01182
004553 130000 L     1215          LDX     =SGSCB9                                                   V2      03 01183
004554 020000 L     1216          LDB     =ITEM                                                             03 01184
004555 005301 A     1217          DECR    01                                                                03 01185
004556 002000 A     1218          CALL    SGSAE        SEARCH TEMP. STACK FOR MATCHING INT. LINE            03 01186
004557 011356 A
004560 000001 A     1219          DATA    1                                                                 03 01187
004561 005041 A     1220          TXA                                                                       03 01188
004562 001002 A     1221          JAP     PIM2         IF MATCH FOUND (ERROR)                               03 01189
004563 004637 A
004564 030000 L     1222          LDX     =SGSCB9                                                           03 01190
004565 020000 L     1223          LDB     =ITEM                                                             03 01191
004566 002000 A     1224          CALL    SGPUT        PUT ENTRY IN TEMPORARY STACK                         03 01192
004567 010624 A
004570 001004 A     1225          JAN     PIM8         IF NO ROOM FOR STACK ENTRY                           03 01193
004571 004633 A
                    1226 *                                                                                  03 01194
004572 006010 A     1227          LDAI    0                                                                 03 01195
004573 000000 A
004574              1228 PIM4     BES     0                                                                 03 01196
004574 001016 A     1229          JANZ    SG3PIM       PROCESS NEXT PARAMETER SET IF NOT EOR TERM           03 01197
004575 004463 A
                    1230 *                            *  LOOP TO MOVE ENTRIES TO IM STACK  *               03 01198
004576 030000 L     1231 PIM6     LDX     =SGSCB9                                                           03 01199
004577 020000 L     1232          LDB     =ITEM                                                             03 01200
004600 002000 A     1233          CALL    SGGET        GET NEXT TEMP. STACK ITEM                            03 01201
004601 011111 A
004602 001004 A     1234          JAN     SG3DIR       *  EXIT IF STACK EMPTY  *                            03 01202
004603 003216 A
                    1235 *                                                                                  03 01203
004604 030000 L     1236          LDX     =SGSCB4                                                           03 01204
004605 020000 L     1237          LDB     =ITEM                                                             03 01205
004606 005301 A     1238          DECR    01                                                                03 01206
004607 002000 A     1239          CALL    SGSAE        SEARCH IM STACK FOR MATCHING INT. LINE               03 01207
004610 011356 A
004611 000001 A     1240          DATA    1                                                                 03 01208
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004612 005041 A 1241          TXA                                                    03 01209
004613 001004 A 1242          JAN     PIM7        IF NO MATCH FOUND                  03 01210
004614 004625 A
004615 074004 A 1243          STX     PIM9                                           03 01211
004616 002000 A 1244          CALL    SGMOV       OVERLAY OLD ENTRY WITH NEW         03 01212
004617 010620 A
004620 000005 A 1245          DATA    5                                              03 01213
004621 001054 A 1246          DATA    ITEM                                           03 01214
004622 000000 A 1247 PIM9     DATA    0                                              03 01215
004623 001000 A 1248          JMP     PIM6        GO TO MOVE NEXT ENTRY              03 01216
004624 004576 A
                   1249 *                                                            03 01217
004625 030000 L 1250 PIM7     LDX     =SGSCB4                                        03 01218
004626 020000 L 1251          LDB     =ITEM                                          03 01219
004627 002000 A 1252          CALL    SGPUT       ADD ENTRY TO IM STACK              03 01220
004630 010624 A
004631 001002 A 1253          JAP     PIM6        GO TO MOVE NEXT ENTRY              03 01221
004632 004576 A
                   1254 *                                                            03 01222
                   1255 *                        * * ERROR POSTING * *              03 01223
                   1256 *                                                            03 01224
004633 012632 A 1257 PIM8     LDA     FR24        POST 'STACK OVERFLOW ERROR' MESSAGE 03 01225
004634 001006 A 1258          DATA    01006                                          03 01226
004635 012607 A 1259 PIM1     LDA     ER01        POST "SYNTAX ERROR" MESSAGE        03 01227
004636 001006 A 1260          DATA    01006                                          03 01228
004637 012610 A 1261 PIM2     LDA     ER02        POST "DATA ERROR" MESSAGE          03 01229
004640 002000 A 1262          CALL    SG3ASC                                         03 01230
004641 011323 A
004642 001000 A 1263          JMP     SGPUR       GO PURGE TEMP. STACKS AND PROC. DIRECTIVE 03 01231
004643 011634 A
                   1264       EJEC                                                   03 01232
                   1265 *                                                            03 01233
                   1266 *     SG3CLK                                                 03 01234
                   1267 *                                                            03 01235
                   1268 *          PURPOSE:  UNPACK "CLK" DIRECTIVES AND STORE INFORMATION 03 01236
                   1269 *                                                            03 01237
                   1270 *          CALLING SEQUENCE:  INDIRECT JUMP THROUGH DIR PROC TABLE 03 01238
                   1271 *                                                            03 01239
                   1272 *          RETURN PARAMETERS:  NONE                          03 01240
                   1273 *                                                            03 01241
                   1274 *                                                            03 01242
004644             1275 SG3CLK   BSS     0                                          03 01243
004644 010000 L 1276          LDA     =0254       SET UP CHECK FOR COMMA TERMINATOR  03 01244
004645 002000 A 1277          CALL    SG3GAC      GET AND CONVERT FIRST PARAMETER    03 01245
004646 010507 A
004647 062704 A 1278          STB     SGCLK1        STORE IN COMMON DATA AREA        03 01246
                   1279 *                                                            03 01247
004650 010000 L 1280          LDA     =0254       SET UP CHECK FOR COMMA TERMINATOR  03 01248
004651 002000 A 1281          CALL    SG3GAC      GET AND CONVERT SECOND PARAMETER   03 01249
004652 010507 A
004653 062705 A 1282          STB     SGCLK2        STORE IN COMMON DATA AREA        03 01250
                   1283 *                                                            03 01251
004654 010000 L 1284          LDA     =0215       SET UP CHECK FOR EOR TERMINATOR    03 01252
004655 002000 A 1285          CALL    SG3GAC      GET AND CONVERT THIRD PARAMETER    03 01253
004656 010507 A
004657 005001 A 1286          TZA                 ROUND UP TO 5 MS. BOUNDARY         03 01254
004660 172573 A 1287          DIV     FIVE                                           03 01255
004661 001012 A 1288          JPZ     *+4                                            03 01256
004662 004665 A
004663 005122 A 1289          IRR                                                    03 01257
004664 005001 A 1290          TZA                                                    03 01258
004665 162573 A 1291          MUL     FIVE                                           03 01259
004666 005021 A 1292          TSA                                                    D.103 01260
004667 006140 A 1293          DUBI    51                                             D.103 01261
004670 000063 A
004671 001004 A 1294          JAN     CLK1        IF INTERVAL DOES NOT EXCEED 50 MS  D.103 01262
004672 004675 A
004673 006020 A 1295          LDBI    50          SET INTERVAL TO 50 MS MAX          D.103 01263
004674 000062 A
       004675 A 1296 CLK1     EQU     *                                              D.103 01264
004675 062706 A 1297          STB     SGCLK3        STORE IN COMMON DATA AREA        03 01265
004676 001000 A 1298          JMP     SG3DIR      * * RETURN * *                     03 01266
004677 003213 A
                   1299       EJEC                                                   03 01267
                   1300 *                                                            03 01268
                   1301 *     SG3TSK                                                 03 01269
                   1302 *                                                            03 01270
                   1303 *          PURPOSE:  UNPACK "TSK" DIRECTIVES AND STORE INFORMATION 03 01271
                   1304 *                                                            03 01272
                   1305 *          CALLING SEQUENCE:  INDIRECT JUMP THROUGH DIR PROC TABLE 03 01273
                   1306 *                                                            03 01274
                   1307 *          RETURN PARAMETERS:  NONE                          03 01275
                   1308 *                                                            03 01276
                   1309 *                                                            03 01277
004700 030000 L 1310 TSK2     LDX     =SGSCB9     PUT NAME IN TEMPORARY STACK        03 01278
004701 020000 L 1311          LDB     =ITEM                                          03 01279
004702 002000 A 1312          CALL    SGPUT                                          03 01280
004703 010691 A
004704 001004 A 1313          JAN     TSK3        IF STACK OVERFLOW                  03 01281
004705 004732 A
                   1314 *                                                            03 01282
004706             1315 SG3TSK   BSS     0           * * ENTRY POINT * *            03 01283
004706 010000 L 1316          LDA     =.  .                                          03 01284
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004707 051054 A 1317          STA     ITEM        CLEAR ITEM BUFFER                          03 01285
004710 051055 A 1318          STA     ITEM+1        TO BLANKS                                03 01286
004711 051056 A 1319          STA     ITEM+2                                                 03 01287
                    1320 *                                                                   03 01288
004712 006505 A 1321          JSR     SGGNI,X     GET NEXT RESIDENT TASK NAME                03 01289
004713 010717 A
004714 001054 A 1322          DATA    ITEM                                                   03 01290
004715 000006 A 1323          DATA    6                                                      03 01291
004716 140000 L 1324          SUB     =7                                                     03 01292
004717 001002 A 1325          JAP     TSK3        IF NAME IS NOT ACCEPTABLE (TOO LONG)       03 01293
004720 004734 A
004721 005021 A 1326          TBA                                                            03 01294
004722 140000 L 1327          SUB     =0215                                                  03 01295
004723 001010 A 1328          JAZ     TSK4        IF END OF DIRECTIVE (LAST NAME FIELD)      03 01296
004724 004747 A
004725 140000 L 1329          SUB     =037                                                   03 01297
004726 001010 A 1330          JAZ     TSK2        IF ACCEPTABLE TERMINATOR (COMMA)           03 01298
004727 004700 A
                    1331 *                                                                   03 01299
004730 012607 A 1332          LDA     ER01        POST 'SYNTAX ERROR' MESSAGE                03 01300
004731 001006 A 1333          DATA    01006                                                  03 01301
004732 012632 A 1334 TSK5     LDA     ER24        POST 'STACK OVERFLOW' ERROR MESSAGE        03 01302
004733 001006 A 1335          DATA    01006                                                  03 01303
004734 012610 A 1336 TSK3     LDA     ER02        POST 'PARAMETER ERROR' MESSAGE             03 01304
004735 002000 A 1337          CALL    SG3ASC        AND                                      03 01305
004736 011323 A
004737 001000 A 1338          JMP     SGPUR       PURGE TEMP STACK AND RETURN                03 01306
004740 011634 A
                    1339 *                                                                   03 01307
004741 030000 L 1340 TSK1     LDX     =SGSCB9     GET A NAME FROM TEMPORARY STACK            03 01308
004742 020000 L 1341          LDB     =ITEM                                                  03 01309
004743 002000 A 1342          CALL    SGGET                                                  03 01310
004744 011111 A
004745 001004 A 1343          JAN     SG3DIR      * * RETURN IF ALL NAMES MOVED * *          03 01311
004746 003216 A
004747 030000 L 1344 TSK4     LDX     =SGSCB5     SEARCH AND ENTER NAME                      03 01312
004750 020000 L 1345          LDB     =ITEM         IN RESIDENT TASK STACK                   03 01313
004751 002000 A 1346          CALL    SGSAE         (IF NOT ALREADY THERE)                   03 01314
004752 011356 A
004753 000003 A 1347          DATA    3                                                      03 01315
004754 001000 A 1348          JMP     TSK1        CONTINUE                                   03 01316
004755 004741 A
                    1349          FJEC                                                       03 01317
                    1350 *                                                                   03 01318
                    1351 *        SG3PRT                                                     03 01319
                    1352 *                                                                   03 01320
                    1353 *              PURPOSE:  UNPACK "PRT" DIRECTIVES AND STORE INFORMATION 03 01321
                    1354 *                                                                   03 01322
                    1355 *              CALLING SEQUENCE:  INDIRECT JUMP THROUGH DIR PROC TABLE 03 01323
                    1356 *                                                                   03 01324
                    1357 *              RETURN PARAMETERS:  NONE                            03 01325
                    1358 *                                                                   03 01326
                    1359 *                                                                   03 01327
004756              1360 SG3PRT   BSS     0           * * ENTRY POINT * *                    03 01328
004756 006505 A 1361          JSR     SGGNI,X     GET PARTITION NAME                         03 01329
004757 010717 A
004760 001054 A 1362          DATA    ITEM                                                   03 01330
004761 000004 A 1363          DATA    4                                                      03 01331
004762 142531 A 1364          SUB     FOUR                                                   03 01332
004763 001016 A 1365          JANZ    PRT1        ERROR IF NOT EXACTLY 4 CHAR READ           03 01333
004764 005127 A
004765 005021 A 1366          TBA                                                            03 01334
004766 130000 L 1367          CRA     =0254                                                  03 01335
004767 001016 A 1368          JANZ    PRT1        ERROR IF TERMINATOR NOT COMMA              03 01336
004770 005127 A
004771 011054 A 1369          LDA     ITEM                                                   03 01337
004772 006150 A 1370          ANAI    0177774                                                03 01338
004773 177771 A
004774 006130 A 1371          ERAI    0142260                                                03 01339
004775 142260 A
004776 001016 A 1372          JANZ    PRT2        ERROR IF NAME NOT "D0","D1","D2", OR "D3"  03 01340
004777 005131 A
005000 011055 A 1373          LDA     ITEM+1                                                 03 01341
005001 006150 A 1374          ANAI    0136340                                                03 01342
005002 136340 A
005003 006130 A 1375          ERAI    0130300                                                03 01343
005004 130300 A
005005 001016 A 1376          JANZ    PRT2        ERROR IF UNIT NOT NUMBER OR PART. NOT NAME 03 01344
005006 005131 A
                    1377 *                                                                   03 01345
005007 010000 L 1378          LDA     =0254                                                  03 01346
005010 002006 A 1379          CALL    SJ3GAC      GET AND CONVERT PARTITION SIZE             03 01347
005011 010507 A
005012 005321 A 1380          DECR    R21                                                    03 01348
005013 140006 L 1381          SUB     =1065       MAX. TRKS FOR CDS DISC        -35          03 01349
005014 001002 A 1382          JAP     PRT3        IF OUT OF BOUNDS                           03 01350
005015 005131 A
005016 061057 A 1383          STB     ITEM+3                                                 03 01351
                    1384 *                                                                   03 01352
005017 006505 A 1385          JSR     SGGNI,X     GET PROTECT KEY                            03 01353
005020 010717 A
005021 001056 A 1386          DATA    ITEM+2                                                 03 01354
005022 000001 A 1387          DATA    1                                                      03 01355
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005023 005311 A 1388          BAR                                                    03 01356
005024 001016 A 1389          JANZ    PRT1        ERROR IF NOT SINGLE CHAR           03 01357
005025 005127 A
005026 005021 A 1390          TBA                                                    03 01358
005027 140000 L 1391          SUB     =0215                                          03 01359
005030 054036 A 1392          STA     PRT4                                           03 01360
005031 001010 A 1393          JAZ     PRT3                                           03 01361
005032 005036 A
005033 140000 L 1394          SUB     =056                                           03 01362
005034 001016 A 1395          JANZ    PRT1        ERROR IF TERMINATOR NOT SEMICOLON OR E-O-R 03 01363
005035 005127 A
                1396 *                                                               03 01364
005036 011056 A 1397 PRT3     LDA     ITEM+2      STORE                              03 01365
005037 004350 A 1398          LSRA    8             PROTECT KEY,                     03 01366
005040 051056 A 1399          STA     ITEM+2          AND PROTECT KEY FLAG         03 01367
005041 130000 L 1400          ERA     =0252             IF                         03 01368
005042 001010 A 1401          JAZ     PRT5                PROTECT KEY              03 01369
005043 005046 A
005044 011056 A 1402          LDA     ITEM+2                IS NOT                 03 01370
005045 112546 A 1403          ORA     =X'15'                  BLANK                03 01371
005046 051056 A 1404 PRT5     STA     ITEM+2                                         03 01372
                1405 *                                                               03 01373
005047 030000 L 1406          LDX     =SGSCB9                                        03 01374
005050 020000 L 1407          LDB     =ITEM                                          03 01375
005051 005301 A 1408          DECR    01                                             03 01376
005052 002000 A 1409          CALL    SGSAE       SEARCH FOR SIMILAR PARTITION ENTRY 03 01377
005053 011356 A
005054 000002 A 1410          DATA    2             FROM THIS DIRECTIVE              03 01378
005055 005041 A 1411          TXA                                                    03 01379
005056 001002 A 1412          JAP     PRT2        ERROR IF SIMILAR ENTRY FOUND       03 01380
005057 005131 A
005060 030000 L 1413          LDX     =SGSCB9                                        03 01381
005061 020000 L 1414          LDB     =ITEM                                          03 01382
005062 002000 A 1415          CALL    SGPUT       PUT ENTRY IN STACK                 03 01383
005063 010624 A
005064 001004 A 1416          JAN     PRT9        ERROR IF OUT OF STACK SPACE        03 01384
005065 005125 A
                1417 *                                                               03 01385
005066 006010 A 1418          LDAI    0                                              03 01386
005067 000000 A
005067          1419 PRT4     BES     0                                              03 01387
005070 001016 A 1420          JANZ    SG3PRT      IF NOT END OF DIRECTIVE, PROCESS NEXT ENTR 03 01388
005071 004756 A
                1421 *                            *  * LOOP TO MOVE ENTRIES FROM TEMP. STACK 03 01389
005072 030000 L 1422 PRT6     LDX     =SGSCB9                                        03 01390
005073 020000 L 1423          LDB     =ITEM                                          03 01391
005074 002000 A 1424          CALL    SGGET       GET ENTRY FROM TEMP STACK          03 01392
005075 011111 A
005076 001004 A 1425          JAN     SG3DIR      IF STACK EMPTY                     03 01393
005077 003216 A
                1426 *                                                               03 01394
005100 030000 L 1427          LDX     =SGSCB3                                        03 01395
005101 020000 L 1428          LDB     =ITEM                                          03 01396
005102 005301 A 1429          DECR    01                                             03 01397
005103 002000 A 1430          CALL    SGSAE       SEARCH PART. PARAMETER STACK FOR MATCH 03 01398
005104 011336 A
005105 000002 A 1431          DATA    2                                              03 01399
005106 005041 A 1432          TXA                                                    03 01400
005107 001004 A 1433          JAN     PRT7        IF NO SIMILAR ENTRY FOUND          03 01401
005110 005117 A
005111 011056 A 1434          LDA     ITEM+2      OVERLAY OLD ENTRY WITH NEW ENTRY   03 01402
005112 055002 A 1435          STA     2,X                                            03 01403
005113 011057 A 1436          LDA     ITEM+3                                         03 01404
005114 055003 A 1437          STA     3,X                                            03 01405
005115 001000 A 1438          JMP     PRT6        MOVE NEXT ENTRY                    03 01406
005116 005072 A
                1439 *                                                               03 01407
005117 030000 L 1440 PRT7     LDX     =SGSCB3     PUT NEW ENTRY IN PART. PARAMETER STACK 03 01408
005120 020000 L 1441          LDB     =ITEM                                          03 01409
005121 002000 A 1442          CALL    SGPUT                                          03 01410
005122 010624 A
005123 001002 A 1443          JAP     PRT6        MOVE NEXT ENTRY                    03 01411
005124 005072 A
                1444 *                                                               03 01412
                1445 *                            *  * ERROR ROUTINES *  *           03 01413
                1446 *                                                               03 01414
005125 012632 A 1447 PRT8     LDA     ERR1        POST 'STACKS EXCEED MEMORY' MESSAGE 03 01415
005126 001006 A 1448          DATA    01006                                          03 01416
005127 012607 A 1449 PRT1     LDA     ERR0        POST "SYNTAX ERROR" MESSAGE        03 01417
005130 001006 A 1450          DATA    01006                                          03 01418
005131 012610 A 1451 PRT2     LDA     ERR2        POST "DATA ERROR" MESSAGE          03 01419
005132 002000 A 1452          CALL    SG3ASC                                         03 01420
005133 011323 A
005134 001000 A 1453          JMP     SGPUR       GO PURGE TEMP. STACKS AND PROC. DIRECTIVE 03 01421
005135 011634 A
                1454          EJEC                                                   D.1 03 01422
                1455 *                                                               D.1 03 01423
                1456 *        SG3DEF                                                 D.1 03 01424
                1457 *                                                               D.1 03 01425
                1458 *                    PURPOSE: TO DEFINE EXTERNAL NAMES          D.1 03 01426
                1459 *                                                               D.1 03 01427
005136 010000 L 1460 SG3DEF   LDA     ='  '                                          D.1 03 01428
005137 051054 A 1461          STA     ITEM                                           D.1 03 01429
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005140 051055 A 1462          STA     ITEM+1                                  D.1 03 01430
005141 051056 A 1463          STA     ITEM+2          CLEAR ITEM              D.1 03 01431
005142 006505 A 1464          JSR     SGGNI,X         INPUT NAME              D.1 03 01432
005143 010717 A
005144 001054 A 1465          DATA    ITEM            INTO ITEM               D.1 03 01433
005145 000006 A 1466          DATA    6               6 CHARS MAX             D.1 03 01434
005146 142575 A 1467          SUB     SEVEN                                   D.1 03 01435
005147 001002 A 1468          JAP     ADR2            ERROR IF MORE THAN 6 CHARS D.1 03 01436
005150 003471 A
005151 005021 A 1469          TBA                                             D.1 03 01437
005152 140000 L 1470          SUB     =0254                                   D.1 03 01438
005153 001016 A 1471          JANZ    ADR1            ERROR IF TERMINATOR NOT ',' D.1 03 01439
005154 003467 A
005155 006505 A 1472          JSR     SGGNI,X         INPUT NUMERIC VALUE     D.1 03 01440
005156 010717 A
005157 001057 A 1473          DATA    ITEM+3                                  D.1 03 01441
005160 000006 A 1474          DATA    6                                       D.1 03 01442
005161 064026 A 1475          STB     SG3DET          SAVE TERMINATOR         D.1 03 01443
005162 030000 L 1476          LDX     =ITEM+3                                 D.1 03 01444
005163 002000 A 1477          CALL    SGCNV           CONVERT STRING TO BINARY D.1 03 01445
005164 010412 A
005165 001001 A 1478          JOF     ASN2            ERROR ON OVERFLOW       D.1 03 01446
005166 004012 A
005167 061057 A 1479          STB     ITEM+3                                  D.1 03 01447
005170 030000 L 1480          LDX     =SGSCB7                                 D.1 03 01448
005171 020000 L 1481          LDB     =ITEM                                   D.1 03 01449
005172 002000 A 1482          CALL    SGPUT           PUT IN STACK 7          D.1 03 01450
005173 010624 A
005174 001004 A 1483          JAN     ADR4            ERROR ON STACK OVERFLOW D.1 03 01451
005175 003465 A
005176 014011 A 1484          LDA     SG3DET          GET TERMINATOR          D.1 03 01452
005177 140000 L 1485          SUB     =0215                                   D.1 03 01453
005200 001010 A 1486          JAZ     SG3DIR          EXIT AT END OF LINE     D.1 03 01454
005201 003216 A
005202 006140 A 1487          SUBI    0273-0215                               D.1 03 01455
005203 000056 A
005204 001010 A 1488          JAZ     SG3DEF          PROCESS NEXT FIELD ON ';'   03 01456
005205 005136 A
005206 001000 A 1489          JMP     ADR1            OTHERWISE ERROR         D.1 03 01457
005207 003467 A
005210 000000 A 1490 SG3DET   DATA    0               TERMINATOR              D.1 03 01458
                1491          EJEC                                            03 01459
                1492 *                                                        03 01460
                1493 *        SG3EDR                                          03 01461
                1494 *                                                        03 01462
                1495 *        PURPOSE:  UNPACK "EDR" DIRECTIVES AND STORE INFORMATION  03 01463
                1496 *                                                        03 01464
                1497 *        CALLING SEQUENCE:  INDIRECT JUMP THROUGH DIR PROC TABLE  03 01465
                1498 *                                                        03 01466
                1499 *        RETURN PARAMETERS:  NONE                        03 01467
                1500 *                                                        03 01468
                1501 *                                                        03 01469
005211          1502 SG3EDR   BSS     0               * * ENTRY POINT * *     03 01470
005211 002000 A 1503          CALL    EDR3            INPUT PROCESSING FLAG   03 01471
005212 005342 A
005213 004470 A 1504          LLRL    24                                      03 01472
005214 140000 L 1505          SUB     =0106722                                03 01473
005215 001010 A 1506          JAZ     EDR2            IF "R" INPUT, GO SET UP PARTIAL SGEN 03 01474
005216 005331 A
005217 140000 L 1507          SUB     =017401                                 03 01475
005220 001016 A 1508          JANZ    EDR1            ERROR IF NOT "S"        03 01476
005221 005354 A
                1509 *                                                        03 01477
005222 010000 L 1510          LDA     =0254                                   03 01478
005223 002000 A 1511          CALL    SG3GAC          GET AND CONVERT EMPTY TIDB NUMBER 03 01479
005224 010507 A
005225 005021 A 1512          TBA                                             03 01480
005226 142540 A 1513          SUB     DS9                                     03 01481
005227 001002 A 1514          JAP     EDR1            IF OUT OF BOUNDS        03 01482
005230 005354 A
005231 062712 A 1515          STB     SGEDR1            STORE IN COMMON DATA AREA 03 01483
                1516 *                                                        03 01484
005232 010000 L 1517          LDA     =0254                                   03 01485
005233 002000 A 1518          CALL    SG3GAC          GET AND CONVERT STACK SIZE PARAMETER 03 01486
005234 010507 A
005235 005021 A 1519          TBA                                             03 01487
005236 142542 A 1520          SUB     DS11                                    03 01488
005237 001002 A 1521          JAP     EDR1            IF OUT OF BOUNDS        03 01489
005240 005354 A
005241 062713 A 1522          STB     SGEDR2            STORE IN COMMON DATA AREA 03 01490
                1523 *                                                        03 01491
005242 010000 L 1524          LDA     =0254                                   03 01492
005243 002000 A 1525          CALL    SG3GAC          GET AND CONVERT MAX PARTITION VALUE 03 01493
005244 010507 A
005245 005321 A 1526          DECR    021                                     03 01494
005246 140000 L 1527          SUB     =20                                     03 01495
005247 001002 A 1528          JAP     EDR1            IF OUT OF BOUNDS        03 01496
005250 005354 A
005251 062717 A 1529          STB     SGEDR6            STORE IN COMMON DATA AREA 03 01497
                1530 *                                                        03 01498
005252 010000 L 1531 EDR5     LDA     =0254                                   03 01499
005253 002000 A 1532          CALL    SG3GAC          GET AND CONVERT PAGE SIZE VALUE 03 01500
005254 010507 A
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005255 062721 A 1533          STB     SGEDR8      STORE IN COMMON DATA AREA                    03 01501
                     1534 *                                                                    03 01502
005256 010000 L 1535          LDA     =0254                                                    03 01503
005257 002000 A 1536          CALL    SG3GAC      GET AND CONVERT HOL. CHAR CODE FLAG          03 01504
005260 010507 A
005261 005021 A 1537          TBA                                                              03 01505
005262 140000 L 1538          SUB     =26                                                      03 01506
005263 001010 A 1539          JAZ     EDR7        IF 026 KEY PUNCH CODE                        03 01507
005264 005271 A
005265 140000 L 1540          SUB     =3                                                       03 01508
005266 001016 A 1541          JANZ    EDR1        ERROR IF NOT 029 KEY PUNCH CODE EITHER       03 01509
005267 005354 A
005270 010000 L 1542          LDA     =0401       SET UP CODE FOR NUCLEUS 'LOW-CORE'           03 01510
005271 052722 A 1543 EDR7     STA     SGEDR9      STORE IN COMMON DATA AREA                    03 01511
                     1544 *                                                                    03 01512
005272 005001 A 1545          TZA                 SET BAD-TRACK-ANALYSIS FLAG                  03 01513
005273 052720 A 1546          STA     SGEDR7        NOMINALLY FOR FULL ANALYSIS                03 01514
005274 002000 A 1547          CALL    EDR3        INPUT LIST FLAG                              03 01515
005275 005342 A
005276 147000 I 1548          SUB     0240                                                     03 01516
005277 052723 A 1549          STA     SGEDRA        STORE IN COMMON DATA AREA                  03 01517
005300 140000 L 1550          SUB     =0130000                                                 03 01518
005301 001010 A 1551          JAZ     EDR0        IF LIST FLAG = "0"                           03 01519
005302 005306 A
005303 140000 L 1552          SUB     =016000                                                  03 01520
005304 001016 A 1553          JANZ    EDR1        ERROR, IF FLAG NOT "L" OR "0"                03 01521
005305 005354 A
005306 005021 A 1554 EDR0     TBA                                                              03 01522
005307 140000 L 1555          SUB     =0215                                                    03 01523
005310 001010 A 1556          JAZ     SG3RMD      EXIT ROUTINE, IF NO MORE PARAMETERS          03 01524
005311 005363 A
005312 140000 L 1557          SUB     =0254-0215                                               03 01525
005313 001016 A 1558          JANZ    EDR1        ERROR, IF FIELD TERM. NOT E-O-R OR COMMA     03 01526
005314 005354 A
005315 002000 A 1559          CALL    EDR3        INPUT BAD-TRACK-ANALYSIS FLAG                03 01527
005316 005342 A
005317 004470 A 1560          LLRL    24                                                       03 01528
005320 140000 L 1561          SUB     =0106660    PACK FIELD TERM. AND CHAR. IN (AR);CONVERT   03 01529
005321 052720 A 1562          STA     SGEDR7        STORE BAD-TRACK ANALYSIS FLAG              03 01530
005322 001010 A 1563          JAZ     SG3RMD      EXIT ROUTINE, IF FLAG = "0"                  03 01531
005323 005363 A
005324 005311 A 1564          DAR                 CHECK FOR FLAG = "1"                         03 01532
005325 001016 A 1565          JANZ    EDR1        ERROR IF FLAG NOT "L" OR "0"                 03 01533
005326 005354 A
005327 001000 A 1566          JMP     SG3RMD      GO TO RMD ANALYSIS ROUTINE                   03 01534
005330 005363 A
                     1567 *                                                                    03 01535
005331 006030 A 1568 EDR2     LDXI    EDR8        SET UP SGEN LOADER TO LOAD                   03 01536
005332 005335 A
                     1569          EXT     EXIT          THE RESIDENT TASK CONFIGURATOR       03 01537
005333 001000 A 1570          JMP     EXIT          FOR RESIDENT TASK BUILD                    03 01538
005334 000000 E
                     1571 *                             (PARTIAL SGEN REQUESTED)              03 01539
005335 055624 A 1572 EDR8     DATA    055624      LOADER CODE ENTRY FOR 'SGEN4'                03 01540
005336 031636 A 1573          DATA    031636                                                   03 01541
005337 000000 A 1574          DATA    0                                                        03 01542
                     1575          EJEC                                                       03 01543
                     1576 *                                                                    03 01544
                     1577 *          * ROUTINE TO INPUT A SINGLE ASCII CHARACTER               03 01545
                     1578 *            TO (AR).  EXIT WITH TERMINATOR IN (BR)                 03 01546
                     1579 *                                                                    03 01547
005340 011054 A 1580 EDR4     LDA     ITEM        (AR)= CHARACTER                              03 01548
005341 001000 A 1581          JMP     0           *  * RETURN *  *                             03 01549
005342 000000 A
                     1582 *                                                                    03 01550
005342               1583 EDR3     BES     0           *  * ENTRY POINT *  *                    03 01551
005343 010000 L 1584          LDA     =' '                                                     03 01552
005344 051054 A 1585          STA     ITEM                                                     03 01553
005345 006505 A 1586          JSR     SGGNI,X     GET NEXT ITEM                                03 01554
005346 010717 A
005347 001054 A 1587          DATA    ITEM                                                     03 01555
005350 000001 A 1588          DATA    1                                                        03 01556
005351 005311 A 1589          DAR                                                              03 01557
005352 001010 A 1590          JAZ     EDR4        IF A SINGLE CHARACTER                        03 01558
005353 005340 A
                     1591 *                                                                    03 01559
                     1592 *                        *  * ERROR ROUTINE *  *                   03 01560
                     1593 *                                                                    03 01561
005354 012610 A 1594 EDR1     LDA     ERR2        POST "PARAMETER ERROR" MESSAGE               03 01562
005355 001006 A 1595          DATA    01006                                                    03 01563
005356 012607 A 1596 EDR9     LDA     ERR1        POST "SYNTAX ERROR" MESSAGE                  03 01564
005357 002000 A 1597          CALL    SGGNSC                                                   03 01565
005360 011323 A
005361 001000 A 1598          JMP     DIR3        GO TO PROCESS RECOVERY DIRECTIVE             03 01566
005362 003222 A
                     1599          EJEC                                                       03 01567
                     1600 *                                                                    03 01568
                     1601 *        SG3RMD                                                     03 01569
                     1602 *                                                                    03 01570
                     1603 *                PURPOSE:  TO PERFORM BAD TRACK ANALYSIS ON ALL     03 01571
                     1604 *                          ROTATING MEMORIES, BUILD PST'S FOR THEM, 03 01572
                     1605 *                          AND WRITE PST'S AND BAD TRACK TABLES ON  03 01573
                     1606 *                          THE RMD'S.                               03 01574
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                    1607 *                                                                                  03 01575
                    1608 *          CALLING SEQUENCE:  JMP   SG3RMD                                         03 01576
                    1609 *                                                                                  03 01577
                    1610 *          RETURN PARAMETERS:  NONE                                                03 01578
                    1611 *                                                                                  03 01579
                    1612 *                                                                                  03 01580
005363              1613 SG3RMD BSS     0               *  * ENTRY POINT *  *                               03 01581
005363 010500 A     1614        LDA     SGSCB0                                                              03 01582
005364 001400 A     1615        JSS3    RZI10           MINI-SYSGEN ON SW3                          V2      03 01583
005365 010371 A
005366 005014 A     1616 RMD1   TAX                                                                         03 01584
005367 077000 I     1617        STX     RMDD16          SAVE POINTER TO EQUIP STACK                         03 01585
005370 140501 A     1618        SUB     SGSCB0+1                                                            03 01586
005371 001010 A     1619        JAZ     SGRZI           IF END OF STACK ENTRIES                             03 01587
005372 010316 A
                    1620 *                                                                                  03 01588
005373 015000 A     1621 RMD3   LDA     0,X                                                                 03 01589
005374 057000 I     1622        STA     RMDD17          SAVE FIRST TWO CHAR OF CONTROLLER NAME              03 01590
005375 130000 L     1623        ERA     ='D '                                                               03 01591
005376 152570 A     1624        ANA     LHW                                                                 03 01592
005377 001016 A     1625        JANZ    RMD5            IF CONTROLLER NOT RMD, IGNORE IT                    03 01593
005400 006440 A
                    1626 *                                                                                  03 01594
005401 025001 A     1627        LDB     1,X             GET SECOND TWO CHAR OF CONTROLLER NAME              03 01595
005402 015002 A     1628        LDA     2,X                                                                 03 01596
005403 004350 A     1629        LSRA    8                                                                   03 01597
005404 120000 L     1630        ADD     =0260           GET NUMBER OF UNITS AND CONVERT TO ASCII             03 01598
005405 004450 A     1631        LLRL    8               FORM UNIT/MODEL NAME                                03 01599
005406 057000 I     1632        STA     RMDD17+1          AND SAVE IT                                       03 01600
                    1633 *                                                                                  03 01601
005407 017000 I     1634 RMD26  LDA     RMDD17+1        GET UNIT/MODEL DESIGNATOR                           03 01602
                    1635 *            IF MORE THAN 1 UNIT ON CONTROLLER,ENTER FROM RMD5-1        -35      03 01603
005410 142537 A     1636        SUB     BS8             SET TO NEXT UNIT                                    03 01604
005411 057000 I     1637        STA     RMDD17+1          AND SAVE IT                                       03 01605
005412 012530 A     1638        LDA     TWO             *  * SCAN SGEN I/O TABLES FOR DRIVER        B.2     03 01606
005413 054007 A     1639        STA     RMDD4                                                               03 01607
005414 014006 A     1640 RMD8   LDA     RMDD4                                                               03 01608
005415 140000 L     1641        SUB     =025                                                                03 01609
005416 001002 A     1642        JAP     RMD38           ERROR, IF DRIVER NOT FOUND                          03 01610
005417 006475 A
005420 044002 A     1643        INR     RMDD4           INCR LUN                                            03 01611
005421 002000 A     1644        CALL    IOCS            CHECK NAME OF PHYS DEVICE ON LUN                    03 01612
005422 000000 E
005423 000000 A     1645 RMDD4  DATA    0                                                                   03 01613
005424 005430 A     1646        DATA    *+4,*+3,*+2,*-6                                                     03 01614
005425 005430 A
005426 005430 A
005427 005421 A
005430 015002 A     1647        LDA     2,X                                                                 03 01615
005431 137000 I     1648        ERA     RMDD17                                                              03 01616
005432 001016 A     1649        JANZ    RMD8            CONTINUE SCAN IF NAMES DON'T MATCH                  03 01617
005433 005414 A
005434 015003 A     1650        LDA     3,X                                                                 03 01618
005435 137000 I     1651        ERA     RMDD17+1                                                            03 01619
005436 001016 A     1652        JANZ    RMD8            CONTINUE SCAN IF NAMES DON'T MATCH                  03 01620
005437 005414 A
005440 017000 I     1653        LDA     RMDD4           CHECK FOR RMD CONTAINING "SGL"                      03 01621
005441 142531 A     1654        SUB     FOUR              (I.E. "LIB" UNIT); IGNORE BAD-TRACK-              03 01622
005442 001010 A     1655        JAZ     RMD50           ANALYSIS, IF IT IS                          B.2     03 01623
005443 006433 A
                    1656 *                                                                                  03 01624
                    1657 *                                                                                  03 01625
005444 014231 A     1658        LDA     RMD41+1                                             -35             03 01626
005445 054504 A     1659        STA     RMD31+1         SET INITIALLY TO 120 WDS.           -35             03 01627
005446 015027 A     1660        LDA     23,X                                                                03 01628
005447 057000 I     1661        STA     RMDD10          SAVE NUMBER OF SECTORS/TRACK                        03 01629
                    1662 *                                                                                  03 01630
005450 015003 A     1663        LDA     3,X                                                 -35             03 01631
005451 152571 A     1664        ANA     BM377           GET RMD MODEL LETTER                -35             03 01632
005452 006140 A     1665        SUBI    0303                                                -35             03 01633
005453 000303 A
005454 001004 A     1666        JAN     RMD2A           MODEL A,B                           -35             03 01634
005455 005464 A
005456 005112 A     1667        INCR    J12             B=A+1                               E2505           03 01635
005457 067000 I     1668        STB*    SGMOD           SET 1=MODEL 'C', 2=MODEL 'D'        E2505           03 01636
005460 025030 A     1669        LDB     030,X           GET MAX. NO. OF TRKS ON RMD         E2505           03 01637
005461 142330 A     1670        SUB     TWO                                                 E2505           03 01638
005462 001004 A     1671        JAN     RMD2B           JUMP IF 'C' OR 'D'                  E2505           03 01639
005463 005470 A
005464 025026 A     1672 RMD2A  LDB     22,X            MAX. NO. OF SECTROS ON RMD          -35             03 01640
005465 005001 A     1673        TZA                                                         -35             03 01641
005466 057000 I     1674        STA*    SGMOD                                               -35             03 01642
005467 175027 A     1675        DIV     23,X            CONVERT TO TRKS                     -35             03 01643
005470 067000 I     1676 RMD2B  STB     RMDD9                                               -35             03 01644
005471 037000 I     1677        LDX     RMDD4                                                               03 01645
005472 074757 A     1678        STX     RMDD13          SAVE LOGICAL UNIT NUMBER                            03 01646
005473 074132 A     1679        STX     RMD4H                                               -35             03 01647
005474 005041 A     1680        TXA                                                                         03 01648
005475 117000 I     1681        ORA     RBIN            FORM 'READ BINARY' CODE                             03 01649
005476 054302 A     1682        STA     RMD28             AND SAVE IT                                       03 01650
005477 054175 A     1683        STA     RMD41                                                               03 01651
005500 054053 A     1684        STA     RMD4B                                               -35             03 01652
005501 005041 A     1685        TXA                                                                         03 01653
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005502 117000 I 1686          DRA     WBIN        FORM 'WRITE BINARY' CODE                                  03 01654
005503 054244 A 1687          STA     RMD29         AND SAVE IT                                             03 01655
005504 054444 A 1688          STA     RMD31                                                                 03 01656
005505 054652 A 1689          STA     RMD114                                                                03 01657
005506 054112 A 1690          STA     RMD4G                                                  -35            03 01658
005507 005041 A 1691          TXA                                                                           03 01659
005510 114775 A 1692          ORA     REW         FORM 'REWIND' CODE                                        03 01660
005511 054715 A 1693          STA     RMD32         AND SAVE IT                                             03 01661
005512 054020 A 1694          STA     RMD33                                                                 03 01662
005513 054427 A 1695          STA     RMD36                                                                 03 01663
005514 054572 A 1696          STA     RMD112                                                                03 01664
005515 054174 A 1697          STA     RMD45                                                                 03 01665
005516 054065 A 1698          STA     RMD4D                                                  -35            03 01666
005517 005041 A 1699          TXA                                                                           03 01667
005520 114766 A 1700          ORA     SKRF        FORM 'SKIP RECORDS FORWARD' CODE                          03 01668
005521 054363 A 1701          STA     RMD30         AND SAVE IT                                             03 01669
005522 054625 A 1702          STA     RMD113                                                                03 01670
005523 054616 A 1703          STA     RMDSK-1                                                -35            03 01671
005524 054576 A 1704          STA     RMD130+2                                               -35            03 01672
005525 054064 A 1705          STA     RMD4E                                                  -35            03 01673
005526 005041 A 1706          TXA                                                                           03 01674
005527 114760 A 1707          ORA     SKRR        FORM 'SKIP RECORDS REVERSE' CODE                          03 01675
005530 054740 A 1708          STA     RMD34         AND SAVE IT                                             03 01676
005531 002000 A 1709 RMD22    CALL    IOCS        REWIND RMD                                 -35            03 01677
005532 005422 E
005533 006506 A 1710 RMD33    DATA    REW          (IF ERROR,KEEP TRYING)                    -35            03 01678
005534 006505 A 1711          JSR     RMD12,X                                                -35            03 01679
005535 006444 A
005536 005531 A 1712          DATA    RMD22                                                  -35            03 01680
       005537 A 1713 RMD4     EQU     *           CHECK IF MODEL A(VRC) OR B(CMD)            -35            03 01681
005537 017000 I 1714          LDA*    SGMOD                                                  -35            03 01682
005540 001010 A 1715          JAZ     RMD23       NOT MODEL 'C' OR 'D',CONTINUE              E2505          03 01683
005541 005661 A
005542 006020 A 1716          LDBI    360                                                    E2505          03 01684
005543 000550 A
005544 064405 A 1717          STB     RMD31+1     MODIFY TO READ 3 SECTORS FOR 'C'           E2505          03 01685
005545 005311 A 1718          DAR                                                            E2505          03 01686
005546 001010 A 1719          JAZ     RMD4A                                                  E2505          03 01687
005547 005552 A
005550 014004 A 1720          LDA     RMD4B+1                                                E2505          03 01688
005551 054400 A 1721          STA     RMD31+1     MODIFY TO READ 5 SECTORS FOR 'D'           E2505          03 01689
005552 002000 A 1722 RMD4A    CALL    IOCS                                                   -35            03 01690
005553 005532 E
005554 006504 A 1723 RMD4B    DATA    RBIN        READ IN 3 SECTORS FOR PST AND              -35            03 01691
005555 001130 A 1724          DATA    BTSIZ,BTB                                              -35            03 01692
005556 006527 A
005557 006505 A 1725          JSR     RMD12,X     CHECK STATUS                               -35            03 01693
005560 006444 A
005561 005531 A 1726          DATA    RMD22       ERROR RETURN                               -35            03 01694
005562 002000 A 1727          CALL    SG3PBO      GENERATE PST IN SGOBUF                     -35            03 01695
005563 007712 A
005564 011066 A 1728          LDA     SGOBUF      GET TRK SIZE                               -35            03 01696
005565 152571 A 1729          ANA     BM377                                                  -35            03 01697
005566 054070 A 1730          STA     RMDTSZ                                                 -35            03 01698
005567 010000 L 1731          LDA     =SGOBUF+2   CLEAR 1ST SECTOR OF EACH PARTITION         -35            03 01699
005570 054067 A 1732          STA     RMDADR      1ST PARTITION ADDR.                        -35            03 01700
005571 011067 A 1733          LDA     SGOBUF+1    SIZE OF PST                                -35            03 01701
005572 120000 L 1734          ADD     =SGOBUF-3   ADD BASE ADDR -3                           -35            03 01702
005573 054061 A 1735          STA     RMDEAD      LAST PARTITION                             -35            03 01703
005574 021070 A 1736          LDB     SGOBUF+2    1ST TRK TO CLEAR                           -35            03 01704
005575 064060 A 1737          STB     RMDTRK      SAVE FOR NEXT PARTITION CHECK              -35            03 01705
005576 005322 A 1738          DBR                 TRK NUMBER -1                              -35            03 01706
005577 005001 A 1739          TZA                                                            -35            03 01707
005600 164056 A 1740          MUL     RMDTSZ      NOW IN SECTORS                             -35            03 01708
005601 064011 A 1741          STB     RMD4E+1     SECTOR SKIP COUNT                          -35            03 01709
005602 002000 A 1742          CALL    IOCS                                                   -35            03 01710
005603 005553 E
005604 006506 A 1743 RMD4D    DATA    REW           REW                                      -35            03 01711
005605 006505 A 1744          JSR     RMD12,X                                                -35            03 01712
005606 006444 A
005607 005602 A 1745          DATA    RMD4D-2                                                -35            03 01713
005610 002000 A 1746          CALL    IOCS                                                   -35            03 01714
005611 005603 E
005612 006507 A 1747 RMD4E    DATA    SKRF                                                   -35            03 01715
005613 000000 A 1748          DATA    0           SKIP COUNT                                 -35            03 01716
005614 006505 A 1749          JSR     RMD12,X                                                -35            03 01717
005615 006444 A
005616 005602 A 1750          DATA    RMD4D-2                                                -35            03 01718
005617 002000 A 1751 RMD4F    CALL    IOCS                                                   -35            03 01719
005620 005611 E
005621 006505 A 1752 RMD4G    DATA    WBIN                                                   -35            03 01720
005622 000170 A 1753          DATA    120,SGOBUF+120     CLEAR SECTOR                        -35            03 01721
005623 001256 A
005624 002000 A 1754          CALL    IOCS                                                   -35            03 01722
005625 005620 E
005626 000000 A 1755 RMD4H    DATA    0             CHECK STATUS                             -35            03 01723
005627 005633 A 1756          DATA    *+4,*+3,*+2,RMD4H-2  ERR/EOF/EOD/BUSY                  -35            03 01724
005630 005633 A
005631 005633 A
005632 005624 A
005633 014024 A 1757          LDA     RMDADR      PST ADDR OF PARTITION PROCESSED            -35            03 01725
005634 122572 A 1758          ADD     THREE                                                  -35            03 01726
005635 054022 A 1759          STA     RMDADR      SAVE FOR NEXT PART.                        -35            03 01727
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005636 005012 A 1760          TAB                                                  -35     03 01728
005637 144015 A 1761          SUB     RMDEAD      CHECK IF END OF PST              -35     03 01729
005640 001002 A 1762          JAP     RMD16+2     YES.EXIT                         -35     03 01730
005641 006116 A
005642 016000 A 1763          LDA     0,B         NO.GET NEXT PART. ADDR.          -35     03 01731
005643 144012 A 1764          SUB     RMDTRK      TRK JUST PROCESSED               -35     03 01732
005644 026000 A 1765          LDB     0,B                                          -35     03 01733
005645 064010 A 1766          STB     RMDTRK      UPDATE TRK NO.                   -35     03 01734
005646 005012 A 1767          TAB                 TRK DIFF                         -35     03 01735
005647 005001 A 1768          TZA                                                  -35     03 01736
005650 164006 A 1769          MUL     RMDTSZ      NOW IN SECTORS                   -35     03 01737
005651 005322 A 1770          DBR                 SECTOR NUMBER-1                  -35     03 01738
005652 067000 I 1771          STB     RMD4E+1                                      -35     03 01739
005653 001000 A 1772          JMP     RMD4E-2     ZERO 1ST SECTOR OF PARTITION     -35     03 01740
005654 005610 A
005655 000000 A 1773 RMDEAD   DATA    0           END ADDR.                                03 01741
005656 000000 A 1774 RMDTRK   DATA    0           TRK NO.                          -35     03 01742
005657 000000 A 1775 RMDTSZ   DATA    0           TRK SIZE                         -35     03 01743
005660 000000 A 1776 RMDADR   DATA    0           PST ADDR.                        -35     03 01744
               1777 *                                                                    03 01745
               1778 *                                                                    03 01746
               1779 *                                                                    03 01747
005661 032534 A 1780 RMD23    LDX     BS5         CLEAR BAD TRACK TABLE (32 WORDS) TO ZERO 03 01748
005662 005001 A 1781          TZA                                                       03 01749
005663 005344 A 1782 RMD21    DXR                                                       03 01750
005664 006055 A 1783          STAE    BTB+64,X                                 -35     03 01751
005665 006625 A
005666 001046 A 1784          JXNZ    RMD21       CONTINUE CLEARING                     03 01752
005667 005663 A
               1785 *                                                                    03 01753
005670 012720 A 1786          LDA     SGEDR7                                            03 01754
005671 001010 A 1787          JAZ     RMD44       IF FULL BAD-TRACK-ANALYSIS,IGNORE PST READ 03 01755
005672 005720 A
               1788 *                            *  * GET BAD-TRACK-TABLE FROM RMD *  *    03 01756
005673 002000 A 1789          CALL    IOCS        READ IN FIRST SECTOR ON RMD           03 01757
005674 005625 E
005675 006504 A 1790 RMD41    DATA    RBIN                                              03 01758
005676 000170 A 1791          DATA    120,SGIBUF                                        03 01759
005677 000664 A
005700 006505 A 1792          JSR     RMD12,X     IF IO PROBLEM, POST ERROR, REWIND,    03 01760
005701 006444 A
005702 005531 A 1793          DATA    RMD22         AND TRY AGAIN                       03 01761
005703 002000 A 1794          CALL    SGMOV       MOVE OLD BAD-TRACK-TABLE              03 01762
005704 010620 A
005705 000040 A 1795          DATA    32            TO BAD-TRACK-TABLE BUFFER           03 01763
005706 000764 A 1796 RMD42    DATA    SGIBUF+64,BTB+64   FROM/TO ADDR              -35     03 01764
005707 006625 A
               1797 *                                                                    03 01765
005710 002000 A 1798 RMD43    CALL    IOCS        REWIND RMD                            03 01766
005711 005674 E
005712 006506 A 1799 RMD45    DATA    REW                                               03 01767
005713 006505 A 1800          JSR     RMD12,X     IF IO PROBLEM, REWIND AGAIN           03 01768
005714 006444 A
005715 005710 A 1801          DATA    RMD43                                             03 01769
005716 005001 A 1802          TZA                                                       03 01770
005717 001006 A 1803          DATA    01006                                             03 01771
005720 010000 L 1804 RMD44    LDA     =070707                                           03 01772
005721 054567 A 1805          STA     RMDD1       SET TEST PATTERN FOR FULL ANAL./CLEAR ONLY 03 01773
               1806 *                                                                    03 01774
005722 005001 A 1807          TZA                                                       03 01775
005723 054571 A 1808          STA     RMDD8         RESET TRACK COUNTER TO ZERO         03 01776
005724 054572 A 1809          STA     RMDD18      RESET BAD TRACK TABLE FLAG            03 01777
005725 054573 A 1810          STA     RMDD19    RESET BAD TRACK TABLE SIZE COUNTER      03 01778
005726 014562 A 1811 RMD20    LDA     RMDD1                                             03 01779
005727 054563 A 1812          STA     RMDD6       SET 'CLEAR FLAG' TO NON-ZERO VALUE    03 01780
005730 014562 A 1813 RMD18    LDA     RMDD6                                             03 01781
005731 054560 A 1814          STA     RMDD2       SAVE TEST PATTERN                     03 01782
005732 005001 A 1815 RMD17    TZA                                                       03 01783
005733 054536 A 1816          STA     RMDD5       RESET SECTOR COUNTER TO ZERO          03 01784
005734 014555 A 1817 RMD6     LDA     RMDD2       (AR)= TEST PATTERN                    03 01785
               1818 *                                                                    03 01786
005735 030000 L 1819 RMD11    LDX     =120        FILL "SGOBUF" WITH TEST PATTERN       03 01787
005736 005344 A 1820 RMD7     DXR                                                       03 01788
005737 006055 A 1821          STAE    SGOBUF,X                                          03 01789
005740 001066 A
005741 004247 A 1822          LRLA    7                                                 03 01790
005742 001046 A 1823          JXNZ    RMD7                                              03 01791
005743 005736 A
005744 054543 A 1824          STA     RMDD2       SAVE CONTINUING TEST PATTERN FOR NEXT 03 01792
               1825 *                               SECTOR                             03 01793
005745 044524 A 1826          INR     RMDD5       INCREMENT SECTOR COUNT                03 01794
005746 002000 A 1827          CALL    IOCS          AND WRITE SECTOR                    03 01795
005747 005711 E
005750 006503 A 1828 RMD29    DATA    WBIN          (IF ERROR, GO BUMP RETRY COUNT      03 01796
005751 000170 A 1829          DATA    120,SGOBUF    AND START OVER WITH TRACK)          03 01797
005752 001066 A
005753 006505 A 1830          JSR     RMD12,X                                           03 01798
005754 006444 A
005755 006035 A 1831          DATA    RMD15                                             03 01799
               1832 *                                                                    03 01800
005756 012720 A 1833          LDA     SGEDR7                                            03 01801
005757 001016 A 1834          JANZ    RMD81A      IF NOT BT ANALYSIS,DONT SET TABLE     03 01802
005760 006071 A
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005761 014531 A 1835          LDA     RMDD6       IF CLEAR PHASE OF ANALYSIS,                    03 01803
005762 001010 A 1836          JAZ     RMD19         STOP AFTER CLEAR OF FIRST SECTOR             03 01804
005763 006046 A
005764 014505 A 1837          LDA     RMDD5                                                      03 01805
005765 144531 A 1838          SUB     RMDD10                                                     03 01806
005766 001004 A 1839          JAN     RMD6        IF MORE SECTORS TO WRITE (THIS TRACK)          03 01807
005767 005734 A
                    1840  *                                                                      03 01808
005770 002000 A 1841          CALL    RMD35       SKIP REVERSE TO START OF TRACK                 03 01809
005771 006466 A
                    1842  *                                                                      03 01810
005772 014520 A 1843          LDA     RMDD6                                                      03 01811
005773 054516 A 1844          STA     RMDD2       RESET TEST PATTERN                             03 01812
005774 005001 A 1845          TZA                                                                03 01813
005775 054474 A 1846          STA     RMDD5       RESET SECTOR COUNTER TO ZERO                   03 01814
005776 044473 A 1847 RMD27    INR     RMDD5       INCREMENT SECTOR COUNT                         03 01815
005777 002000 A 1848          CALL    IOCS          AND READ SECTOR                              03 01816
006000 005747 E
006001 006504 A 1849 RMD28    DATA    RBIN          (IF ERROR, GO BUMP RETRY COUNT               03 01817
006002 000170 A 1850          DATA    120,SGIBUF    AND START OVER WITH TRACK)                   03 01818
006003 000664 A
006004 006505 A 1851          JSR     RMD12,X                                                    03 01819
006005 006444 A
006006 006035 A 1852          DATA    RMD15                                                      03 01820
                    1853  *                                                                      03 01821
006007 024502 A 1854          LDB     RMDD2       CHECK SECTOR READ IN FOR CORRECT               03 01822
006010 030000 L 1855          LDX     =120          TEST PATTERN                                 03 01823
006011 005344 A 1856 RMD10    DXR                                                                03 01824
006012 005021 A 1857          TBA                                                                03 01825
006013 006135 A 1858          ERAE    SGIBUF,X                                                   03 01826
006014 000664 A
006015 001016 A 1859          JANZ    RMD15       IF MIS-MATCH, GO BUMP RETRY COUNT, ETC.        03 01827
006016 006035 A
006017 004047 A 1860          LRLB    7                                                          03 01828
006020 001046 A 1861          JXNZ    RMD10       IF MORE WORDS TO CHECK                         03 01829
006021 006011 A
006022 064467 A 1862          STB     RMDD2       SAVE CONTINUING TEST PATTERN                   03 01830
006023 014446 A 1863          LDA     RMDD5                                                      03 01831
006024 144472 A 1864          SUB     RMDD10                                                     03 01832
006025 001004 A 1865          JAN     RMD27       IF MORE SECTORS TO READ AND CHECK              03 01833
006026 005776 A
                    1866  *                         (THIS TRACK)                                 03 01834
006027 005001 A 1867          TZA                                                                03 01835
006030 054462 A 1868          STA     RMDD6       SET CLEAR FLAG FOR CLEARING TRACK              03 01836
006031 002000 A 1869          JMPM    RMD35       SKIP REVERSE TO START OF TRACK                 03 01837
006032 006466 A
006033 001000 A 1870          JMP     RMD18       GO TO CLEAR TRACK                              03 01838
006034 005730 A
                    1871  *                                                                      03 01839
006035 044436 A 1872 RMD15    INR     RMDD7       INCREMENT RETRY COUNT                          03 01840
006036 014455 A 1873          LDA     RMDD7                                                      03 01841
006037 142531 A 1874          SUB     DSC                                                        03 01842
006040 002004 A 1875          JANM    RMD35       IF LESS THAN FOUR TRYS MADE, SKIP REVERSE      03 01843
006041 006466 A
006042 001004 A 1876          JAN     RMD20         TO START OF TRACK AND REANALYZE.             03 01844
006043 005726 A
006044 005101 A 1877          INCR    01          OTHERWISE, SET UP BAD TRACK FLAG               03 01845
006045 001006 A 1878          DATA    01006         AND GO STORE IT                              03 01846
                    1879  *                                                                      03 01847
006046 005001 A 1880 RMD19    TZA                 (AR)= "GOOD" BAD TRACK FLAG                    03 01848
                    1881  *                                                                      03 01849
006047 024445 A 1882 RMD9     LDB     RMDD8       COMPUTE LOC OF FLAG IN BAD TRACK TABLE         03 01850
006050 004054 A 1883          LRLB    12            AND ENTER FLAG IN TABLE                      03 01851
006051 004154 A 1884          LRRB    12            *                                            03 01852
006052 001020 A 1885 RMD82    JNZ     RMD81         *                                            03 01853
006053 006060 A
006054 004241 A 1886          LRLA    1           TRK 0=BIT 0,TRK 15=B15              -35      03 01854
006055 005322 A 1887          DBR                   *                                            03 01855
006056 001000 A 1888          JMP     RMD82         *                                            03 01856
006057 006052 A
006060 024434 A 1889 RMD81    LDB     RMDD8         *                                            03 01857
006061 004144 A 1890          LSRB    4             *                                            03 01858
006062 006116 A 1891          ORAE    BTB+64,B                                    -35            03 01859
006063 006625 A
006064 006056 A 1892          STAE    BTB+64,B                                    -35            03 01860
006065 006625 A
006066 114431 A 1893          ORA     RMDD18                                                     03 01861
006067 054430 A 1894          STA     RMDD18      SET BAD TRACK TABLE FLAG                       03 01862
006070 064430 A 1895          STB     RMDD19      SET BAD TRACK TABLE SIZE COUNTER               03 01863
       006071 A 1896 RMD81A   EQU     *                                                          03 01864
                    1897  *                                                                      03 01865
006071 005001 A 1898          TZA                                                                03 01866
006072 054421 A 1899          STA     RMDD7       RESET RETRY COUNT                              03 01867
006073 044421 A 1900          INR     RMDD8       INCREMENT TRACK COUNTER                        03 01868
006074 014420 A 1901          LDA     RMDD8                                                      03 01869
006075 144420 A 1902          SUB     RMDD9                                                      03 01870
006076 001002 A 1903          JAP     RMD16       IF END OF RND REACHED                          03 01871
006077 006113 A
                    1904  *                                                                      03 01872
006100 014416 A 1905          LDA     RMDD10                                                     03 01873
006101 144370 A 1906          SUB     RMDD5                                                      03 01874
006102 054003 A 1907          STA     RMDD11      COMPUTE PHYSICAL DISTANCE TO END-OF-TRACK      03 01875
                    1908  *                                                                      03 01876
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006103 002000 A 1909          CALL    IOCS          MOVE TO START OF NEXT TRACK                    03 01877
006104 006000 E
006105 006507 A 1910 RMD30    DATA    SKRF            (IN CASE LAST TRACK WAS FLAGGED BAD)         03 01878
006106 006106 A 1911 RMDD11   DATA    *                                                            03 01879
006107 006505 A 1912          JSR     RMD12,X       IN CASE OF ERROR, START ENTIRE                 03 01880
006110 006444 A
006111 005661 A 1913          DATA    RMD23           ANALYSIS OF THIS RMD OVER AGAIN              03 01881
006112 001000 A 1914          JMP     RMD20         GO START ANALYSIS OF NEXT TRACK                03 01882
006113 005726 A
                1915 *                                                                             03 01883
006114          1916 RMD16    BSS     0                                                            03 01884
006114 002000 A 1917          CALL    SG3PBD        GENERATE PST AND PLACE IN "SGDBUF              03 01885
006115 007712 A
006116 014377 A 1918          LDA     RMDD9                                          E2505         03 01886
006117 122600 A 1919          ADD     BM17                                           E2505         03 01887
006120 004344 A 1920          LSRA    4             BAD TRK TBL SIZE=(RMD TOTAL      E2505         03 01888
                1921 *                                TRKS + 15)/16                  E2505         03 01889
006121 054014 A 1922          STA     RMDD12-2      STORE FOR BUFFER MOVE            -35         03 01890
006122 031070 A 1923          LDX     SGDBUF+2      GET START TRACK FOR FIRST PARTITION            03 01891
006123 005344 A 1924          DXR                                                                  03 01892
006124 024500 A 1925          LDB     BTB+64        TRK 0=BIT 0.GET 1ST 32 TRKS.      -35         03 01893
006125 014500 A 1926          LDA     BTB+65                                          -35         03 01894
006126 006420 A 1927 RMD40    BT      RB1,RMD37     ERROR IF BAD TRK IN NUCLEUS AREA. -35         03 01895
006127 006477 A
006130 004541 A 1928          LLSR    1             SHIFT TO CHECK NEXT TRK.          -35         03 01896
006131 005344 A 1929          DXR                                                                  03 01897
006132 001046 A 1930          JXNZ    RMD40         IF MORE SYSTEM TRACKS TO CHECK                 03 01898
006133 006126 A
006134 002000 A 1931          CALL    SGMOV           MOVE BAD TRACK TABLE JUST BELOW PST          03 01899
006135 010620 A
006136 000040 A 1932          DATA    32            MODIFIED ABOVE                    -35         03 01900
006137 006625 A 1933          DATA    BTB+64        FROM ADDR.                        -35         03 01901
006140 001166 A 1934 RMDD12   DATA    SGDBUF+64     TO ADDR.  BAD TRK TAB. AREA STARTS -35         03 01902
                1935 *                                        AT WORD 64                           03 01903
                1936 *                                                                             03 01904
006141 002000 A 1937 RMD24    CALL    IOCS          REWIND RMD                                     03 01905
006142 006104 E
006143 006506 A 1938 RMD36    DATA    REW             (IF ERROR, KEEP TRYING)                      03 01906
006144 006505 A 1939          JSR     RMD12,X                                                      03 01907
006145 006444 A
006146 006141 A 1940          DATA    RMD24                                                        03 01908
                1941 *                                                                             03 01909
006147 002000 A 1942          CALL    IOCS          WRITE PST AND BAD TRACK TABLE                  03 01910
006150 006142 E
006151 006505 A 1943 RMD31    DATA    WBIN          IN START OF RMD. THE NO. OF SECTORS-35         03 01911
006152 000170 A 1944          DATA    120,SGDBUF     DEPENDS ON BAD TRK TABLE SIZE.    -35         03 01912
006153 001066 A
                1945 *                               NO. OF WORDS MODIFIED ABOVE.      -35         03 01913
006154 006505 A 1946          JSR     RMD12,X       IF ERR, REW AND TRY WRITE AGAIN                03 01914
006155 006444 A
006156 006141 A 1947          DATA    RMD24                                                        03 01915
                1948 *                                                                             03 01916
006157 042732 A 1949          INR     SGMOD         INCREMENT POINTER TO NEXT RMD.    -35         03 01917
                1950          EJEC                                                                 03 01918
                1951 *                                                                             03 01919
                1952 *          * * WRITE SPECIAL FILE NAMES ON ALL AFFECTED PARTITIONS             03 01920
                1953 *              OF THIS RMD * *                                                03 01921
                1954 *                                                                             03 01922
                1955 *                                                                             03 01923
006160          1956 RMD100   BSS     0                                                            03 01924
006160 014342 A 1957          LDA     RMDD17                                                       03 01925
006161 054216 A 1958          STA     RMD103                                                       03 01926
006162 014341 A 1959          LDA     RMDD17+1                                                     03 01927
006163 152570 A 1960          ANA     LHW                                                          03 01928
006164 110000 L 1961          ORA     =0301                                                        03 01929
006165 054213 A 1962          STA     RMD103+1      SET-UP PARTITION NAME                          03 01930
006166 017000 I 1963          LDA     RMDD12                                                       03 01931
006167 005311 A 1964          DAR                                                                  03 01932
006170 054211 A 1965          STA     RMD106        SET-UP SEARCH LENGTH FOR PST                   03 01933
                1966 *                                                                             03 01934
006171 030000 L 1967          LDX     =SGDBUF+2                                                    03 01935
006172          1968 RMD111   BSS     0                                                            03 01936
006172 074210 A 1969          STX     RMD110        SET-UP PST POINTER                             03 01937
                1970 *                                                                             03 01938
                1971 *                                                                             03 01939
006173 015000 A 1972          LDA     3,X           COMPUTE EXTENT OF PARTITION                    03 01940
006174 145000 A 1973          SUB     0,X                                                          03 01941
006175 004560 A 1974          LLSR    16                                                           03 01942
006176 164320 A 1975          MUL     RMDD10                                                       03 01943
006177 005122 A 1976          TBR                                                                  03 01944
006200 064206 A 1977          STB     RMD120+3      SAVE EXTENT FOR FILE DIRECTORY                 03 01945
006201 064207 A 1978          STB     RMD120+5                                                     03 01946
                1979 *                                                                             03 01947
006202 015000 A 1980          LDA     0,X           NOW CHECK FOR BAD TRACKS                       03 01948
006203 005311 A 1981          DAR                                                                  03 01949
006204 054017 A 1982          STA     RMD11B+1                                                     03 01950
006205 005012 A 1983 RMD11C   TAB                                                                  03 01951
006206 004144 A 1984          LSRB    4                                                            03 01952
006207 152600 A 1985          ANA     BM17                                                         03 01953
006210 006110 A 1986          ORA     06460         BUILD BT INSTRUCTION                           03 01954
006211 006460 A
006212 054002 A 1987          STA     RMD11A                                                       03 01955
006213 006026 A 1988          LDBE    SGDBUF+64,B   GET BAD TRK WORD                               03 01956
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006214 001166 A
006215 006400 A 1989 RMD11A BT      *-*,RMD11B                                                  03 01957
006216 006223 A
006217 044004 A 1990         INR     RMD11B+1      BAD TRK,TRY NEXT                            03 01958
006220 014003 A 1991         LDA     RMD11B+1                                                  03 01959
006221 001000 A 1992         JMP     RMD11C                                                    03 01960
006222 006205 A
006223 006020 A 1993 RMD11B  LDBI    0             COUNT ADJUSTED FOR BAD TRKS                 03 01961
006224 000000 A
006225 005001 A 1994         TZA                                                               03 01962
006226 164270 A 1995         MUL     RMDD10        COMPUTE START ADDR OF PARTITION             03 01963
006227 064122 A 1996         STB     RMD115          FOR POSITIONING                           03 01964
006230 054106 A 1997         STA     RMDREC        SAVE FOR LATER CHECK GTR THAN 32K  -35      03 01965
                     1998 *                                                                    03 01966
006231 005001 A 1999         TZA                                                               03 01967
006232 052216 A 2000         STA     SGPBUF        SET FILE NAME DIRECTORY TO NO ENTRIES       03 01968
006233 010503 A 2001         LDA     SGSCB1        SEARCH ASSIGN STACK FOR LOGICAL UNITS       03 01969
006234 005014 A 2002 RMD101  TAX                   ASSIGNED TO REFERENCE PARTITION             03 01970
006235 074141 A 2003         STX     RMD102                                                    03 01971
006236 140504 A 2004         SUB     SGSCB1+1                                                  03 01972
006237 001010 A 2005         JAZ     RMD107        IF END OF SEARCH - THIS PARTITION           03 01973
006240 006302 A
                     2006 *                                                                    03 01974
006241 015000 A 2007         LDA     0,X                                                       03 01975
006242 134135 A 2008         ERA     RMD103                                                    03 01976
006243 001016 A 2009         JANZ    RMD104        IF NO MATCH                                 03 01977
006244 006276 A
                     2010 *                                                                    03 01978
006245 015001 A 2011         LDA     1,X                                                       03 01979
006246 134132 A 2012         ERA     RMD103+1                                                  03 01980
006247 001016 A 2013         JANZ    RMD104        IF NO MATCH                                 03 01981
006250 006276 A
                     2014 *                                                                    03 01982
006251 020000 L 2015         LDB     =NAMTAB                                                   03 01983
006252 016000 A 2016 RMD105  LDA     0,B                                                       03 01984
006253 001010 A 2017         JAZ     RMD104        IF LOGICAL UNIT NOT OF CONCERN              03 01985
006254 006276 A
006255 054126 A 2018         STA     RMD120        SAVE LOGICAL UNIT NAME                      03 01986
006256 135002 A 2019         ERA     2,X                                                       03 01987
006257 005122 A 2020         TBR                                                               03 01988
006260 001016 A 2021         JANZ    RMD105        CONTINUE IF NO MATCH                        03 01989
006261 006252 A
                     2022 *                                                                    03 01990
                     2023 *                                                                    03 01991
006262 012573 A 2024         LDA     FIVE                                                      03 01992
006263 022216 A 2025         LDB     SGPBUF                                                    03 01993
006264 162574 A 2026         MUL     SIX                                                       03 01994
006265 005021 A 2027         TBA                   MAKE ENTRY IN FILE NAME DIRECTORY BUFFER    03 01995
006266 120000 L 2028         ADD     =SGPBUF       (SGPBUF)                                    03 01996
006267 054005 A 2029         STA     RMD121                                                    03 01997
006270 042216 A 2030         INR     SGPBUF                                                    03 01998
006271 002000 A 2031         CALL    SGMOV                                                     03 01999
006272 010620 A
006273 000007 A 2032         DATA    7                                                         03 02000
006274 006404 A 2033         DATA    RMD120                                                    03 02001
006275 000000 A 2034 RMD121  DATA    0                                                         03 02002
                     2035 *                                                                    03 02003
006276 014100 A 2036 RMD104  LDA     RMD102        BUMP POINTER TO ASSIGN STACK                03 02004
006277 120505 A 2037         ADD     SGSCB1+2                                                  03 02005
006300 001000 A 2038         JMP     RMD101        ...AND CONTINUE                             03 02006
006301 006234 A
                     2039 *                                                                    03 02007
                     2040 *                                                                    03 02008
006302 012216 A 2041 RMD107  LDA     SGPBUF                                                    03 02009
006303 001010 A 2042         JAZ     RMD108        IF NO ENTRIES IN FILE NAME DIRECTORY        03 02010
006304 006366 A
                     2043 *                                                                    03 02011
006305 002000 A 2044 RMD109  CALL    IOCS          REWIND RMD                                  03 02012
006306 006150 E
006307 006506 A 2045 RMD112  DATA    REW                                                       03 02013
006310 006505 A 2046         JSR     RMD12,X                                                   03 02014
006311 006444 A
006312 006305 A 2047         DATA    RMD109        STATUS ERROR RETURN ADDR                    03 02015
                     2048 *                                                                    03 02016
006313 014023 A 2049         LDA     RMDREC        CK IF RECORD NO. GTR THAN 32 K      -35     03 02017
006314 001010 A 2050         JAZ     RMD113-2      NO. CONTINUE.                       -35     03 02018
006315 006347 A
006316 054024 A 2051         STA     RMDCK                                             -35     03 02019
006317 005311 A 2052         DAR                                                       -35     03 02020
006320 054016 A 2053         STA     RMDREC                                            -35     03 02021
006321 002000 A 2054 RMD130  CALL    IOCS                                              -35     03 02022
006322 006306 E
006323 006507 A 2055         DATA    SKRF                                              -35     03 02023
006324 077777 A 2056         DATA    077777                                            -35     03 02024
006325 006505 A 2057         JSR     RMD12,X       STATUS CHECK                        E2505   03 02025
006326 006444 A
006327 006305 A 2058         DATA    RMD109        ERROR ROUTINE ADDR.                 E2505   03 02026
006330 014006 A 2059         LDA     RMDREC        GET COUNT                           -35     03 02027
006331 001010 A 2060         JAZ     RMD131                                            -35     03 02028
006332 006340 A
006333 005311 A 2061         DAR                                                       -35     03 02029
006334 054002 A 2062         STA     RMDREC        SKIP MORE RECORDS                   -35     03 02030
006335 001000 A 2063         JMP     RMD130                                            -35     03 02031
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006336 006321 A
006337 000000 A 2064 RMDREC DATA  0                                                  -35    03 02032
       006340 A 2065 RMD131 EQU   *                                                  -35    03 02033
006340 002000 A 2066        CALL  IOCS      SKIP NO. OF MULTIPLES OF 32 K          -35    03 02034
006341 006322 E
006342 006507 A 2067        DATA  SKRF                                             -35    03 02035
006343 000000 A 2068 RMDSK  DATA  0                                                -35    03 02036
006344 006505 A 2069        JSR   RMD12,X                                          -35    03 02037
006345 006444 A
006346 006305 A 2070        DATA  RMD109                                           -35    03 02038
006347 002000 A 2071        CALL  IOCS      POSITION TO START OF REF. PARTITION            03 02039
006350 006341 E
006351 006507 A 2072 RMD113 DATA  SKRF                                                 03 02040
006352 006352 A 2073 RMD115 DATA  *                                                    03 02041
006353 006505 A 2074        JSR   RMD12,X                                              03 02042
006354 006444 A
006355 006305 A 2075        DATA  RMD109    STATUS ERROR RETURN ADDR.                  03 02043
               2076 *                                                                  03 02044
006356 002000 A 2077        CALL  IOCS      WRITE FILE NAME DIRECTORY ON RMD           03 02045
006357 006350 E
006360 006505 A 2078 RMD114 DATA  WBIN                                                 03 02046
006361 000170 A 2079        DATA  120,SGPBUF                                           03 02047
006362 002216 A
006363 006505 A 2080        JSR   RMD12,X                                              03 02048
006364 006444 A
006365 006305 A 2081        DATA  RMD109    STATUS ERROR RETURN ADDR.                  03 02049
               2082 *                                                                  03 02050
               2083 *                                                                  03 02051
006366         2084 RMD108  BSS   0                                                    03 02052
006366 044012 A 2085        INR   RMD103+1  BUMP PARTITION INDEX                       03 02053
006367 014013 A 2086        LDA   RMD110                                               03 02054
006370 122572 A 2087        ADD   THREE                                                03 02055
006371 005014 A 2088        TAX             BUMP PST POINTER                           03 02056
006372 144007 A 2089        SUB   RMD106                                               03 02057
006373 001002 A 2090        JAP   RMD25     IF END OF PST REACHED                      03 02058
006374 006425 A
006375 001000 A 2091        JMP   RMD111    OTHERWISE, CONTINUE                        03 02059
006376 006172 A
               2092 *                                                                  03 02060
               2093 *                                                                  03 02061
006377 000000 A 2094 RMD102 DATA  0         ASSIGN STACK POINTER                       03 02062
006400         2095 RMD103 BSS   2         PARTITION NAME                             03 02063
006402 000000 A 2096 RMD106 DATA  0         PST LENGTH COUNTER                         03 02064
006403 000000 A 2097 RMD110 DATA  0         PST ENTRY POINTER                          03 02065
006404 120240 A 2098 RMD120 DATA  '  ',0,2,0,1     FILE NAME DIRECTORY ENTRY BUFFER   03 02066
006405 120240 A
006406 120240 A
006407 000000 A
006410 000002 A
006411 000000 A
006412 000001 A
               2099 *                                                                  03 02067
               2100 *                                                                  03 02068
006413         2101 NAMTAB  BSS   0         TABLE OF LOGICAL UNITS NEEDING FILES       03 02069
006413 151711 A 2102        DATA  'SI'                                                 03 02070
006414 146317 A 2103        DATA  'LO'                                                 03 02071
006415 141311 A 2104        DATA  'BI'                                                 03 02072
006416 141317 A 2105        DATA  'BO'                                                 03 02073
006417 151727 A 2106        DATA  'SW'                                                 03 02074
006420 143717 A 2107        DATA  'GO'                                                 03 02075
006421 151723 A 2108        DATA  'SS'                                                 03 02076
006422 150317 A 2109        DATA  'PO'                                                 03 02077
006423 150311 A 2110        DATA  'PI'                                                 03 02078
006424 000000 A 2111        DATA  0         END OF TABLE FLAG                          03 02079
               2112         EJEC                                                       03 02080
006425 002000 A 2113 RMD25  CALL  IOCS      REWIND RMD                                 03 02081
006426 006357 E
006427 006506 A 2114 RMD32  DATA  REW         (IF ERROR, KEEP TRYING)                  03 02082
006430 006505 A 2115        JSR   RMD12,X                                              03 02083
006431 006444 A
006432 006425 A 2116        DATA  RMD25                                                03 02084
               2117 *                                                                  03 02085
006433         2118 RMD50   BSS   0                                                    03 02086
006433 014070 A 2119        LDA   RMDD17+1                                             03 02087
006434 130000 L 2120        CPA   =*0*                                                 03 02088
006435 152570 A 2121        ANA   LHW                                                  03 02089
006436 001016 A 2122        JANZ  RMD26     IF MORE UNITS ON PRESENT CONTROLLER         03 02090
006437 005407 A
006440 014061 A 2123 RMD5   LDA   RMDD16                                              03 02091
006441 120502 A 2124        ADD   SGSCB0+2  BUMP EQIP STACK POINTER            V2  03 02092
006442 001000 A 2125        JMP   RMD1        AND GO FETCH NEXT ITEM                   03 02093
006443 005366 A
               2126 *                                                                  03 02094
               2127 *                      *  * SENSE I/O ROUTINE *  *                03 02095
006444 015000 A 2128 RMD12  LDA   0,X                                                  03 02096
006445 054017 A 2129        STA   RMDD14    SAVE ERROR RETURN ADDRESS                  03 02097
006446 005144 A 2130        IXR                                                        03 02098
006447 074010 A 2131        STX   RMD13     SAVE NORMAL RETURN ADDRESS                 03 02099
               2132 *                                                                  03 02100
006450 002000 A 2133        CALL  IOCS      CALL IOCS TO SENSE OPERATION COMPLETE      03 02101
006451 006426 E
006452 000000 A 2134 RMDD13 DATA  0                                                    03 02102
006453 006461 A 2135        DATA  RMD14,*+3,*+2,*-6                                    03 02103
```

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006454 006457 A
006455 006457 A
006456 006450 A
006457 001000 A 2136          JMP     0               *  * NORMAL RETURN *  *                    03 02104
006460 000000 A
006460          2137 RMD13    BES     0                                                       03 02105
006461 012620 A 2138 RMD14    LDA     ER10            GO TO POST 'I/O ERROR' MESSAGE          03 02106
006462 002000 A 2139          CALL    SG3PRO                                                  03 02107
006463 011173 A
006464 001000 A 2140          JMP     0               *  * ERROR RETURN *  *                  03 02108
006465 000000 A
006465          2141 RMDD14   BES     0                                                       03 02109
                2142 *                                                                        03 02110
                2143 *                                                                        03 02111
006466 000000 A 2144 RMD35    ENTR                    *  * SKIP REVERSE TO START OF TRACK *  *  03 02112
006467 002000 A 2145          CALL    IOCS                                                    03 02113
006470 006451 E
006471 006510 A 2146 RMD34    DATA    SKRR                                                    03 02114
006472 000000 A 2147 RMDD5    DATA    0                                                       03 02115
006473 001000 A 2148          JMP*    RMD35                                                   03 02116
006474 106465 A
                2149 *                                                                        03 02117
                2150 *                                                                        03 02118
006475 012626 A 2151 RMD38    LDA     ER20            POST "DRIVER NOT LOADED ERROR" MESSAGE  03 02119
006476 001006 A 2152          DATA    01006                                                   03 02120
006477 012624 A 2153 RMD37    LDA     ER14            POST "FIRST TRACK OF RMD BAD" ERROR     03 02121
006500 002000 A 2154          CALL    SG3PRO            AND RESTART DIRECTIVE PROCESSOR       03 02122
006501 011173 A
006502 001000 A 2155          JMP     SG3DPI                                                  03 02123
006503 003000 A
006504 040400 A 2156 RBIN     DATA    040400          'READ BINARY' OP-CODE                   03 02124
006505 041000 A 2157 WBIN     DATA    041000          'WRITE BINARY' OP-CODE                  03 02125
006506 002000 A 2158 REW      DATA    02000           'REWIND' OP-CODE                        03 02126
006507 003000 A 2159 SKRF     DATA    03000           'SKIP RECORDS FORWARD' OP-CODE          03 02127
006510 103000 A 2160 SKRR     DATA    0103000         'SKIP RECORDS REVERSE' OP-CODE          03 02128
                2161 *                                                                        03 02129
                2162 *                                                                        03 02130
006511 070707 A 2163 RMDD1    DATA    070707          BASE PATTERN                            03 02131
006512 000000 A 2164 RMDD2    DATA    0               TEMPORARY PATTERN                       03 02132
006513 000000 A 2165 RMDD6    DATA    0               CLEAR FLAG:  0  IF CLEARING TRACK       03 02133
                2166 *                                             NOT ZERO IF NOT CLEARING   03 02134
006514 000000 A 2167 RMDD7    DATA    0               RETRY COUNT                             03 02135
                2168 *                                                                        03 02136
006515 000000 A 2169 RMDD8    DATA    0               TRACK COUNTER                           03 02137
006516 000000 A 2170 RMDD9    DATA    0               TOTAL NUMBER OF TRACKS ON RMD           03 02138
006517 000000 A 2171 RMDD10   DATA    0               NUMBER OF SECTORS/TRACK                 03 02139
006520 000000 A 2172 RMDD18   DATA    0               BAD TRACK TABLE FLAG                    03 02140
006521 000000 A 2173 RMDD19   DATA    0               BAD TRACK TABLE SIZE COUNTER            03 02141
                2174 *                                                                        03 02142
006522 000000 A 2175 RMDD16   DATA    0               EQUIP STACK POINTER                     03 02143
006523          2176 RMDD17   BSS     2               CONTROLLER NAME BUFFER                  03 02144
                2177 *                                                                        03 02145
006525          2178 BTB      BSS     BTSIZ           BAD TRACK TABLE BUFFER          -35     03 02146
                2179          EJEC                                                            03 02147
                2180 *                                                                        03 02148
                2181 *        SG3PBD                                                          03 02149
                2182 *                                                                        03 02150
                2183 *                PURPOSE:  TO GENERATE A PST FOR THE UNIT ASSOCIATED     03 02151
                2184 *                          WITH THE SPECIFIED LOGICAL UNIT.              03 02152
                2185 *                                                                        03 02153
                2186 *                CALLING SEQUENCE:  CALL   SG3PBD                        03 02154
                2187 *                                                                        03 02155
                2188 *                RETURN PARAMETERS:  NONE                                03 02156
                2189 *                                                                        03 02157
                2190 *                                                                        03 02158
007655 005101 A 2191 PBD8     INCR    01                                                      03 02159
007656 054322 A 2192          STA     *BD10           SET SEARCH FLAG FOR "POSSIBLE HOLE"     03 02160
007657 012503 A 2193 PBD7     LDA     TBUF1+1                                                 03 02161
007660 152571 A 2194          ANA     RHW                                                     03 02162
007661 042503 A 2195          INR     TBUF1+1         INCREMENT PARTITION NAME                03 02163
007662 140000 L 2196          SUB     =0300                                                   03 02164
007663 142717 A 2197          SUB     SGEOR6                                                  03 02165
007664 001004 A 2198          JAN     PB04            IF LESS THAN MAX NUM PART-NAMES SEARCHED 03 02166
007665 010040 A
007666 030002 L 2199          LDX     =SGSCB3         SEARCH PARTITION PARAMETER STACK    C.1 03 02167
007667 020000 L 2200          LDB     =TBUF1                                              C.1 03 02168
007670 005301 A 2201          DECR    01                                                  C.1 03 02169
007671 002000 A 2202          CALL    SGSRE                                           .   C.1 03 02170
007672 011356 A
007673 000002 A 2203          DATA    2                                                   C.1 03 02171
007674 005041 A 2204          TXA                                                         C.1 03 02172
007675 001002 A 2205          JAP     EDR1            ERROR IF MATCH PAST MAX NUM PART    C.1 03 02173
007676 005354 A
007677 014310 A 2206          LDA     PBD5A           CK IF ANY BAD TRACKS ON RMD.    -35     03 02174
007700 001016 A 2207          JANZ    PBD7A           YES                             -35     03 02175
007701 007705 A
007702 011066 A 2208          LDA     SGDBUF          NO.SET NUMBER OF BAD TRKS       -35     03 02176
007703 152571 A 2209          ANA     BM377               TO ZERO.                    -35     03 02177
007704 051066 A 2210          STA     SGDBUF                                          -35     03 02178
007705 007705 A 2211 PBD7A    EQU     *                                                       03 02179
007705 014275 A 2212          LDA     PBD12                                                   03 02180
007706 140000 L 2213          SUB     =SGDBUF                                                 03 02181
007707 005111 A 2214          IAR                                                             03 02182
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007710 051067 A 2215          STA     SGOBUF+1      SET SIZE OF PST IN 2ND WORD                    03 02183
007711 001000 A 2216          JMP     0             *  * RETURN *  *                               03 02184
007712 000000 A
                2217 *                                                                             03 02185
007712          2218 SG3PB0   BES     0             *  * ENTRY POINT *  *                          03 02186
                2219 *          ENTER FROM BAD TRACK ANALYSIS ROUTINE.RMD16          -35          03 02187
007713 005002 A 2220          TZB                                                                  03 02188
007714 064264 A 2221          STB     PB010         INITIALIZE SEARCH (POSSIBLE HOLE) FLAG         03 02189
007715 064272 A 2222          STB     PB05A         CLEAR COUNT OF BAD TRACKS ON RMD   -35         03 02190
007716 030000 L 2223          LDX     =BTSIZ        =600                               E2505       03 02191
007717 005344 A 2224 PB01     DXR                   CLEAR BUFFER FOR CONSTRUCTION OF PST           03 02192
007720 006065 A 2225          STBE    SGOBUF,X                                                     03 02193
007721 001066 A
007722 001046 A 2226          JXNZ    PB01                                                         03 02194
007723 007717 A
                2227 *                                                                             03 02195
                2228 *          *  * OUTPUT PARTITION LISTING HEADER                               03 02196
                2229 *                                                                             03 02197
007724 020000 L 2230          LDB     =PB0100                                                      03 02198
007725 020000 L 2231          LDB     =PB0100                                            C         03 02199
007726 002000 A 2232          CALL    SGWSD,1                                            C         03 02200
007727 011443 A
007730 000001 A
007731 020000 L 2233          LDB     =PB0103                                            C         03 02201
007732 002000 A 2234          CALL    SGWSD,1                                            C         03 02202
007733 011443 A
007734 000001 A
007735 020000 L 2235          LDB     =PB0101                                            C         03 02203
007736 002000 A 2236          CALL    SGWSD,1                                            C         03 02204
007737 011443 A
007740 000001 A
007741 020000 L 2237          LDB     =PB0102                                            C         03 02205
007742 002000 A 2238          CALL    SGWSD,1                                            C         03 02206
007743 011443 A
007744 000001 A
007745 020000 L 2239          LDB     =PB0103                                            C         03 02207
007746 002000 A 2240          CALL    SGWSD,1                                            C         03 02208
007747 011443 A
007750 000001 A
                2241 *                                                                             03 02209
007751 010000 L 2242          LDA     =SGOBUF+2                                                    03 02210
007752 054230 A 2243          STA     PB012         INITIALIZE PST ENTRY INDEX                     03 02211
                2244 *                                                                             03 02212
007753 017000 I 2245          LDA     RMDD9         = TOTAL NUMBER OF TRACKS ON RMD    -35         03 02213
007754 054227 A 2246          STA     PB013                                                        03 02214
007755 122600 A 2247          ADD     BM17          CONVERT TO NUMBER OF BAD TRACK TABLE WORDS      03 02215
007756 004344 A 2248          LSRA    4                                                            03 02216
007757 005012 A 2249          TAB                                                E2505       03 02217
007760 004250 A 2250          LRLA    8                                                            03 02218
007761 152570 A 2251          ANA     LHW                                        E2505       03 02219
007762 127000 I 2252          ADD     RMDD10        NUMBER OF SECTORS PER TRACK.       -35         03 02220
007763 051066 A 2253          STA     SGOBUF        1ST WORD OF PST.                   -35         03 02221
007764 005021 A 2254          TBA                   GET SIZE OF BAD TRK TABLE          E2505       03 02222
007765 122535 A 2255          ADD     BS6             ADD 64 FOR PST                   E2505       03 02223
007766 004560 A 2256          LLSR    16            B=A.....A=0                        E2505       03 02224
007767 170000 L 2257          DIV     =120                                             E2505       03 02225
007770 001010 A 2258          JAZ     *+3                                              E2505       03 02226
007771 007773 A
007772 005122 A 2259          IBR                                                      E2505       03 02227
007773 064033 A 2260          STB     PB020         SAVE,SIZE OF PST/BTT IN SECTORS    E2505       03 02228
007774 017000 I 2261          LDA     RMDD10                                                       03 02229
007775 054210 A 2262          STA     PB015         SAVE NUM SECTORS/TRACK ON RMD (FROM DST)       03 02230
007776 027000 I 2263          LDB     RMDD17                                                       03 02231
007777 062502 A 2264          STB     TBUF1         SAVE PARTITION NAME FOR SEARCH                 03 02232
010000 017000 I 2265          LDA     RMDD17+1                                                     03 02233
010001 152570 A 2266          ANA     LHW             AND PARTITION LETTER (INITIALLY "A")         03 02234
010002 110000 L 2267          ORA     =0301                                                        03 02235
010003 052503 A 2268          STA     TBUF1+1                                                      03 02236
                2269 *                                                                             03 02237
010004 006017 A 2270          LDAE    RMDD4                                              D.1       03 02238
010005 005423 A
010006 142575 A 2271          SUB     SEVEN         SYSTEM LUN=7                         D.1       03 02239
010007 022530 A 2272          LDB     TWO                                                          03 02240
010010 001015 A 2273          JANZ    PB09          IF NOT RMD CONTAINING SYS, START ON TR. 1      03 02241
010011 010037 A
                2274 *                              *  * COMPUTE SIZE OF NUCLEUS VIR. MEM.         03 02242
010012 007400 A 2275          ROF                                                      V2        03 02243
010013 022707 A 2276          LDB     SGMRY1                                                       03 02244
010014 005122 A 2277          IBR                                                      V2        03 02245
010015 001007 A 2278          JOFN    *+4           OVERFLOW ?                         V2        03 02246
010016 010021 A
010017 005111 A 2279          IAR                   YES                                V2        03 02247
010020 005002 A 2280          TZB                                                      V2        03 02248
010021 170000 L 2281          DIV     =120                                                         03 02249
010022 001010 A 2282          JAZ     *+3                                                          03 02250
010023 010025 A
010024 005122 A 2283          IBR                                                                  03 02251
010025 005021 A 2284          TBA                                                                  03 02252
010026 006120 A 2285          ADDI    0             ADD SECTORS FOR PST/BTT            E2505       03 02253
010027 000000 A
010027          2286 PB020    BES     0                                                E2505       03 02254
010030 005012 A 2287          TAB                                                                  03 02255
010031 005001 A 2288          TZA                                                                  03 02256
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010032 174153 A 2289          DIV     PB015    PB015 =NUMBER OF SECTORS / TRK      -35      03 02257
010033 001010 A 2290          JAZ     *+3      B= NUMBER OF TRACKS REQUIRED.       -35      03 02258
010034 010036 A
010035 005122 A 2291          IBR                                                            03 02259
010036 005122 A 2292          IBR                                                            03 02260
                2293 *                                                                       03 02261
010037 064145 A 2294 PB09     STB     PB014    SAVE START TRACK NUMBER                       03 02262
                2295 *         OF FIRST PARTITION.                 -35                       03 02263
010040 030000 L 2296 PB04     LDX     =$GSCB3  SEARCH PARTITION PARAMETER STACK FOR MATCH    03 02264
010041 020000 L 2297          LDB     =TBUF1                                                 03 02265
010042 005301 A 2298          DECR    01                                                     03 02266
010043 002000 A 2299          CALL    $GSAE                                                  03 02267
010044 011356 A
010045 000002 A 2300          DATA    2                                                      03 02268
010046 005041 A 2301          TXA                                                            03 02269
010047 001004 A 2302          JAN     PB08     IF NO MATCH, CONTINUE                         03 02270
010050 007655 A
                2303 *                                                                       03 02271
                2304 *         *  * CONSTRUCT PST ENTRY *  *                                03 02272
010051 014127 A 2305 PB03     LDA     PB010                                                  03 02273
010052 001016 A 2306          JANZ    PB06     ERROR, IF "HOLE" IN PARTITION ASSIGNMENT      03 02274
010053 010174 A
010054 024126 A 2307          LDB     PB012                                                  03 02275
010055 014127 A 2308          LDA     PB014                                                  03 02276
010056 056000 A 2309          STA     0,B      ENTER START TRACK FOR NEW PARTITION           03 02277
010057 054122 A 2310          STA     PB011      AND SAVE FOR BAD TRACK COUNT                03 02278
010060 015002 A 2311          LDA     2,X                                                    03 02279
010061 056001 A 2312          STA     1,B      ENTER PROTECT KEY AND FLAG FROM PP STACK      03 02280
010062 015003 A 2313          LDA     3,X                                                    03 02281
010063 124121 A 2314          ADD     PB014                                                  03 02282
010064 056003 A 2315          STA     3,B      ENTER END TRACK +1 FOR PARTITION              03 02283
010065 005311 A 2316          DAR                                                            03 02284
010066 054122 A 2317          STA     PB019    SAVE END TRACK VALUE                          03 02285
010067 144114 A 2318          SUB     PB013    PB013 = NUMBER OF TRACKS ON RMD     -35      03 02286
010070 005311 A 2319          DAR                                                            03 02287
010071 001002 A 2320          JAP     PB06     ERROR,IF PAST END OF RMD                      03 02288
010072 010174 A
                2321 *                                                                       03 02289
010073 005002 A 2322          TZB                                                            03 02290
010074 064112 A 2323          STB     PB05     INITIALIZE BAD TRACK COUNTER                  03 02291
010075 014104 A 2324 PB02     LDA .   PB011                                                  03 02292
010076 005311 A 2325          DAR     COUNT NOW 0-15                                         03 02293
010077 004454 A 2326          LLRL    12                                                     03 02294
010100 004354 A 2327          LSRA    12                                                     03 02295
010101 005014 A 2328          TAX                                                  -35       03 02296
010102 006016 A 2329          LDAE    BTP+64,B FETCH BAD TRK TABLE WORD.           -35       03 02297
010103 006625 A
010104 006155 A 2330          ANAE    MT+1,X   MASK OUT CORRECT BIT                          03 02298
010105 002527 A
010106 001010 A 2331          JAZ     *+3      IF TRACK GOOD                                 03 02299
010107 010111 A
010110 044076 A 2332          INR     PB05     BUMP BAD TRACK COUNT                          03 02300
010111 005002 A 2333          TZB                                                            03 02301
010112 014067 A 2334          LDA     PB011    PARTITION START TRACK NUMBER        -35       03 02302
010113 044066 A 2335          INR     PB011    BUMP TRACK COUNTER                            03 02303
010114 144074 A 2336          SUB     PB019    PARTITION END TRACK NUMBER          -35       03 02304
010115 001004 A 2337          JAN     PB02     IF MORE TRACKS TO CHECK                       03 02305
010116 010075 A
010117 024063 A 2338          LDB     PB012                                                  03 02306
010120 014066 A 2339          LDA     PB05                                                   03 02307
010121 056002 A 2340          STA     2,B      ENTER BAD TRACK VALUE IN PST                  03 02308
010122 124065 A 2341          ADD     PB05A    UPDATE COUNT OF BAD TRKS ON RMD     -35       03 02309
010123 054064 A 2342          STA     PB05A                                                  03 02310
                2343 *                                                                       03 02311
                2344 *                                                                       03 02312
010124 020000 L 2345          LDB     ='  '    CLEAR "SGLBUF" FOR PARTITION LISTING          03 02313
010125 030000 L 2346          LDX     =60                                                    03 02314
010126 005344 A 2347 PB017    DXR                                                            03 02315
010127 006065 A 2348          STBE    SGLBUF,X                                               03 02316
010130 002406 A
010131 001046 A 2349          JXNZ    PB017                                                  03 02317
010132 010126 A
                2350 *                                                                       03 02318
010133 012502 A 2351          LDA     TBUF1    ENTER NAME OF PARTITION IN BUFFER             03 02319
010134 052407 A 2352          STA     SGLBUF+1                                               03 02320
010135 012503 A 2353          LDA     TBUF1+1                                                03 02321
010136 052410 A 2354          STA     SGLBUF+2                                               03 02322
                2355 *                                                                       03 02323
010137 014045 A 2356          LDA     PB014    CONVERT START TRACK TO DECIMAL (ASCII)        03 02324
010140 002000 A 2357          CALL    PB0200     AND ENTER IN BUFFER                         03 02325
010141 010264 A
010142 072413 A 2358          STX     SGLBUF+5                                               03 02326
010143 052414 A 2359          STA     SGLBUF+6                                               03 02327
                2360 *                                                                       03 02328
010144 014044 A 2361          LDA     PB019    CONVERT END TRACK TO DECIMAL (ASCII)          03 02329
010145 002000 A 2362          CALL    PB0200     AND ENTER IN BUFFER                         03 02330
010146 010264 A
010147 072417 A 2363          STX     SGLBUF+9                                               03 02331
010150 052420 A 2364          STA     SGLBUF+10                                              03 02332
                2365 *                                                                       03 02333
010151 014035 A 2366          LDA     PB05     CONVERT BAD TRACK VALUE TO DECIMAL (ASCII)    03 02334
010152 002000 A 2367          CALL    PB0200     AND ENTER IN BUFFER                         03 02335
010153 010264 A
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010154 072423 A 2368          STX     SGLBUF+13                                                  03 02336
010155 052424 A 2369          STA     SGLBUF+14                                                  03 02337
               2370 *                                                                            03 02338
010156 020000 L 2371          LDB     =14             SET UP AND OUTPUT LIST LINE                03 02339
010157 062406 A 2372          STB     SGLBUF                                                     03 02340
010160 020000 L 2373          LDB     =SGLBUF                                                    03 02341
010161 002000 A 2374          CALL    SGWSO,1                                             C      03 02342
010162 011443 A
010163 000001 A
               2375 *                                                                            03 02343
010164 014024 A 2376          LDA     PB019           INITIALIZE START TRACK FOR NEXT PARTITION  03 02344
010165 005111 A 2377          IAR                                                                03 02345
010166 054016 A 2378          STA     PB014                                                      03 02346
010167 014013 A 2379          LDA     PB012                                                      03 02347
010170 122572 A 2380          ADD     THREE                                                      03 02348
010171 054011 A 2381          STA     PB012           UPDATE PST ENTRY INDEX                     03 02349
010172 001000 A 2382          JMP     PB07              CONTINUE                                 03 02350
010173 007657 A
               2383 *                                                                            03 02351
               2384 *                                                                            03 02352
               2385 *                                                                            03 02353
010174 012634 A 2386 PB06     LDA     ER26            POST "PARTITIONING PROBLEM ERROR" MESSAGE  03 02354
010175 002000 A 2387          CALL    SG3PRO                                                     03 02355
010176 011173 A
010177 001000 A 2388          JMP     SG3DPI          START OVER WITH DIRECTIVE PROCESSING       03 02356
010200 003000 A
               2389 *                                                                            03 02357
               2390 *                                                                            03 02358
               2391 *                                                                            03 02359
010201 000000 A 2392 PB010    DATA    0                 SEARCH FLAG                              03 02360
               2393 *                                                                            03 02361
010202 000000 A 2394 PB011    DATA    0                 TEMPORARY COUNTER FOR BAD TR. TABLE      03 02362
               2395 *                                                                            03 02363
010203 000000 A 2396 PB012    DATA    0                 PST ENTRY INDEX                          03 02364
               2397 *                                                                            03 02365
010204 000000 A 2398 PB013    DATA    0                 TOTAL NUMBER OF TRACKS ON RMD            03 02366
               2399 *                                                                            03 02367
010205 000000 A 2400 PB014    DATA    0                 START TRACK OF NEXT PARTITION            03 02368
               2401 *                                                                            03 02369
010206 000000 A 2402 PB015    DATA    0                 NUMBER OF SECTORS/TRACK ON RMD           03 02370
               2403 *                                                                            03 02371
010207 000000 A 2404 PB05     DATA    0                 BAD TRACK COUNTER                        03 02372
               2405 *                                                                            03 02373
010210 000000 A 2406 PB05A    DATA    0                 NUMBER OF BAD TRACKS ON RMD      -35     03 02374
010211 000000 A 2407 PB019    DATA    0                 END TRACK OF NEXT PARTITION              03 02375
               2408 *                                                                            03 02376
010212 000010 A 2409 PB0100   DATA    8,'RMD PARTITIONING'                                       03 02377
010213 151315 A
010214 142240 A
010215 150301 A
010216 151324 A
010217 144724 A
010220 144717 A
010221 147311 A
010222 147307 A
010223 000016 A 2410 PB0101   DATA    14,'NAME    FIRST   LAST    BAD'                           03 02378
010224 147301 A
010225 146705 A
010226 120240 A
010227 120240 A
010230 143311 A
010231 151323 A
010232 152240 A
010233 120240 A
010234 146301 A
010235 151724 A
010236 120240 A
010237 120240 A
010240 141301 A
010241 142240 A
010242 000017 A 2411 PB0102   DATA    15,'        TRACK   TRACK   TRACKS'                        03 02379
010243 120240 A
010244 120240 A
010245 120240 A
010246 120240 A
010247 152322 A
010250 140703 A
010251 145640 A
010252 120240 A
010253 152322 A
010254 140703 A
010255 145640 A
010256 120240 A
010257 152322 A
010260 140703 A
010261 145723 A
010262 000001 A 2412 PB0103   DATA    1,'  '                                                     03 02380
010263 120240 A
               2413           EJEC                                                               03 02381
               2414 *                                                                            03 02382
               2415 *         PB0200                                                             03 02383
               2416 *                                                                            03 02384
               2417 *                 PURPOSE:  CONVERT 4-PLACE OCTAL NUMBER TO DECIMAL (ASCII 03 02385
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                    2418 *                                                                                  03 02386
                    2419 *          CALLING SEQUENCE:  (AR)= OCTAL NUMBER                                   03 02387
                    2420 *                             CALL  PBO200                                         03 02388
                    2421 *                                                                                  03 02389
                    2422 *          RETURN PARAMETERS:  (XR)= HIGH ORDER CHAR                               03 02390
                    2423 *                              (AR)= LOW ORDER CHAR                                03 02391
                    2424 *                                                                                  03 02392
                    2425 *                                                                                  03 02393
010264 000000 A     2426 PBO200 ENTR                                                                        03 02394
010265 020000 L     2427        LDB     ='00'                                                               03 02395
010266 140000 L     2428        SUB     =1000                                                               03 02396
010267 005122 A     2429        IBR                                                                         03 02397
010270 001002 A     2430        JAP     *-2                                                                 03 02398
010271 010266 A
010272 005322 A     2431        DBR                                                                         03 02399
010273 120000 L     2432        ADD     =1000                                                               03 02400
010274 004050 A     2433        LRLB    3                                                                   03 02401
010275 140000 L     2434        SUB     =100                                                                03 02402
010276 005122 A     2435        IBR                                                                         03 02403
010277 001002 A     2436        JAP     *-2                                                                 03 02404
010300 010275 A
010301 005324 A     2437        DECR    024                                                                 03 02405
010302 120000 L     2438        ADD     =100                                                                03 02406
010303 020000 L     2439        LDB     ='00'                                                               03 02407
010304 140000 L     2440        SUB     =10                                                                 03 02408
010305 005122 A     2441        IBR                                                                         03 02409
010306 001002 A     2442        JAP     *-2                                                                 03 02410
010307 010304 A
010310 005322 A     2443        DBR                                                                         03 02411
010311 120000 L     2444        ADD     =10                                                                 03 02412
010312 004050 A     2445        LRLB    8                                                                   03 02413
010313 005031 A     2446        MERG    031                                                                 03 02414
010314 001000 A     2447        JMP*    PBO200                                                              03 02415
010315 110264 A
                    2448        EJEC                                                                        03 02416
                    2449 *                                                                                  03 02417
                    2450 *      SGRZI                                                                       03 02418
                    2451 *                                                                                  03 02419
                    2452 *          PURPOSE:  TO ENTER DUMMY PARTITIONS IN THE PARTITION                    03 02420
                    2453 *                    PARAMETER STACK FOR BUILDING OF EXTRA DST'S                   03 02421
                    2454 *                                                                                  03 02422
                    2455 *          CALLING SEQUENCE:  JMP  SGRZI                                           03 02423
                    2456 *                                                                                  03 02424
                    2457 *          RETURN PARAMETERS:  NONE                                                03 02425
                    2458 *                                                                                  03 02426
                    2459 *                                                                                  03 02427
010316              2460 SGRZI  BSS     0               * * ENTRY POINT * *                                 03 02428
010316 012717 A     2461        LDA     SGEDR6                                                              03 02429
010317 120000 L     2462        ADD     =0300                                                               03 02430
010320 054057 A     2463        STA     RZI1            CALCULATE AND STORE PARTITION LETTER OF MA          03 02431
                    2464 *                                                                                  03 02432
010321 010000 L     2465        LDA     =0000                                                               03 02433
010322 054056 A     2466        STA     RZI2            INITIALIZE CONTROLLER COUNTER                       03 02434
010323 054056 A     2467 RZI8   STA     RZI3                ...AND UNIT COUNTER                             03 02435
                    2468 *                                                                                  03 02436
010324 014056 A     2469        LDA     RZI3                                                                03 02437
010325 152570 A     2470        ANA     LHW                                                                 03 02438
010326 114052 A     2471        ORA     RZI2                                                                03 02439
010327 054053 A     2472        STA     RZI1            FORM FIRST TWO CHAR OF NAME                         03 02440
010330 014051 A     2473 RZI7   LDA     RZI3                                                                03 02441
010331 004250 A     2474        LRLA    8                                                                   03 02442
010332 110000 L     2475        ORA     =0301                                                               03 02443
010333 054050 A     2476        STA     RZI1+1          FORM UNIT/PARTITION "A" AS 2ND TWO CHAR             03 02444
                    2477 *                                                                                  03 02445
010334 005301 A     2478        DECR    01                                                                  03 02446
010335 020000 L     2479        LDB     =RZI4                                                               03 02447
010336 030000 L     2480        LDX     =SLSCB3                                                             03 02448
010337 002000 A     2481        CALL    SGSRE           SEARCH FOR "DCUA" PARTITION                         03 02449
010340 011356 A
010341 000002 A     2482        DATA    2                                                                   03 02450
010342 005041 A     2483        TXA                                                                         03 02451
010343 001004 A     2484        JAN     RZI5            IF NONE FOUND, TRY NEXT UNIT                        03 02452
010344 010361 A
                    2485 *                                                                                  03 02453
010345 044036 A     2486 RZI6   INR     RZI4+1          PUMP PARTITION LETTER                               03 02454
010346 005001 A     2487        TZA                                                                         03 02455
010347 020000 L     2488        LDB     =RZI4                                                               03 02456
010350 030000 L     2489        LDX     =SGSCB3                                                             03 02457
010351 002000 A     2490        CALL    SGSRE           SEARCH FOR PARTITION NAME                           03 02458
010352 011356 A
010353 000002 A     2491        DATA    2                 ...AND ENTER DUMMY PARTITION IF NONE              03 02459
                    2492 *                                                                                  03 02460
010354 014027 A     2493        LDA     RZI4+1                                                              03 02461
010355 152571 A     2494        ANA     RHW                                                                 03 02462
010356 144021 A     2495        SUB     RZI1                                                                03 02463
010357 001004 A     2496        JAN     RZI6            IF NOT TO MAX PARTITION                             03 02464
010360 010345 A
                    2497 *                                                                                  03 02465
010361 044020 A     2498 RZI5   INR     RZI3                                                                03 02466
010362 014017 A     2499        LDA     RZI3                                                                03 02467
010363 140000 L     2500        SUB     =0264                                                               03 02468
010364 001004 A     2501        JAN     RZI7            IF MORE POTENTIAL UNITS ON CONTROLLER               03 02469
010365 010330 A
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                    2502 *                                                                                  03 02470
010366 044012 A     2503          INR     RZI2                                                              03 02471
010367 014011 A     2504          LDA     RZI2                                                              03 02472
010370 140000 L     2505          SUB     =0264                                                             03 02473
       010371 A     2506 RZI10    EQU     *                                                          V2     03 02474
010371 006030 A     2507          LDXI    RZI9                                                              03 02475
010372 010407 A
                    2508          EXT     EXIT                                                              03 02476
010373 001002 A     2509          JAP     EXIT        EXIT, IF NO MORE POTENTIAL CONTROLLERS                03 02477
010374 005334 E
010375 010000 L     2510          LDA     =0260                                                             03 02478
010376 001000 A     2511          JMP     RZI8        OTHERWISE, RESET CONTROLLER CNT AND CONT.             03 02479
010377 010323 A
                    2512 *                                                                                  03 02480
                    2513 *                                                                                  03 02481
010400 000000 A     2514 RZI1     DATA    0           MAX PARTITION LETTER                                  03 02482
010401 000000 A     2515 RZI2     DATA    0           CONTROLLER COUNTER                                    03 02483
010402 000000 A     2516 RZI3     DATA    0           UNIT COUNTER                                          03 02484
010403 142260 A     2517 RZI4     DATA    'D00A',0,0  DUMMY ENTRY FOR PARTITION PARAMETER STACK             03 02485
010404 130301 A
010405 000000 A
010406 000000 A
                    2518 *                                                                                  03 02486
010407 055622 A     2519 RZI9     DATA    055622      LOADER CODE ENTRY FOR 'SGEN2'                         03 02487
010410 031636 A     2520          DATA    031636                                                            03 02488
010411 000000 A     2521          DATA    0                                                                 03 02489
                    2522          EJEC                                                                      03 02490
                    2523 *                                                                                  03 02491
                    2524 *        SGCNV                                                                     03 02492
                    2525 *                                                                                  03 02493
                    2526 *              PURPOSE:  TO CONVERT A DECIMAL OR OCTAL ASCII NUMBER               03 02494
                    2527 *                        TO BINARY.                                                03 02495
                    2528 *                                                                                  03 02496
                    2529 *              CALLING SEQUENCE:  (XR)= POINTER TO FIRST DIGIT                     03 02497
                    2530 *                                 (AR)= NUMBER OF DIGITS                           03 02498
                    2531 *                                 CALL  SGCNV                                      03 02499
                    2532 *                                                                                  03 02500
                    2533 *              RETURN PARAMETERS:  (BR)= BINARY VALUE                              03 02501
                    2534 *                                  (OF)= 0  IF NO ERROR                            03 02502
                    2535 *                                        1  IF OVERFLOW OR NON-NUMERIC             03 02503
                    2536 *                                           CHARACTER ENCOUNTERED                  03 02504
                    2537 *                                                                                  03 02505
                    2538 *                                                                                  03 02506
010412 000000 A     2539 SGCNV    ENTR    0           *  * ENTRY POINT *  *                                 03 02507
010413 007400 A     2540          ROF                 RESET ERROR FLAG                                      03 02508
010414 005002 A     2541          TZB                 RESET ACCUMULATOR                                     03 02509
010415 054067 A     2542          STA     CNVD1       STORE NUM OF CHAR                                     03 02510
010416 012532 A     2543          LDA     Q10                                                               03 02511
010417 054066 A     2544          STA     CNVD2       SET BASE TO OCTAL                                     03 02512
                    2545 *                                                                                  03 02513
010420 015000 A     2546          LDA     0,X         GET FIRST CHAR                                        03 02514
010421 004350 A     2547          LSRA    8                                                                 03 02515
010422 144061 A     2548          SUB     D272                                                              03 02516
010423 001002 A     2549          JAP     CNV3        IF CHAR NOT NUMBER                                    03 02517
010424 010500 A
010425 122577 A     2550          ADD     TEN                                                               03 02518
010426 001004 A     2551          JAN     CNV3        IF CHAR NOT NUMBER                                    03 02519
010427 010500 A
010430 001010 A     2552          JAZ     CNV1        IF CHAR ZERO                                          03 02520
010431 010440 A
                    2553 *                                                                                  03 02521
010432 022577 A     2554          LDB     TEN                                                               03 02522
010433 064052 A     2555          STB     CNVD2       RESET BASE TO DECIMAL                                 03 02523
010434 005002 A     2556          TZB                                                                       03 02524
010435              2557 CNV2     BSS     0                                                                 03 02525
010435 164050 A     2558          MUL     CNVD2       MULTIPLY BY BASE AND ADD NEW NUMBER                   03 02526
010436 001016 A     2559          JANZ    CNV3        IF OVERFLOW                                           03 02527
010437 010500 A
010440 014044 A     2560 CNV1     LDA     CNVD1                                                             03 02528
010441 005311 A     2561          DAR                 DECREMENT NUMBER OF CHARACTERS                        03 02529
010442 054042 A     2562          STA     CNVD1                                                             03 02530
010443 001010 A     2563          JAZ*    SGCNV       IF CHAR COUNT TO ZERO, RETURN                         03 02531
010444 110412 A
                    2564 *                                                                                  03 02532
010445 015000 A     2565          LDA     0,X         GET NEXT CHARACTER                                    03 02533
010446 152571 A     2566          ANA     RHW                                                               03 02534
010447 144033 A     2567          SUB     D260                                                              03 02535
010450 144035 A     2568          SUB     CNVD2                                                             03 02536
010451 001002 A     2569          JAP     CNV3        IF CHAR NOT NUMBER                                    03 02537
010452 010500 A
010453 124032 A     2570          ADD     CNVD2                                                             03 02538
010454 001004 A     2571          JAN     CNV3        IF CHAR NOT NUMBER                                    03 02539
010455 010500 A
010456 164027 A     2572          MUL     CNVD2       MULTIPLY BY BASE AND ADD NEW NUMBER                   03 02540
010457 001016 A     2573          JANZ    CNV3        IF OVERFLOW                                           03 02541
010460 010500 A
010461 005144 A     2574          IXR                 BUMP CHAR POINTER                                     03 02542
010462 014022 A     2575          LDA     CNVD1                                                             03 02543
010463 005311 A     2576          DAR                 DECREMENT NUMBER OF CHARACTERS                        03 02544
010464 054020 A     2577          STA     CNVD1                                                             03 02545
010465 001010 A     2578          JAZ*    SGCNV       IF CHAR COUNT TO ZERO, RETURN                         03 02546
010466 110412 A
                    2579 *                                                                                  03 02547
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010467 015000 A 2580          LDA     0,X         GET NEXT CHARACTER                    03 02548
010470 004350 A 2581          LSRA    8                                                 03 02549
010471 144011 A 2582          SUB     D260                                              03 02550
010472 144013 A 2583          SUB     CNVD2                                             03 02551
010473 001002 A 2584          JAP     CNV3        IF CHAR NOT NUMBER                    03 02552
010474 010500 A
010475 124010 A 2585          ADD     CNVD2                                             03 02553
010476 001002 A 2586          JAP     CNV2        IF CHAR IS A NUMBER                   03 02554
010477 010435 A
                    2587  *                                                             03 02555
010500 007401 A 2588  CNV3    SOF                 SET ERROR FLAG                        03 02556
010501 001000 A 2589          JMP*    SGCNV         AND RETURN                          03 02557
010502 110412 A
                    2590  *                                                             03 02558
       002532 A 2591  D10     EQU     BSS                                               03 02559
010503 000260 A 2592  D260    DATA    0260                                              03 02560
010504 000272 A 2593  D272    DATA    0272                                              03 02561
010505 000000 A 2594  CNVD1   DATA    0           CHARACTER COUNTER                     03 02562
010506 000000 A 2595  CNVD2   DATA    0           BASE VALUE                            03 02563
                    2596          EJEC                                                03 02564
                    2597  *                                                           03 02565
                    2598  *       $G3GAC                                              03 02566
                    2599  *                                                           03 02567
                    2600  *       PURPOSE:  TO CONVERT A DIRECTIVE PARAMETER FIELD     03 02568
                    2601  *                 TO A BINARY NUMBER (BETWEEN ZERO AND 32K) 03 02569
                    2602  *                                                           03 02570
                    2603  *       CALLING SEQUENCE:  (AR)=ASCII CODE FOR REQUIRED     03 02571
                    2604  *                            FIELD TERMINATOR               03 02572
                    2605  *                          CALL   SG3GAC                    03 02573
                    2606  *                                                           03 02574
                    2607  *       RETURN PARAMETERS:  (BR)=BINARY VALUE               03 02575
                    2608  *                                                           03 02576
                    2609  *       NOTE:  IF DIRECTIVE FIELD OR CONVERTED NUMBER       03 02577
                    2610  *              IS IN ERROR, AN ERROR MESSAGE IS POSTED      03 02578
                    2611  *              AND RETURN IS TO INPUT A NEW DIRECTIVE.      03 02579
                    2612  *                                                           03 02580
                    2613  *                                                           03 02581
010507 000000 A 2614  SG3GAC ENTR    0                                                 03 02582
010510 054013 A 2615          STA     GACD2                                           03 02583
010511 006505 A 2616          JSR     SGGMI,X     GET PARAMETER                       03 02584
010512 010717 A
010513 002514 A 2617          DATA    TBUF2                                           03 02585
010514 000007 A 2618          DATA    7                                               03 02586
010515 054012 A 2619          STA     GACD1       SAVE CHARACTER COUNT FOR CONVERSION 03 02587
010516 064027 A 2620          STB     GACT        SAVE TERMINATOR                 V2  03 02588
010517 014004 A 2621          LDA     GACD2                                       V2  03 02589
010520 001010 A 2622          JAZ     GACD1-1     CHECK IF TEST DISABLED          V2  03 02590
010521 010527 A
010522 005021 A 2623          TPA                                                     03 02591
010523 006130 A 2624          SPAI    8                                               03 02592
010524 000000 A
010524                2625  GACD2   BES     0                                       03 02593
010525 001016 A 2626          JANZ    GAC3        IF FIELD TERMINATOR INCORRECT       03 02594
010526 010541 A
010527 006010 A 2627          LDAI    8           GET NUMBER OF CHARACTERS            03 02595
010530 000000 A
010530                2628  GACD1   BES     0                                       03 02596
010531 030000 L 2629          LDX     =TBUF2                                          03 02597
010532 002000 A 2630          CALL    SG$NV       CONVERT NUMBER TO BINARY            03 02598
010533 010412 A
010534 014011 A 2631          LDA     SALT        EXIT WITH A=TERMINATOR          V2  03 02599
010535 001007 A 2632          JOFN*   SG3GAC      *  * RETURN IF NO ERRORS *  *       03 02600
010536 110507 A
                    2633  *                                                           03 02601
010537 012610 A 2634  GAC2    LDA     ERR2        POST "PARAMETER ERROR" MESSAGE      03 02602
010540 001006 A 2635          DATA    10016                                           03 02603
                    2636  *                                                           03 02604
010541 012607 A 2637  GAC3    LDA     ERR1        POST "SYNTAX ERROR" MESSAGE         03 02605
010542 002000 A 2638  GAC1    CALL    $CER$C                                          03 02606
010543 011323 A
010544 001000 A 2639          JMP     SGPUR       PURGE TEMP STACK AND PROCESS RECOVERY 03 02607
010545 011634 A
010546                2640  GACT    BSS     1                                   V2  03 02608
                    2641          EJEC                                                03 02609
                    2642  *                                                           03 02610
                    2643  *       SGMOV                                               03 02611
                    2644  *                                                           03 02612
                    2645  *       PURPOSE:  SGMOV MOVES A CONTIGUOUS BLOCK OF DATA FROM 03 02613
                    2646  *                 ONE ADDRESS IN MEMORY TO ANOTHER.         03 02614
                    2647  *                                                           03 02615
                    2648  *       CALLING SEQ:  CALL SGMOV                            03 02616
                    2649  *                     DATA NUMBER OF WORDS TO MOVE          03 02617
                    2650  *                     DATA FROM-ADDRESS                     03 02618
                    2651  *                     DATA TO-ADDRESS                       03 02619
                    2652  *                                                           03 02620
                    2653  *       EXIT:  RETURN TO CALLING PROGRAM; NO EXIT PARAMETERS 03 02621
                    2654  *                                                           03 02622
                    2655  *                                                           03 02623
010547 034050 A 2656  MOV1    LDX     SGMOV                                           03 02624
010550 015001 A 2657          LDA     1,X         (AR)= DATA FROM-ADDRESS             03 02625
010551 145002 A 2658          SUB     2,X         IF TO-ADDR LOWER IN CORE THAN FROM-ADDR, 03 02626
010552 001004 A 2659          JAN     MOVR          MOVE DATA IN REVERSE ORDER.       03 02627
010553 010572 A
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                    2660 *                                                                          03 02628
                    2661 *      FORWARD MOVE (DATA MOVED STARTING WITH LOWEST LOCATION)             03 02629
                    2662 *                                                                          03 02630
010554 025001 A     2663        LDB     1,X         (BR)= FROM ADDR                                 03 02631
010555 015000 A     2664        LDA     0,X         (AR)= WORD COUNT                                03 02632
010556 035002 A     2665        LDX     2,X         (XR)= TO-ADDR                                   03 02633
010557 005311 A     2666 MOV2   DAR                 DECREMENT WORD COUNT                            03 02634
010560 001004 A     2667        JAN     MOVE        JUMP TO CLEAN-UP IF MOVE FINISHED               03 02635
010561 010614 A
010562 054040 A     2668        STA     MOVC        SAVE PRESENT WORD COUNT                         03 02636
010563 016000 A     2669        LDA     0,B                                                         03 02637
010564 055000 A     2670        STA     0,X         MOVE A WORD                                     03 02638
010565 005122 A     2671        IBR                                                                 03 02639
010566 005144 A     2672        IXR                 INCREMENT INDICES                               03 02640
010567 014033 A     2673        LDA     MOVC                                                        03 02641
010570 001000 A     2674        JMP     MOV2        CONTINUE                                        03 02642
010571 010557 A
                    2675 *                                                                          03 02643
                    2676 *      REVERSE MOVE (DATA MOVED STARTING WITH HIGHEST LOCATION)            03 02644
                    2677 *                                                                          03 02645
010572 015000 A     2678 MOVR   LDA     0,X                                                         03 02646
010573 125001 A     2679        ADD     1,X                                                         03 02647
010574 005012 A     2680        TAB                 (BR)= TOP OF "FROM" AREA                        03 02648
010575 015000 A     2681        LDA     0,X                                                         03 02649
010576 054024 A     2682        STA     MOVC        SAVE WORD COUNT                                 03 02650
010577 125002 A     2683        ADD     2,X                                                         03 02651
010600 005014 A     2684        TAX                 (XR)= TOP OF "TO" AREA                          03 02652
010601 014021 A     2685 MOV3   LDA     MOVC                                                        03 02653
010602 005311 A     2686        DAR                 DECREMENT WORD COUNT                            03 02654
010603 001004 A     2687        JAN     MOVE        JUMP TO CLEAN-UP IF MOVE FINISHED               03 02655
010604 010614 A
010605 054015 A     2688        STA     MOVC        SAVE PRESENT WORD COUNT                         03 02656
010606 005322 A     2689        DXR                                                                 03 02657
010607 005344 A     2690        DXR                 DECREMENT INDICES                               03 02658
010610 016000 A     2691        LDA     0,B                                                         03 02659
010611 055000 A     2692        STA     0,X         MOVE A WORD                                     03 02660
010612 001000 A     2693        JMP     MOV3        CONTINUE                                        03 02661
010613 010601 A
                    2694 *                                                                          03 02662
010614 044003 A     2695 MOVE   INR     SGMOV       FIX UP RETURN ADDRESS                           03 02663
010615 044002 A     2696        INR     SGMOV                                                       03 02664
010616 044001 A     2697        INR     SGMOV                                                       03 02665
010617 001000 A     2698        JMP     0           RETURN                                          03 02666
010620 000000 A
010620              2699 $GMOV  BES     0             ENTRY POINT                                   03 02667
010621 001000 A     2700        JMP     MOV1                                                        03 02668
010622 010547 A
                    2701 *                                                                          03 02669
010623 000000 A     2702 MOVC   DATA    0           CURRENT WORD COUNT REGISTER                     03 02670
                    2703 *                                                                          03 02671
                    2704        EJEC                                                                03 02672
                    2705 *                                                                          03 02673
                    2706 *      SGPUT                                                               03 02674
                    2707 *                                                                          03 02675
                    2708 *          PURPOSE:  SGPUT IS CALLED TO ENTER A STACK ITEM                 03 02676
                    2709 *                    INTO A DESIGNATED STACK.                              03 02677
                    2710 *                                                                          03 02678
                    2711 *          CALLING SEQUENCE:  (XR)= ADDR. OF STACK CONTROL BLOCK           03 02679
                    2712 *                             (BR)= ADDR. OF STACK ITEM BUFFER             03 02680
                    2713 *                             CALL  SGPUT                                  03 02681
                    2714 *                                                                          03 02682
                    2715 *          RETURN PARAMETERS:  (AR)= +1  IF ITEM PLACED ON STACK           03 02683
                    2716 *                              -1  IF NO ROOM FOR STACK ITEM               03 02684
                    2717 *                                                                          03 02685
010624 000000 A     2718 SGPUT  ENTR                                                                03 02686
010625 074040 A     2719        STX     APUT2       SAVE ADDR. OF STACK CONTROL BLOCK               03 02687
010626 064034 A     2720        STB     PUTM3         SAVE ADDR. OF ITEM BUFFER                     03 02688
010627 010544 A     2721        LDA     BSTACK      COMPARE ADDR. OF BASE OF STACKS                 03 02689
010630 145002 A     2722        SUB     2,X           AGAINST TOP OF PROGRAM AREA.                  03 02690
010631 140655 A     2723        SUB     TPROG                                                       03 02691
010632 001002 A     2724        JAP     APUT1       JUMP IF ROOM FOR NEW STACK ITEM                 03 02692
010633 010637 A
010634 005301 A     2725        DECR    1                                                           03 02693
010635 001000 A     2726        JMP*    SGPUT       OTHERWISE RETURN WITH (AR)=-1                   03 02694
010636 110624 A
                    2727 *                                                                          03 02695
010637              2728 APUT1  BSS     0                                                           03 02696
010637 015002 A     2729        LDA     2,X         GET ENTRY ITEM SIZE                             03 02697
010640 054021 A     2730        STA     PUTM2         AND STORE IN MOVE COUNT                       03 02698
010641 015001 A     2731        LDA     1,X         GET STACK BOTTOM ADDR.,                         03 02699
010642 145002 A     2732        SUB     2,X           SUBTRACT ITEM SIZE,                           03 02700
010643 054020 A     2733        STA     PUTM2+2       AND STORE IN MOVE "TO" ADDR.                  03 02701
                    2734 *                                                                          03 02702
010644 010544 A     2735        LDA     BSTACK      GET BASE OF LOWEST STACK                        03 02703
010645 054010 A     2736        STA     PUTM1+1       AND STORE AS STACK MOVE "FROM" ADDR.          03 02704
010646 145002 A     2737        SUB     2,X         STORE BASE MINUS ENTRY SIZE                     03 02705
010647 054007 A     2738        STA     PUTM1+2       AS STACK MOVE "TO" ADDR.                      03 02706
010650 015001 A     2739        LDA     1,X         GET WORD COUNT FROM BASE OF LOWEST STACK        03 02707
010651 140544 A     2740        SUB     BSTACK        TO BOTTOM OF CURRENT STACK,                   03 02708
010652 054002 A     2741        STA     PUTM1         AND STORE AS STACK MOVE COUNT.                03 02709
010653 002000 A     2742        CALL    SGMOV       MOVE STACKS DOWN                                03 02710
010654 010620 A
010655 000000 A     2743 PUTM1  DATA    0                                                           03 02711
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010656 000000 A 2744          DATA    0                                                    03 02712
010657 000000 A 2745          DATA    0                                                    03 02713
010660 002000 A 2746          CALL    SGMOV       MOVE ENTRY IN                            03 02714
010661 010620 A
010662 000000 A 2747 PUTM2    DATA    0           NUMBER OF WORDS                          03 02715
010663 000000 A 2748 PUTM3    DATA    0           FROM ADDR.                               03 02716
010664 000000 A 2749          DATA    0           TO ADDR.                                 03 02717
                    2750 *                                                                 03 02718
                    2751 *                NOW UPDATE STACK CONTROL BLOCK POINTERS          03 02719
                    2752 *                                                                 03 02720
010665 006030 A 2753          LDXI    0                                                    03 02721
010666 000000 A
010666          2754 APUT2    BES     0                                                    03 02722
010667 005043 A 2755          TXB                 (BR)=(XR)=ADDR. OF BASE OF STACK         03 02723
010670 016000 A 2756          LDA     0,B                                                  03 02724
010671 145002 A 2757          SUB     2,X                                                  03 02725
010672 056000 A 2758          STA     0,B         LOWER BASE OF DESIGNATED STACK           03 02726
010673 005122 A 2759 APUT4    IBR                                                          03 02727
010674 005122 A 2760          IBR                 INCREMENT PNTR TO NEXT STACK'S CONTROL   03 02728
010675 005122 A 2761          IBR                                                          03 02729
010676 016000 A 2762          LDA     0,B                                                  03 02730
010677 001004 A 2763          JAN     APUT5       IF END OF STACK CONTROL BLOCK            03 02731
010700 010710 A
010701 145002 A 2764          SUB     2,X                                                  03 02732
010702 056000 A 2765          STA     0,B         LOWER STACK BASE                         03 02733
010703 016001 A 2766          LDA     1,B                                                  03 02734
010704 145002 A 2767          SUB     2,X                                                  03 02735
010705 056001 A 2768          STA     1,B         LOWER STACK BOTTOM                       03 02736
010706 001000 A 2769          JMP     APUT4                                                03 02737
010707 010673 A
                    2770 *                                                                 03 02738
010710 005101 A 2771 APUT5    INCR    1           SET NORMAL RETURN FLAG                   03 02739
010711 001000 A 2772          JMP*    SGPUT       RETURN                                   03 02740
010712 110624 A
                    2773          EJEC                                                     03 02741
                    2774 ********************************************************************** 03 02742
                    2775 *                                                                 03 02743
                    2776 *                    GET NEXT ITEM ROUTINE                       03 02744
                    2777 *       THIS SUBROUTINE GETS THE NEXT ITEM FROM SGIBUF AND ENTERS 03 02745
                    2778 *       IT IN THE SPECIFIED OUTPUT BUFFER. THE CHARACTERS ARE STORED 03 02746
                    2779 *       IN THE OUTPUT BUFFER UNTIL A TERMINATION CHARACTER IS     03 02747
                    2780 *       ENCOUNTERED OR UNTIL THE MAXIMUM NUMBER OF CHARACTERS HAVE 03 02748
                    2781 *       BEEN STORED. IN THE LATTER CASE, THE POINTERS ARE INCREMENTED 03 02749
                    2782 *       UNTIL A TERMINATION CHARACTER IS ENCOUNTERED, OR UNTIL THE 03 02750
                    2783 *       END OF 'SGIBUF' IS REACHED.  LEGAL TERMINATION CHARACTERS 03 02751
                    2784 *       ARE: COMMA, COLON, SEMICOLON, AND EQUAL SIGN.             03 02752
                    2785 *                                                                 03 02753
                    2786 *                                                                 03 02754
                    2787 *       CALLING SEQUENCES:                                        03 02755
                    2788 *                                                                 03 02756
                    2789 *       JSR     SGGFI,X     TO GET THE FIRST CHARACTER FROM 'SGIBUF' 03 02757
                    2790 *       DATA    OUTPUT BUFFER ADDRESS                             03 02758
                    2791 *       DATA    MAX. NUM. OF CHAR. TO BE STORED                   03 02759
                    2792 *                                                                 03 02760
                    2793 *       JSR     SGGNI,X     TO GET NEXT CHARACTER FROM 'SGIBUF'   03 02761
                    2794 *       DATA    OUTPUT BUFFER ADDRESS                             03 02762
                    2795 *       DATA    MAX. NUM. OF CHAR. TO BE STORED                   03 02763
                    2796 *                                                                 03 02764
                    2797 *                                                                 03 02765
                    2798 *       RETURN PARAMETERS:                                        03 02766
                    2799 *                                                                 03 02767
                    2800 *            (AR)= NUMBER OF CHARACTERS FETCHED                   03 02768
                    2801 *            (BR)= TERMINATION CHARACTER (RIGHT ADJUSTED)         03 02769
                    2802 *                                                                 03 02770
                    2803 *                                                                 03 02771
                    2804 ********************************************************************** 03 02772
                    2805 *                                                                 03 02773
                    2806 *                                                                 03 02774
010713          2807 SGGFI    BSS     0           *   * GET FIRST ITEM ENTRY *   *        03 02775
010713 006010 A 2808          LDAI    SGIBUF      GET INPUT BUFFER BASE ADDRESS            03 02776
010714 000664 A
010715 004241 A 2809          LRLA    1           COMPUTE BYTE ADDRESS                     03 02777
010716 054152 A 2810          STA     SGBBAD      SAVE BASE BYTE ADDR                      03 02778
010717          2811 SGGNI    BSS     0           *   * GET ANOTHER ITEM ENTRY *   *       03 02779
010717 015000 A 2812          LDA     0,X         GET OUTPUT BUFFER BASE ADDRESS           03 02780
010720 004241 A 2813          LRLA    1           COMPUTE BYTE ADDR                        03 02781
010721 054145 A 2814          STA     SGOPBA      SAVE OUTPUT BYTE ADDR                    03 02782
010722 015001 A 2815          LDA     1,X         GET MAX NO. OF CHAR. TO BE STORED        03 02783
010723 054150 A 2816          STA     SGMNOC      SAVE COUNT                               03 02784
010724 005144 A 2817          IXR                 COMPUTE RETURN ADDR                      03 02785
010725 005144 A 2818          IXR                                                          03 02786
010726 074103 A 2819          STX     SG9825      SAVE RETURN ADDR                         03 02787
010727 005001 A 2820          TZA                                                          03 02788
010730 054142 A 2821          STA     SGNOCS      RESET NO. OF CHAR. IN STRING             03 02789
010731          2822 SG9800   BSS     0                                                    03 02790
010731 002000 A 2823          CALL    SGGNC       GET NEXT CHAR                            03 02791
010732 011033 A
010733 014136 A 2824          LDP     SGCVCH      GET THE CHAR                             03 02792
010734 144131 A 2825          SUB     D015        IS IT END OF DIRECTIVE                   03 02793
010735 001010 A 2826          JAZ     SG9820      YES-RETURN                               03 02794
010736 011027 A
010737 142601 A 2827          SUB     D27         IS IT A COMMA?                           03 02795
010740 001010 A 2829          JAZ     SG9820      YES-RETURN                               03 02796
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010741 011027 A
010742 144122 A 2829          SUB     D16             IS IT A COLON?                                  03 02797
010743 001010 A 2830          JAZ     SG9820          YES-RETURN                                      03 02798
010744 011027 A
010745 005311 A 2831          DAR                     IS IT A SEMICOLON?                              03 02799
010746 001010 A 2832          JAZ     SG9820          YES-RETURN                                      03 02800
010747 011027 A
010750 142530 A 2833          SUB     TWO             IS IT AN EQUAL SIGN?                            03 02801
010751 001010 A 2834          JAZ     SG9820          YES-RETURN                                      03 02802
010752 011027 A
010753 014114 A 2835          LDA     SGOPBA          GET OUTPUT BYTE ADDR                            03 02803
010754 044113 A 2836          INR     SGOPBA          INCREMENT OUTPUT BYTE ADDR                      03 02804
010755 005002 A 2837          TZB                                                                     03 02805
010756 004541 A 2838          LLSR    1               COMPUTE OUTPUT WORD ADDR                        03 02806
010757 005014 A 2839          TAX                     (XR) ← OUTPUT WORD ADDR                         03 02807
010760 001026 A 2840          JBNZ    SG9805          JUMP IF TO STORE IN RIGHT BYTE                  03 02808
010761 010765 A
010762 014107 A 2841          LDA     SGSVCH                                                          03 02809
010763 004250 A 2842          LRLA    8               POSITION TO STORE IN LEFT BYTE                  03 02810
010764 054105 A 2843          STA     SGSVCH                                                          03 02811
010765          2844 SG9805   BSS     0                                                               03 02812
010765 015000 A 2845          LDA     0,X                                                             03 02813
010766 001020 A 2846          JBZ     SG9810          JUMP IF TO STORE IN LEFT BYTE                   03 02814
010767 010772 A
010770 152570 A 2847          ANA     LHW             AND OUT LEFT HALF OF WORD                       03 02815
010771 001006 A 2848          DATA    01006           SKIP NEXT INSTRUCTION                           03 02816
010772          2849 SG9810   BSS     0                                                               03 02817
010772 152571 A 2850          ANA     RHW             AND OUT RIGHT HALF OF WORD                      03 02818
010773 114076 A 2851          ORA     SGSVCH          OR IN SAVED CHARACTER                           03 02819
010774 055000 A 2852          STA     0,X             SET IN OUTPUT BUFFER                            03 02820
010775 044075 A 2853          INR     SGNOCS          INCREMENT NO. OF CHAR IN STRING                 03 02821
010776 014074 A 2854          LDA     SGNOCS                                                          03 02822
010777 144074 A 2855          SUB     SGMNOC          MAX. NO. OF CHAR. STORED                        03 02823
011000 001016 A 2856          JANZ    SG9800          NO - GO GET NEXT CHAR.                          03 02824
011001 010731 A
011002          2857 SG9815   BSS     0                                                               03 02025
011002 002000 A 2858          CALL    SGGNC           GET NEXT CHARACTER                              03 02826
011003 011033 A
011004 014065 A 2859          LDA     SGSVCH          GET THE CHARACTER                               03 02827
011005 144060 A 2860          SUB     D215            IS IT END OF DIRECTIVE?                         03 02828
011006 001010 A 2861          JAZ     SG9820          YES-RETURN                                      03 02829
011007 011027 A
011010 142601 A 2862          SUB     D37             IS IT A COMMA?                                  03 02830
011011 001010 A 2863          JAZ     SG9820            YES- RETURN                                   03 02831
011012 011027 A
011013 144051 A 2864          SUB     D16             IS IT A COLON?                                  03 02832
011014 001010 A 2865          JAZ     SG9820            YES- RETURN                                   03 02833
011015 011027 A
011016 005311 A 2866          DAR                     IS IT A SEMICOLON?                              03 02834
011017 001010 A 2867          JAZ     SG9820            YES- RETURN                                   03 02835
011020 011027 A
011021 142530 A 2868          SUB     TWO             IS IT AN EQUAL SIGN?                            03 02836
011022 001010 A 2869          JAZ     SG9820            YES- RETURN                                   03 02837
011023 011027 A
011024 044046 A 2870          INR     SGNOCS          INCREMENT NUM OF CHAR IN STRING                 03 02838
011025 001000 A 2871          JMP     SG9815            CONTINUE                                      03 02839
011026 011002 A
011027          2872 SG9820   BSS     0                                                               03 02840
011027 024042 A 2873          LDB     SGSVCH          SET (BR)= TERMINATION CHARACTER                 03 02841
011030 014042 A 2874          LDA     SGNOCS          SET (AR)= NUMBER OF CHARACTERS                  03 02842
011031 001000 A 2875          JMP     0                                                               03 02843
011032 000000 A
011032          2876 SG9825   BES     0               *  * RETURN *  *                                03 02844
                2877          EJECT                                                                   03 02845
                2878 *                                                                                03 02846
                2879 *                                                                                03 02847
                2880 *        GET NEXT CHARACTER FROM 'SGIBUF'                                        03 02848
                2881 *                                                                                03 02849
                2882 *                                                                                03 02850
011033 000000 A 2883 SGGNC    ENTR                    * ENTRY *                                       03 02851
011034 014034 A 2884          LDA     SGBBAD          GET BASE BYTE ADDR                              03 02852
011035 044033 A 2885          INR     SGBBAD          INCREMENT BASE BYTE ADDR                        03 02853
011036 005002 A 2886          TZB                                                                     03 02854
011037 004541 A 2887          LLSR    1               COMPUTE INPUT WORD ADDR                         03 02855
011040 005014 A 2888          TAX                     (XR) ← INPUT WORD ADDR                          03 02856
011041 006140 A 2889          SUBI    SGIBUF+120      AT END OF BUFFER?                               03 02857
011042 001054 A
011043 001004 A 2890          JAN     SG9900          NO - CONTINUE                                   03 02858
011044 011051 A
011045 014020 A 2891          LDA     D215            GET RETURN CHARACTER                            03 02859
011046 054023 A 2892          STA     SGSVCH                                                          03 02860
011047 001000 A 2893          RETU*   SGGNC           * RETURN *                                      03 02861
011050 111033 A
011051          2894 SG9900   BSS     0                                                               03 02862
011051 015000 A 2895          LDA     0,X             GET INPUT WORD                                  03 02863
011052 001020 A 2896          JBZ     SG9905          JUMP IF LEFT CHAR.                              03 02864
011053 011056 A
011054 152571 A 2897          ANA     RHW             AND OUT RIGHT BYTE                              03 02865
011055 001006 A 2898          DATA    01006           SKIP NEXT INSTRUCTION                           03 02866
011056          2899 SG9905   BSS     0                                                               03 02867
011056 004350 A 2900          LSRA    8               POSITION LEFT CHAR TO RIGHT BYTE                03 02868
011057 054012 A 2901          STA     SGSVCH          SAVE THE CHARACTER                              03 02869
011060 134006 A 2902          CRA     0240            IS IT A BLANK?                                  03 02870
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011061 001010 A 2903          JAZ     SGGNC+1        GET NEXT CHARACTER IF BLANK                03 02871
011062 011034 A
011063 001000 A 2904          RETU*   SGGNC          * RETURN *                                 03 02872
011064 111033 A
                2905 *                                                                           03 02873
                2906 *                                                                           03 02874
011065 000016 A 2907 D16      DATA    D16                                                        03 02875
       002601 A 2908 D37      EQU     BM37                                                       03 02876
011066 000215 A 2909 D215     DATA    D215                                                       03 02877
011067 000240 A 2910 D240     DATA    D240                                                       03 02878
011070 000000 A 2911 SGOPBA   DATA    0              OUTPUT BYTE ADDR                            03 02879
011071 000000 A 2912 SGBBAD   DATA    0              INPUT BASE BYTE ADDR                        03 02880
011072 000000 A 2913 SGSVCH   DATA    0              SAVE CHARACTER AREA                         03 02881
011073 000000 A 2914 SGNOCS   DATA    0              NUMBER OF CHAR STORED                       03 02882
011074 000000 A 2915 SGMNOC   DATA    0              MAX NO. OF CHAR TO BE STORED                03 02883
                2916          EJEC                                                             03 02884
                2917 *                                                                           03 02885
                2918 *        SGCLR                                                              03 02886
                2919 *                                                                           03 02887
                2920 *              PURPOSE:  CLEAR READ BUFFER (SGIBUF)                         03 02888
                2921 *                                                                           03 02889
                2922 *              CALLING SEQUENCE:  CALL   SGCLR                              03 02890
                2923 *                                                                           03 02891
                2924 *              RETURN PARAMETERS:  NONE                                     03 02892
                2925 *                                                                           03 02893
                2926 *                                                                           03 02894
011075 000000 A 2927 SGCLR    ENTR                   * * ENTRY POINT * *                         03 02895
011076 020000 L 2928          LDB     =*  *                                                      03 02896
011077 006030 A 2929          LDXI    SGIBUF         INITIALIZE BUFFER INDEX                     03 02897
011100 000664 A
011101 065000 A 2930 CLR1     STB     0,X              CLEAR A WORD                              03 02898
011102 005145 A 2931          IMCR    045            BUMP INDEX                                  03 02899
011103 006140 A 2932          SUBI    SGIBUF+120                                                 03 02900
011104 001054 A
011105 001004 A 2933          JAN     CLR1           IF MORE WORDS TO CLEAR                      03 02901
011106 011101 A
011107 001000 A 2934          JMP*    SGCLR            * * RETURN IF FINISHED * *                03 02902
011110 111075 A
                2935          EJEC                                                             03 02903
                2936 *                                                                           03 02904
                2937 *        SGGET                                                              03 02905
                2938 *                                                                           03 02906
                2939 *              PURPOSE:  SGGET IS CALLED TO FETCH A STACK ITEM              03 02907
                2940 *                        AND PLACE IT IN A SPECIFIED BUFFER AREA.           03 02908
                2941 *                                                                           03 02909
                2942 *              CALLING SEQUENCE:  (XR)= ADDR. OF STACK CONTROL BLOCK        03 02910
                2943 *                                 (BR)= ADDR. OF ITEM BUFFER                03 02911
                2944 *                                 CALL  SGGET                               03 02912
                2945 *                                                                           03 02913
                2946 *              RETURN PARAMETERS:  (AR)= +1  IF ITEM FETCHED                03 02914
                2947 *                                    -1  IF STACK FOUND EMPTY               03 02915
                2948 *                                                                           03 02916
011111 000000 A 2949 SGGET    ENTR                                                               03 02917
011112 064047 A 2950          STB     GETM2+2        SAVE BUFFER ADDRESS                         03 02918
011113 015000 A 2951          LDA     0,X            GET BASE ADDR.                              03 02919
011114 145001 A 2952          SUB     1,X              MINUS BOTTOM ADDR.                        03 02920
011115 001004 A 2953          JAN     AGET1          IF NOT EMPTY STACK                          03 02921
011116 011122 A
011117 005301 A 2954          DECR    1              SET STACK EMPTY FLAG                        03 02922
011120 001000 A 2955          JMP*    SGGET            AND RETURN                                03 02923
011121 111111 A
                2956 *                                                                           03 02924
011122 015002 A 2957 AGET1    LDA     2,X            GET STACK ITEM LENGTH                       03 02925
011123 054034 A 2958          STA     GETM2            AND STORE IN ITEM MOVE "COUNT"            03 02926
011124 015001 A 2959          LDA     1,X            GET STACK BOTTOM                            03 02927
011125 145002 A 2960          SUB     2,X              MINUS ITEM LENGTH                         03 02928
011126 054032 A 2961          STA     GETM2+1            AND STORE IN ITEM MOVE "FROM ADDR."     03 02929
011127 140544 A 2962          SUB     LSTACK         SUBTRACT BASE ADDR. OF LOWEST STACK         03 02930
011130 054034 A 2963          STA     GETM1            TO GET STACK MOVE "COUNT"                 03 02931
011131 010544 A 2964          LDQ     LSTACK         BASE ADDR. OF LOWEST STACK                  03 02932
011132 054033 A 2965          STA     GETM1+1          IS STACK MOVE "FROM ADDR."                03 02933
011133 125002 A 2966          ADD     2,X            PLUS ITEM LENGTH...                         03 02934
011134 054032 A 2967          STA     GETM1+2            ALSO MES STACK MOVE "TO ADDR."          03 02935
                2968 *                                                                           03 02936
                2969 *        UPDATE BASE AND BOTTOM POINTERS                                    03 02937
                2970 *                                                                           03 02938
011135 005042 A 2971          TXB                                                                03 02939
011136 016000 A 2972          LDA     0,B                                                        03 02940
011137 125002 A 2973          ADD     2,X                                                        03 02941
011140 056000 A 2974          STA     0,B            UPDATE BASE POINTER FOR DESIGNATED STACK    03 02942
011141 005122 A 2975 AGET2    IBS                                                                03 02943
011142 005122 A 2976          IBS                                                                03 02944
011143 005122 A 2977          IBS                                                                03 02945
011144 016000 A 2978          LDA     0,B            GET NEXT BASE POINTER                       03 02946
011145 001004 A 2979          JAN     AGET3          IF END OF STACK CONTROL BLOCK               03 02947
011146 011156 A
011147 125002 A 2980          ADD     2,X                                                        03 02948
011150 056000 A 2981          STA     0,B            UPDATE BASE POINTER                         03 02949
011151 016001 A 2982          LDA     1,B                                                        03 02950
011152 125002 A 2983          ADD     2,X                                                        03 02951
011153 056001 A 2984          STA     1,B            UPDATE BOTTOM POINTER                       03 02952
011154 001000 A 2985          JMP     AGET2          CONTINUE                                    03 02953
011155 011141 A
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                    2986 *                                                                                  03 02954
011156              2987 AGET3  BSS     0                                                                   03 02955
011156 002000 A     2988        CALL    SGMOV       MOVE STACK ITEM TO BUFFER                               03 02956
011157 010620 A
011160 000000 A     2989 GETM2  DATA    0                                                                   03 02957
011161 000000 A     2990        DATA    0                                                                   03 02958
011162 000000 A     2991        DATA    0                                                                   03 02959
011163 002000 A     2992        CALL    SGMOV       MOVE ALL LOWER STACK ITEMS UP                           03 02960
011164 010620 A
011165 000000 A     2993 GETM1  DATA    0                                                                   03 02961
011166 000000 A     2994        DATA    0                                                                   03 02962
011167 000000 A     2995        DATA    0                                                                   03 02963
011170 005101 A     2996        INCR    1           SET NORMAL RETURN FLAG                                  03 02964
011171 001000 A     2997        JMP*    SGGET       RETURN                                                  03 02965
011172 111111 A
                    2998        EJEC                                                                        03 02966
                    2999 *                                                                                  03 02967
                    3000 *      SG3ERR                                                                      03 02968
                    3001 *                                                                                  03 02969
                    3002 *            PURPOSE:  POST ERROR MESSAGES AND EFFECT RECOVERY                     03 02970
                    3003 *                      WHERE APPLICABLE.                                           03 02971
                    3004 *                                                                                  03 02972
                    3005 *            CALLING SEQ.:  (AR)= ERROR CODE   OR   (AR)= ERROR CODE               03 02973
                    3006 *                           CALL  SG3ASC             CALL  SG3PRO                  03 02974
                    3007 *                                                                                  03 02975
                    3008 *            RETURN PARAMETERS:  NONE                                              03 02976
                    3009 *                                                                                  03 02977
                    3010 *                                                                                  03 02978
011173 000000 A     3011 SG3PRO ENTR                * ENTRY TO POST ERROR ONLY *                            03 02979
011174 005002 A     3012        TZB                                                                         03 02980
011175 052410 A     3013 ERR1   STA     SGLBUF+2    STORE ERROR CODE IN BUFFER                              03 02981
011176 062653 A     3014        STB     DREC        STORE RECOVERY FLAG                                     03 02982
011177 012530 A     3015        LDA     TWO                                                                 03 02983
011200 052406 A     3016        STA     SGLBUF      SET UP ERROR MESSAGE                                    03 02984
011201 006010 A     3017        LDAI    'SG'                                                                03 02985
011202 151707 A
011203 052407 A     3018        STA     SGLBUF+1                                                            03 02986
011204 020000 L     3019 ERR7   LDB     =SGLBUF                                                             03 02987
011205 002000 A     3020        CALL    SGWSO,0     WRITE MESSAGE TO 'OC' AND 'LIS'                   C     03 02988
011206 011443 A
011207 000000 A
011210 001046 A     3021        JXNZ    ERR7        RETRY IF ERROR                                          03 02989
011211 011204 A
                    3022 *                                                                                  03 02990
011212 002000 A     3023        CALL    SGCLR       CLEAR SGIBUF TO BLANKS                                  03 02991
011213 011075 A
                    3024 *                                                                                  03 02992
011214 002000 A     3025 ERR6   JMPM    IOCS        READ MESSAGE FROM 'OC'                                  03 02993
011215 006470 E
011216 000403 A     3026        DATA    RALF+0C                                                             03 02994
011217 000050 A     3027        DATA    40,SGIBUF                                                           03 02995
011220 000664 A
011221 002000 A     3028        JMPM    IOCS                                                                03 02996
011222 011215 E
011223 000003 A     3029        DATA    3C                                                                  03 02997
011224 011214 A     3030        DATA    ERR6,ERR6,ERR6,*-6                                                  03 02998
011225 011214 A
011226 011214 A
011227 011221 A
011230 002000 A     3031        JMPM    IOCS        DETERMINE 'LIS' DEVICE                                  03 02999
011231 011222 E
011232 000005 A     3032        DATA    LIS                                                                 03 03000
011233 011237 A     3033        DATA    *-4,*+3,*+2,*-6                                                     03 03001
011234 011237 A
011235 011237 A
011236 011230 A
011237 015002 A     3034        LDA     2,X                                                                 03 03002
011240 130000 L     3035        ERA     ='TY'                                                               03 03003
011241 001016 A     3036        JANZ    ERR9        IF NOT TELETYPE                                         03 03004
011242 011247 A
011243 015003 A     3037        LDA     3,X                                                                 03 03005
011244 130000 L     3038        ERA     ='00'                                                               03 03006
011245 001010 A     3039        JAZ     ERR8        IF 'OC' TELETYPE, DON'T LIST                            03 03007
011246 011263 A
                    3040 *                                                                                  03 03008
011247 002000 A     3041 ERR9   JMPM    IOCS        LIST RECOVERY MESSAGE                                   03 03009
011250 011231 E
011251 001005 A     3042        DATA    RALF+LIS                                                            03 03010
011252 000050 A     3043        DATA    40,SGIBUF                                                           03 03011
011253 000664 A
011254 002000 A     3044        JMPM    IOCS                                                                03 03012
011255 011250 E
011256 000005 A     3045        DATA    LIS                                                                 03 03013
011257 011263 A     3046        DATA    ERR8,ERR8,ERR8,*-6                                                  03 03014
011260 011263 A
011261 011263 A
011262 011254 A
                    3047 *                                                                                  03 03015
011263              3048 ERR8   BSS     0                                                                   03 03016
011263 012653 A     3049        LDA     DREC                                                                03 03017
011264 001010 A     3050        JAZ*    SG3PRO      * RETURN IF NO RECOVERY REQUESTED *                     03 03018
011265 111173 A
011266 006505 A     3051        JSR     SGGFI,X     GET RECOVERY PARAMETER                                  03 03019
```

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011267 010713 A
011270 011274 A 3052          DATA    ERR3,2                                                  03 03020
011271 000002 A
011272 005312 A 3053          DECR    012             (BR)=NUMBER OF CHAR. READ MINUS ONE     03 03021
011273 006010 A 3054          LDAI    0                                                       03 03022
011274 000000 A
011274          3055 ERR3     BES     0                                                       03 03023
011275 006140 A 3056          SUBI    0141400                                                 03 03024
011276 141400 A
011277 001030 A 3057          JIF     030,ERR4        IF RECOVERY SPECIFIES READ FROM 'DIR'   03 03025
011300 011303 A
011301 001000 A 3058          JMP*    SG3ASC          * RETURN WITH NEW DIRECTIVE IN SGIBUF * 03 03026
011302 111323 A
011303 002000 A 3059 ERR4     JMPM    IOCS            BACKSPACE AND REREAD FROM 'DIR'         03 03027
011304 011255 E
011305 103002 A 3060          DATA    0103000+DIR                                             03 03028
011306 000001 A 3061          DATA    1                                                       03 03029
011307 002000 A 3062          JMPM    IOCS                                                    03 03030
011310 011304 E
011311 000002 A 3063          DATA    DIR                                                     03 03031
011312 011316 A 3064          DATA    *+4,*+3,*+2,*-6                                         03 03032
011313 011316 A
011314 011316 A
011315 011307 A
011316 002000 A 3065 ERR5     CALL    SGRSI           READ DIRECTIVE                          03 03033
011317 011531 A
011320 001046 A 3066          JXNZ    ERR5            RETRY IF ERROR                          03 03034
011321 011316 A
011322 001000 A 3067          JMP     0                                                       03 03035
011323 000000 A
                3068 *                                                                        03 03036
011323          3069 SG3ASC   BES     0               * ENTRY TO POST ERROR AND RECOVER *     03 03037
011324 005102 A 3070          INCR    B               SET RECOVERY FLAG                       03 03038
011325 001000 A 3071          JMP     ERR1                                                    03 03039
011326 011175 A
                3072          EJEC                                                            03 03040
                3073 *                                                                        03 03041
                3074 *        SGSAE                                                           03 03042
                3075 *                                                                        03 03043
                3076 *        PURPOSE:  TO SEARCH A DESIGNATED STACK FOR AN ENTRY             03 03044
                3077 *                  WITH NAME MATCHING THE INPUT "KEY".                   03 03045
                3078 *                  OPTION AS TO WHETHER TO MAKE AN ENTRY OR              03 03046
                3079 *                  NOT, IF A MATCH IS NOT FOUND.                         03 03047
                3080 *                                                                        03 03048
                3081 *        CALLING SEQUENCE:  (AR):  =-1  IF SEARCH ONLY                   03 03049
                3082 *                           =>0  IF SEARCH AND ENTER                     03 03050
                3083 *                           (BR):  ADDR OF NEW ITEM BUFFER               03 03051
                3084 *                           (XR):  ADDR OF STACK CONTROL BLOCK           03 03052
                3085 *                           CALL  SGSAE                                  03 03053
                3086 *                           DATA  SIZE OF KEY                            03 03054
                3087 *                                                                        03 03055
                3088 *        RETURN PARAMETERS:  (XR)= PNTR TO ENTRY (-1 IF SEARCH           03 03056
                3089 *                              ONLY AND NOT FOUND)                       03 03057
                3090 *                            (AR)= THREAD/DEFINITION ADDR                03 03058
                3091 *                                                                        03 03059
                3092 *                                                                        03 03060
011327 014102 A 3093 SAE1     LDA     SAED2                                                   03 03061
011330 124105 A 3094          ADD     SAED6                                                   03 03062
011331 005014 A 3095 SAE6     TAX             (XR)=(AR)=ADDR OF NEXT STACK ENTRY              03 03063
011332 054077 A 3096          STA     SAED2   UPDATE STACK POINTER                            03 03064
011333 144101 A 3097          SUB     SAED5                                                   03 03065
011334 001004 A 3098          JAN     SAE2            IF NOT END OF STACK                     03 03066
011335 011374 A
                3099 *                                                                        03 03067
011336 014072 A 3100          LDA     SAED1           END OF STACK, RETURN IF SEARCH ONLY      03 03068
011337 005014 A 3101          TAX                                                             03 03069
011340 001004 A 3102          JAN*    SGSAE           *  * RETURN, MATCH NOT FOUND            03 03070
011341 111356 A
                3103 *                                                                        03 03071
011342 024070 A 3104          LDB     SAED3           IF SEARCH AND ENTER REQUESTED,          03 03072
011343 034070 A 3105          LDX     SAED4             MAKE ENTRY.                           03 03073
011344 002000 A 3106          CALL    SGPUT                                                   03 03074
011345 010624 A
011346 001004 A 3107          JAN     SAE4            POST ERROR IF NO ROOM FOR ENTRY         03 03075
011347 011424 A
                3108 *                                                                        03 03076
011350 034063 A 3109          LDX     SAED4           GET ENTRY ADDR IN (XR)                  03 03077
011351 015001 A 3110          LDA     1,X               *                                     03 03078
011352 145002 A 3111          SUB     2,X               *                                     03 03079
011353 005014 A 3112          TAX                       *                                     03 03080
011354 015000 A 3113 SAE3     LDA     0,X               AND FIRST WORD IN (AR)                03 03081
011355 001000 A 3114          JMP     0                 AND RETURN                            03 03082
011356 000000 A
011356          3115 SGSAE    BES     0               *  * ENTRY POINT *  *                   03 03083
011357 054051 A 3116          STA     SAED1           STORE ENTRY PARAMETERS                  03 03084
011360 064052 A 3117          STB     SAED3                                                   03 03085
011361 074052 A 3118          STX     SAED4                                                   03 03086
                3119 *                                                                        03 03087
011362 015001 A 3120          LDA     1,X                                                     03 03088
011363 054051 A 3121          STA     SAED5                                                   03 03089
011364 015002 A 3122          LDA     2,X                                                     03 03090
011365 054050 A 3123          STA     SAED6                                                   03 03091
                3124 *                                                                        03 03092
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011366 017000 I 3125          LDA*    SGSAE     STORE KEY SIZE AND SET UP                    03 03093
011367 054047 A 3126          STA     SAED7       RETURN ADDR                                03 03094
011370 047000 I 3127          INR     SGSAE                                                  03 03095
011371 015000 A 3128          LDA     0,X                                                    03 03096
011372 001000 A 3129          JMP     SAE6                                                   03 03097
011373 011331 A
                    3130  *                                                                  03 03098
                    3131  *           * * COMPARISON LOOP * *                                03 03099
011374 024036 A 3132  SAE2    LDB     SAED3     SET UP INDEX AND COUNTER                     03 03100
011375 014041 A 3133          LDA     SAED7                                                  03 03101
011376 054041 A 3134          STA     SAED8                                                  03 03102
011377 015000 A 3135          LDA     0,X                                                    03 03103
011400 136000 A 3136          ERA     0,B                                                    03 03104
011401 152566 A 3137          ANA     BR15      IGNORE SIGN BIT OF FIRST WORD                03 03105
011402 001016 A 3138          JANZ    SAE1      IF WORDS DO NOT MATCH                        03 03106
011403 011327 A
                    3139  *                                                                  03 03107
011404 014033 A 3140  SAE7    LDA     SAED8                                                  03 03108
011405 005311 A 3141          DAR                                                            03 03109
011406 054031 A 3142          STA     SAED8     UPDATE MATCH KEY SIZE COUNTER                03 03110
011407 001010 A 3143          JAZ     SAE5      IF MATCH CHECKS ON ALL WORDS                 03 03111
011410 011421 A
011411 005144 A 3144          IXR                                                            03 03112
011412 005122 A 3145          IBR                                                            03 03113
011413 015000 A 3146          LDA     0,X       GET NEXT WORD IN ENTRY                       03 03114
011414 136000 A 3147          ERA     0,B                                                    03 03115
011415 001016 A 3148          JANZ    SAE1      IF WORDS DO NOT MATCH                        03 03116
011416 011327 A
011417 001000 A 3149          JMP     SAE7      IF MORE WORDS TO CHECK                       03 03117
011420 011404 A
011421 034010 A 3150  SAE5    LDX     SAED2     GET ENTRY ADDR IN (XR)                       03 03118
011422 001000 A 3151          JMP     SAE3                                                   03 03119
011423 011354 A
                    3152  *                                                                  03 03120
011424 012621 A 3153  SAE4    LDA     ER11      POST ERROR MESSAGE (FATAL ERROR)             03 03121
011425 002000 A 3154          CALL    SG3PRO                                                 03 03122
011426 011173 A
011427 001000 A 3155          JMP     SG3DPI    AND GO TO RESTART DIRECTIVE PROCESSING       03 03123
011430 003000 A
                    3156  *                                                                  03 03124
                    3157  *                                                                  03 03125
                    3158  *           * * TEMPORARY DATA CELLS * *                           03 03126
                    3159  *                                                                  03 03127
                    3160  *                                                                  03 03128
011431 000000 A 3161  SAED1   DATA    0           SEARCH ONLY FLAG                           03 03129
011432 000000 A 3162  SAED2   DATA    0           STACK POINTER                              03 03130
011433 000000 A 3163  SAED3   DATA    0           ITEM BUFFER ADDR                           03 03131
011434 000000 A 3164  SAED4   DATA    0           STACK CONTROL BLOCK ADDR                   03 03132
011435 000000 A 3165  SAED5   DATA    0           END OF STACK ADDR                          03 03133
011436 000000 A 3166  SAED6   DATA    0           STACK ENTRY SIZE                           03 03134
011437 000000 A 3167  SAED7   DATA    0           MATCH KEY SIZE                             03 03135
011440 000000 A 3168  SAED8   DATA    0           MATCH KEY SIZE COUNTER                     03 03136
                    3169          EJEC                                                     03 03137
                    3170  *                                                                  03 03138
                    3171  *       SGWSO                                                      03 03139
                    3172  *                                                                  03 03140
                    3173  *       PURPOSE:  TO OUTPUT A MESSAGE TO THE "OC" DEVICE           03 03141
                    3174  *                 AND THE "LIS" DEVICE, IF IT IS DIFFERENT         03 03142
                    3175  *                 FROM 'OC'.                                       03 03143
                    3176  *                                                                  03 03144
                    3177  *       CALLING SEQUENCE:  (BR)= ADDR OF MESSAGE                   03 03145
                    3178  *                          CALL  SGWSO,N                      C    03 03146
                    3179  *                                WHERE N=0 FOR LIST TO OC/LO  C    03 03147
                    3180  *                                N=1 FOR LIST TO LO           C    03 03148
                    3181  *                                                                  03 03149
                    3182  *       RETURN PARAMETERS:  (XR)= 0  IF ALL I/O COMPLETED          03 03150
                    3183  *                           (XR),BITS#0-2,= 1  IF I/O ERROR      03 03151
                    3184  *                                           2  IF I/O EOF        03 03152
                    3185  *                                           3  IF I/O BEOD       03 03153
                    3186  *                                                                  03 03154
                    3187  *                                                                  03 03155
011441 035001 A 3188  WSO5    LDX     1,X       GET ABNORMAL I/O STATUS FROM DRIVER          03 03156
011442 001000 A 3189          JMP     0         * RETURN *                                   03 03157
011443 000000 A
                    3190  *                                                                  03 03158
011443          3191  SGWSO   BES     0         * ENTRY POINT *                              03 03159
011444 016000 A 3192          LDA     0,B                                                    03 03160
011445 054014 A 3193          STA     WSO1      SAVE MESSAGE WORD COUNT                      03 03161
011446 054044 A 3194          STA     WSO2                                                   03 03162
011447 005122 A 3195          IBR                                                            03 03163
011450 064012 A 3196          STB     WSO3      SAVE MESSAGE STARTING ADDRESS                03 03164
011451 064042 A 3197          STB     WSO4                                                   03 03165
011452 027000 I 3198          LDB     SGWSO     LIST PARAMETER                         C     03 03166
011453 016000 A 3199          LDA     0,2                                              C     03 03167
011454 047000 I 3200          INR     SGWSO     UPDATE RETURN ADDR                     C     03 03168
011455 001016 A 3201          JANZ    WSO2-3    JUMP OF OC LIST IS TO BE SUPPRESSED    C     03 03169
011456 011510 A
                    3202  *                                                                  03 03170
       011462 A 3203  WSO1    EQU     *+3                                                    03 03171
       011463 A 3204  WSO3    EQU     *+4                                                    03 03172
011457 002000 A 3205          JMPM    IOCS      WRITE MESSAGE TO 'OC' DEVICE                 03 03173
011460 011310 E
011461 001003 A 3206          DATA    WALF+0C                                                03 03174
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011462 000000 A 3207          DATA    0,0                                                    03 03175
011463 000000 A
011464 002000 A 3208          JMPM    IOCS                                                   03 03176
011465 011460 E
011466 000003 A 3209          DATA    OC                                                     03 03177
011467 011441 A 3210          DATA    WS05,WS05,WS05,*-6                                     03 03178
011470 011441 A
011471 011441 A
011472 011464 A
                3211 *                                                                       03 03179
011473 074011 A 3212          STX     WS06          SAVE OC DRIVER ADDR                      03 03180
011474 002000 A 3213          JMPM    IOCS                                                   03 03181
011475 011465 E
011476 000005 A 3214          DATA    LIS                                                    03 03182
011477 011441 A 3215          DATA    WS05,WS05,WS05,*-6                                     03 03183
011500 011441 A
011501 011441 A
011502 011474 A
                3216 *                                                                       03 03184
011503 005041 A 3217          TXA                                                            03 03185
011504 006130 A 3218          ERAI    0                                                      03 03186
011505 000000 A
011505          3219 WS06     BES     0                                                      03 03187
011506 001010 A 3220          JAZ     WS07          IF OC AND LIS ARE SAME DEVICE, RETURN    03 03188
011507 011524 A
       011513 A 3221 WS02     EQU     *+3                                                    03 03189
       011514 A 3222 WS04     EQU     *+4                                                    03 03190
011510 002000 A 3223          JMPM    IOCS          WRITE MESSAGE TO 'LIS' DEVICE            03 03191
011511 011475 E
011512 001005 A 3224          DATA    WALF+LIS                                               03 03192
011513 000000 A 3225          DATA    0,0                                                    03 03193
011514 000000 A
011515 002000 A 3226          JMPM    IOCS                                                   03 03194
011516 011511 E
011517 000005 A 3227          DATA    LIS                                                    03 03195
011520 011441 A 3228          DATA    WS05,WS05,WS05,*-6                                     03 03196
011521 011441 A
011522 011441 A
011523 011515 A
011524 005004 A 3229 WS07     TZX                   SET NORMAL I/O FLAG                      03 03197
011525 001000 A 3230          JMP*    SGWS0         * RETURN *                               03 03198
011526 111443 A
                3231          EJEC                                                           03 03199
                3232 *                                                                       03 03200
                3233 *        SGRSI                                                          03 03201
                3234 *                                                                       03 03202
                3235 *        PURPOSE:  TO INPUT A MESSAGE FROM THE "DIR" DEVICE             03 03203
                3236 *                  AND OUTPUT IT ON THE "OC" DEVICE IF "DIR"            03 03204
                3237 *                  IS NOT TELETYPE. IF THE "LIS" DEVICE IS              03 03205
                3238 *                  DIFFERENT FROM THE "OC" DEVICE, THE                  03 03206
                3239 *                  MESSAGE IS ALSO OUTPUT ON "LIS".                     03 03207
                3240 *                                                                       03 03208
                3241 *        CALLING SEQUENCE:  CALL  SGRSI                                 03 03209
                3242 *                                                                       03 03210
                3243 *        RETURN PARAMETERS:  (XR)= 0  IF ALL I/O COMPLETED              03 03211
                3244 *                            (XR),BITS@0-3,= 1  IF I/O ERROR            03 03212
                3245 *                                            2  IF I/O EOF              03 03213
                3246 *                                            3  IF I/O BEOD             03 03214
                3247 *                                                                       03 03215
                3248 *                                                                       03 03216
011527 035001 A 3249 RSI1     LDX     1,X           GET ABNORMAL I/O STATUS FROM DRIVER      03 03217
011530 001000 A 3250          JMP     0             * RETURN *                               03 03218
011531 000000 A
011531          3251 SGRSI    BES     0             * ENTRY POINT *                          03 03219
011532 002000 A 3252          CALL    SGCLR         CLEAR INPUT BUFFER TO BLANKS             03 03220
011533 011075 A
                3253 *                                                                       03 03221
011534 002000 A 3254 RSI4     JMPM    IOCS          INPUT MESSAGE FROM 'DIR' DEVICE          03 03222
011535 011516 E
011536 000403 A 3255          DATA    RALF+DIR                                               03 03223
011537 000050 A 3256          DATA    40,SGIBUF                                              03 03224
011540 000664 A
011541 002000 A 3257          JMPM    IOCS                                                   03 03225
011542 011535 E
011543 000002 A 3258          DATA    DIR                                                    03 03226
011544 011527 A 3259          DATA    RSI1,RSI1,RSI1,*-6                                     03 03227
011545 011527 A
011546 011527 A
011547 011541 A
011550 015000 A 3260          LDA     0,X                                                    03 03228
011551 001010 A 3261          JAZ     RSI4          IF ZERO WORDS READ                       03 03229
011552 011534 A
                3262 *                                                                       03 03230
                3263 *                              SKIP OUTPUT ON "OC"                      03 03231
011553 002000 A 3264 RS15     JMPM    IOCS          OUTPUT MESSAGE TO LIS DEVICE         C   03 03232
011554 011542 E
011555 001005 A 3265          DATA    WALF+LIS                                           C   03 03233
011556 000050 A 3266          DATA    40,SGIBUF                                              03 03234
011557 000664 A
                3267 *                                                                       03 03235
011560 002000 A 3268 RSI3     JMPM    IOCS                                                   03 03236
011561 011554 E
011562 000005 A 3269          DATA    LIS                                                C   03 03237
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011563 011527 A 3270          DATA    RSI1,RSI1,RSI1,*-6                                      03 03238
011564 011527 A
011565 011527 A
011566 011560 A
011567 005004 A 3271 RSI7     TZX                     SET NORMAL I/O FLAG                     03 03239
011570 001000 A 3272          JMP*    SGRSI           * RETURN *                              03 03240
011571 111531 A
       000400 A 3273 PALF     EQU     0400                                                    03 03241
       001000 A 3274 WALF     EQU     01000                                                   03 03242
              3275            EJEC                                                            03 03243
              3276 *                                                                          03 03244
              3277 *          SG4LIS                                                          03 03245
              3278 *                                                                          03 03246
              3279 *                  PURPOSE:  TO OUTPUT A MESSAGE TO THE LIS DEVICE         03 03247
              3280 *                                                                          03 03248
              3281 *                  CALLING SEQUENCE:  (BR)= ADDR OF MESSAGE   TO LIST      03 03249
              3282 *                                     CALL  SGLIS             ARBITRARY    03 03250
              3283 *                                                             MESSAGES     03 03251
              3284 *                                                                          03 03252
              3285 *                                     CALL  SGLISB    TO LIST 6 WORDS     03 03253
              3286 *                                                     FROM (SGLBUF)       03 03254
              3287 *                                                                          03 03255
              3288 *                  RETURN PARAMETERS:  NONE (WILL NOT RETURN UNTIL MESSAGE 03 03256
              3289 *                                      HAS BEEN SUCCESSFULLY OUTPUT)       03 03257
              3290 *                                                                          03 03258
              3291 *                                                                          03 03259
011572        3292 SGLISB    BSS     0               *  * ENTRY POINT TO LIST FROM BUFFER *  * 03 03260
011572 017000 I 3293          LDA     SGLISB                                                  03 03261
011573 054025 A 3294          STA     SGLIS           SET UP RETURN ADDR                      03 03262
011574 012574 A 3295          LDA     SIX                                                     03 03263
011575 054011 A 3296          STA     LIST1           SET NUMBER OF WORDS = 6                 03 03264
011576 020000 L 3297          LDB     =SGLBUF         SET BUFFER ADDR                         03 03265
011577 064010 A 3298 LIST5    STB     LIST2             TO (SGOBUF)                           03 03266
              3299 *                                                                          03 03267
              3300 *                                                                          03 03268
011600 012723 A 3301 LIST4    LDA     SGEDRA                                                  03 03269
011601 130000 L 3302          ERA     =0130000                                                03 03270
011602 001010 A 3303          JAZ*    SGLIS           IF NO LISTING REQUESTED, RETURN *  *    03 03271
011603 111621 A
       011607 A 3304 LIST1    EQU     *+3                                                     03 03272
       011610 A 3305 LIST2    EQU     *+4                                                     03 03273
011604 002000 A 3306          CALL    IOCS            POST MESSAGE ON "LIS"                   03 03274
011605 011561 E
011606 001005 A 3307          DATA    WALF+LIS                                                03 03275
011607 000000 A 3308          DATA    0,0                                                     03 03276
011610 000000 A
011611 002000 A 3309          CALL    IOCS                                                    03 03277
011612 011605 E
011613 000005 A 3310          DATA    LIS                                                     03 03278
011614 011627 A 3311          DATA    LIST3,LIST3,LIST3,*-6                                   03 03279
011615 011627 A
011616 011627 A
011617 011611 A
011620 001000 A 3312          JMP     0               *  * RETURN *  *                        03 03280
011621 000000 A
              3313 *                                                                          03 03281
011621        3314 SGLIS     BES     0               *  * ENTRY POINT TO POST GENERAL MESSAGE * 03 03282
011622 016000 A 3315          LDA     0,0                                                     03 03283
011623 057000 I 3316          STA     LIST1           SET UP NUMBER OF WORDS                  03 03284
011624 005122 A 3317          IBR                     SET UP BUFFER ADDR                      03 03285
011625 001000 A 3318          JMP     LIST5           GO POST MESSAGE                         03 03286
011626 011577 A
              3319 *                                                                          03 03287
              3320 *                  *  * ERROR MESSAGE *  *                                 03 03288
              3321 *                                                                          03 03289
011627 012621 A 3322 LIST3    LDA     ER11            POST "WRITE ERROR IN SGEN2" MESSAGE     03 03290
011630 002000 A 3323          CALL    SG3PRC                                                  03 03291
011631 011173 A
011632 001000 A 3324          JMP     LIST4           TRY AGAIN                               03 03292
011633 011600 A
              3325            EJEC                                                            03 03293
              3326 *                                                                          03 03294
              3327 *          SGPUR                                                           03 03295
              3328 *                                                                          03 03296
              3329 *                  PURPOSE:  PURGE TEMPORARY STACK AND RETURN TO PROCESS    03 03297
              3330 *                            ERROR RECOVERY DIRECTIVE.                     03 03298
              3331 *                                                                          03 03299
              3332 *                  CALLING SEQUENCE:  JMP  SGPUR                           03 03300
              3333 *                                                                          03 03301
              3334 *                  RETURN PARAMETERS:  NONE                                03 03302
              3335 *                                                                          03 03303
              3336 *                                                                          03 03304
011634        3337 SGPUR     BSS     0                                                       03 03305
011634 030000 L 3338          LDX     =SGSCB9                                                 03 03306
011635 020000 L 3339          LDB     =TBUF2                                                  03 03307
011636 002000 A 3340          CALL    SGGET           GET NEXT ITEM FROM TEMPORARY STACK      03 03308
011637 011111 A
011640 001002 A 3341          JAP     SGPUR           IF STACK NOT EMPTY                      03 03309
011641 011634 A
011642 001000 A 3342          JMP     DIR5            GO TO PROCESS RECOVERY DIRECTIVE        03 03310
011643 003222 A
       003000 A 3343          END     SGEN1                                                   03 03311
ENTRY NAMES
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003000 A SGEN1
EXTERNAL NAMES
010374 E EXIT   011612 E IOCS
SYMBOLS
000551 A $LUB   000550 A $LUN   000576 A $PUB   000551 A $PUN
000663 A AD$CAM 000662 A ADCRDR 003417 A ADR0   003467 A ADR1
003471 A ADR2   003425 A ADR3   003465 A ADR4   003364 A ADR5
003457 A ADR7   003443 A ADR8   003452 A ADR9   011122 A AGET1
011141 A AGET2  011156 A AGET3  010637 A APUT1  010666 A APUT2
010673 A APUT4  010710 A APUT5  004010 A ASN1   003612 A ASN10
003627 A ASN101 003632 A ASN11  003637 A ASN12  003653 A ASN13
004001 A ASN14  003714 A ASN15  003700 A ASN16  003715 A ASN17
004017 A ASN18  003732 A ASN19  003747 A ASN19A 003762 A ASN19B
003770 A ASN19C 004012 A ASN2   004024 A ASN20  004003 A ASN21
003665 A ASN23  003516 A ASN3   003520 A ASN4   003533 A ASN5
003553 A ASN6   003662 A ASN7   003574 A ASN8   003575 A ASN9
003607 A ASN91  004046 A ASND1  004103 A ASND1X 003105 A ASTACK
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     002527 A BM1    002600 A BM17   002603 A BM177
002605 A BM1777 002572 A BM3    002601 A BM37   002571 A BM377
002575 A BM7    002602 A BM77   002604 A BM777  002547 A BR0
002550 A BR1    002561 A BR10   002562 A BR11   002563 A BR12
002564 A BR13   002565 A BR14   002566 A BR15   002551 A BR2
002552 A BR3    002553 A BR4    002554 A BR5    002555 A BR6
002556 A BR7    002557 A BR8    002560 A BR9    002527 A BS0
002530 A BS1    002541 A BS10   002542 A BS11   002543 A BS12
002544 A BS13   002545 A BS14   002546 A BS15   002531 A BS2
002532 A BS3    002533 A BS4    002534 A BS5    002535 A BS6
002536 A BS7    002537 A BS8    002540 A BS9    000544 A BSTACK
006525 A BTB    001130 A BTSIZ  004675 A CLK1   011101 A CLR1
010440 A CNV1   010435 A CNV2   010500 A CNV3   010505 A CNVD1
010506 A CNVD2  000002 A DIR    003263 A DIR1   003270 A DIR2
003237 A DIR3   003256 A DIR4   003222 A DIR5   003255 A DIR6
003027 A DP3    003057 A DP4    003074 A DP5    003067 A DP6
003040 A DP7    003053 A DP8    003093 A DPI1   003272 A DPTAB
002653 A DREC   005306 A EDR0   005354 A EDR1   005334 A EDR2
005342 A EDR3   005340 A EDR4   005252 A EDR5   005271 A EDR7
005335 A EDR8   005356 A EDR9   002532 A EIGHT  004447 A EQP1
004262 A EQP10  004320 A EQP10A 004340 A EQP10B 004451 A EQP2
004434 A EQP3   004437 A EQP4   004402 A EQP5   004404 A EQP6
004427 A EQP7   004362 A EQP8   004377 A EQP9   004456 A EQPCM
004457 A EQPPT  004460 A EQPT   002606 A ER00   002607 A ER01
002610 A ER02   002611 A ER03   002612 A ER04   002613 A ER05
002614 A ER06   002615 A ER07   002616 A ER08   002617 A ER09
002620 A ER10   002621 A ER11   002622 A ER12   002623 A ER13
002624 A ER14   002625 A ER15   002626 A ER20   002627 A ER21
002630 A ER22   002631 A ER23   002632 A ER24   002633 A ER25
002634 A ER26   002635 A ER30   002636 A ER31   002637 A ER32
002640 A ER33   002641 A ER34   002642 A ER40   002643 A ER41
002644 A ER42   002645 A ER43   002646 A ER44   002647 A ER45
002650 A ER46   002651 A ER47   002652 A ER48   011175 A ERR1
011274 A ERR3   011303 A ERR4   011316 A ERR5   011214 A ERR6
011204 A ERR7   011263 A ERR8   011237 A ERR9   000547 A ESCA
010374 E EXIT   002573 A FIVE   002531 A FOUR   010542 A GAC1
010537 A GAC2   010541 A GAC3   010523 A GACD1  010524 A GACD2
010546 A GACT   011165 A GETM1  011160 A GETM2  002740 A IENL
002654 A INUNIT 011612 E IOCS   002653 A ISTART 001054 A ITEM
002534 A K32    002570 A LHW    000005 A LIS    011607 A LIST1
011610 A LIST2  011627 A LIST3  011600 A LIST4  011577 A LIST5
000551 A LUT    002553 A MFLAG  010547 A MOV1   010557 A MOV2
010601 A MOV3   010623 A MOVC   010614 A MOVE   010572 A MOVR
002526 A MT     006413 A NAMTAB 002567 A NEG    002576 A NINE
002532 A O10    011065 A O16    011066 A O215   011067 A O240
010503 A O250   010504 A O270   002601 A O37    000003 A OC
002527 A ONE    007717 A PB01   010201 A PB010  010212 A PB0100
010223 A PB0101 010242 A PB0102 010253 A PB0103 010202 A PB011
010203 A PB012  010204 A PB013  010205 A PB014  010206 A PB015
010126 A PB017  010211 A PB019  010075 A PB02   010027 A PB02A
010264 A PB0200 010051 A PB03   010040 A PB04   010207 A PB05
010210 A PB05A  010174 A PB06   007637 A PB07   007705 A PB07A
007655 A PB08   010037 A PB09   004535 A PIM1   004537 A PIM2
004535 A PIM3   004573 A PIM4   004550 A PIM5   004576 A PIM6
004625 A PIM7   004633 A PIM8   004622 A PIM9   005127 A PRT1
005131 A PRT2   005036 A PRT3   005067 A PRT4   005046 A PRT5
005072 A PRT6   005117 A PRT7   005125 A PRT8   000600 A PUT
010655 A PUTM1  010662 A PUTM2  010663 A PUTM3  000040 A RP2
000000 A RA1    000400 A RALF   000060 A RB0    000020 A RB1
006504 A RBIN   006506 A REW    002571 A RHW    005366 A RMB1
006011 A RMB10  006160 A RMB100 006234 A RMB101 006377 A RMB102
006400 A RMB103 006276 A RMB104 006252 A RMB105 006402 A RMB106
006302 A RMB107 006366 A RMB108 006305 A RMB109 005735 A RMB11
006403 A RMB110 006172 A RMB111 006307 A RMB112 006051 A RMB113
006360 A RMB114 006352 A RMB115 006215 A RMB119 006220 A RMB11B
006205 A RMB11C 006444 A RMB12  006404 A RMB120 006275 A RMB121
006460 A RMB13  006321 A RMB130 006310 A RMB131 006461 A RMB14
006035 A RMB15  006114 A RMB16  005732 A RMB17  005730 A RMB18
006046 A RMB19  005726 A RMB20  005663 A RMB21  005531 A RMB22
005661 A RMB23  006141 A RMB24  006425 A RMB25  005407 A RMB26
005776 A RMB27  006001 A RMB28  005750 A RMB29  005464 A RMB2A
005470 A RMB2B  005373 A RMB3   006135 A RMB30  006151 A RMB31
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006427 A RMD32   005533 A RMD33   006471 A RMD34   006466 A RMD35
006143 A RMD36   006477 A RMD37   006475 A RMD38   005537 A RMD4
006126 A RMD40   005675 A RMD41   005706 A RMD42   005710 A RMD43
005720 A RMD44   005712 A RMD45   005552 A RMD4A   005554 A RMD4B
005604 A RMD4D   005612 A RMD4E   005617 A RMD4F   005621 A RMD4G
005626 A RMD4H   006440 A RMD5    006433 A RMD50   005734 A RMD6
005736 A RMD7    005414 A RMD8    006060 A RMD81   006071 A RMD81A
006052 A RMD82   006047 A RMD9    005660 A RMDADR  006511 A RMDD1
006517 A RMDD10  006106 A RMDD11  006140 A RMDD12  006452 A RMDD13
006465 A RMDD14  006522 A RMDD16  006523 A RMDD17  006520 A RMDD18
006521 A RMDD19  006512 A RMDD2   005423 A RMDD4   006472 A RMDD5
006513 A RMDD6   006514 A RMDD7   006515 A RMDD8   006516 A RMDD9
005655 A RMDEAD  006337 A RMDREC  006343 A RMDSK   005656 A RMDTRK
005657 A RMDTSZ  011553 A RSI5    011527 A RSI1    011560 A RSI3
011534 A RSI4    011567 A RSI7    010400 A RZI1    010371 A RZI10
010401 A RZI2    010402 A RZI3    010403 A RZI4    010361 A RZI5
010345 A RZI6    010330 A RZI7    010323 A RZI8    010407 A RZI9
011327 A SAE1    011374 A SAE2    011354 A SAE3    011424 A SAE4
011421 A SAE5    011331 A SAE6    011404 A SAE7    011431 A SAED1
011432 A SAED2   011433 A SAED3   011434 A SAED4   011435 A SAED5
011436 A SAED6   011437 A SAED7   011440 A SAED8   002575 A SEVEN
003350 A SG3ADD  011323 A SG3ASC  003476 A SG3ASN  004644 A SG3CLK
005136 A SG3DEF  003352 A SG3DEL  005210 A SG3DET  003216 A SG3DIR
003000 A SG3DPI  005211 A SG3EDR  004162 A SG3EQP  010507 A SG3GAC
003356 A SG3LAD  003360 A SG3LDE  003362 A SG3LRE  004155 A SG3MRE
004104 A SG3MRY  007712 A SG3PRO  004463 A SG3PIM  011173 A SG3PRO
004756 A SG3PRT  003354 A SG3REP  005363 A SG3RMD  004706 A SG3TSK
002703 A SG50BP  010731 A SG9800  010765 A SG9805  010772 A SG9810
011002 A SG9815  011027 A SG9820  011032 A SG9825  011051 A SG9900
011056 A SG9905  002662 A SGBAOD  002656 A SGBARS  000656 A SGBASE
011071 A SGBBAD  002660 A SGBIAP  002661 A SGBLIT  002657 A SGBSNR
002701 A SGCBAD  002702 A SGCBSN  002676 A SGCHSN  002667 A SGCIDL
002666 A SGCIIL  002672 A SGCKEY  002704 A SGCLK1  002705 A SGCLK2
002706 A SGCLK3  011075 A SGCLR   002671 A SGCLUN  010412 A SGCNV
002700 A SGCPED  002677 A SGCPGM  002673 A SGCSGN  002675 A SGCXEQ
002712 A SGEDR1  002713 A SGEDR2  002714 A SGEDR3  002715 A SGEDR4
002716 A SGEDR5  002717 A SGEDR6  002720 A SGEDR7  002721 A SGEDR8
002722 A SGEDR9  002723 A SGEDRA  003000 A SGEN1   002670 A SGERSE
011111 A SGGET   010713 A SGGFI   011033 A SGGNC   010717 A SGGNI
000664 A SGIBUF  002406 A SGLBUF  011621 A SGLIS   011572 A SGLISB
002724 A SGLUN1  002725 A SGLUN2  002726 A SGLUN3  011074 A SGMNOC
002732 A SGMOD   010620 A SGMOV   002707 A SGMRY1  002710 A SGMRY2
002711 A SGMRY3  002737 A SGMRY5  011073 A SGNOCS  001066 A SGOBUF
002663 A SGOWSZ  011070 A SGOPRA  002216 A SGPBUF  011634 A SGPUR
010624 A SGPUT   002665 A SGRPED  002664 A SGRPGM  011531 A SGRSI
010316 A SGRZI   011356 A SGSAE   000536 A SGSC10  000541 A SGSC11
000544 A SGSC12  000500 A SGSCB0  000503 A SGSCB1  000506 A SGSCB2
000511 A SGSCB3  000514 A SGSCB4  000517 A SGSCB5  000520 A SGSCB6
000525 A SGSCB7  000530 A SGSCB8  000533 A SGSCB9  000654 A SGSIZE
011072 A SGSVCH  002674 A SGTALT  002727 A SGTMP1  002730 A SGTMP2
002731 A SGTMP3  001066 A SGVBUF  011443 A SGWSO   002574 A SIX
006507 A SKRF    006510 A SKRR    002502 A TBUF1   002514 A TBUF2
002577 A TEN     002572 A THREE   000655 A TPROG   004741 A TSK1
004700 A TSK2    004734 A TSK3    004747 A TSK4    004702 A TSK5
002530 A TWO     004045 A TZA     000657 A V$BVN   000661 A V$CRDR
000660 A V$LIT   000001 A V75     000001 A VORTEX  001000 A WALF
006505 A WBIN    011462 A WSO1    011513 A WSO2    011483 A WSO3
011514 A WSO4    011441 A WSO5    011505 A WSO6    011524 A WSO7
000001 A X       002526 A ZERO
  0 ERRORS ASSEMBLY COMPLETE

 63  $LUB       64
453  ASTACK    426
 20  B         430
 90  BTSIZ      91
  0  DIR1      505   509   512   515
  0  DIR2      507   516   519
  0  DIR4      517   521
525  DIR6      523
418  DP3       424
439  DP4       431
448  DP5       439
445  DP6       433
427  DP7       437
435  DP8       429
393  DPI1      396
  0  DPTAB     513
164  ER10      443
174  ER24      445
325  FOUR      508
  0  IOCS       14
192  ISTART    391
106  K32       400
 99  MT        286   287   288   289   290   291   292   293   294
              295   296   297   298   299   300   301   302   303
              304   305   306   307   308   309   310   311   312
              313   314   315   316   317   318   319   320   321
              322   323   324   325   326   327   328   329   330
              331   332   333   334   335   336   337   338   339
              340   341
503  SG3DIR    441
390  SG3DPI    447
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  0   SG3PRO    446
 78   SGBASE    417
233   SGCLK1    406
234   SGCLK2    407
235   SGCLK3    409
389   SGEN1      13
  0   SGGFI     506
254   SGLUN1    412
255   SGLUN2    414
269   SGMOD     395
237   SGMRY1    404
241   SGMRY4    401
 91   SGOBUF     93
  0   SGPUT     432
  0   SGRSI     504
 53   SGSC12     56
 29   SGSCB0    416
 31   SGSCB1    427   436
  0   SGWSO     440
327   SIX       413
  0   V$SGEN     11
 12   V75       276
  1   VORTEX    240   261   398
 19   X         393   418   419   423   506   514   518   522
```

```
000001 A     1 VORTEX SET     1                    PUT LAST FOR VORTEX                          V2  05 00001
             2 * THIS IS A COPYRIGHTED PROGRAM.COPYRIGHTED 1972 BY VARIAN DATA MACHINE          05 00002
             3 *                                                                                05 00003
             4 *     V.D.M.  PART NO.        92L0805-004D                                       05 00004
             5 *                                                                                05 00005
             6 *                                                RELEASED    03/01/74            05 00006
             7 *                                                                                05 00007
             8 *             V$SGEN2                                                            05 00008
             9 *                                                                                05 00009
            10 *                                                                                05 00010
            11          TITLE   V$SGEN2                                                         05 00011
000001 A    12 V75      SET     1                                                          V75*********
            13          NAME    SGEN2                                                       05 00012
            14          EXT     IOCS                                                        05 00013
            15          EJEC                                                                05 00014
            16 *                                                                            05 00015
            17 *            *  *  *  SGEN COMMON DATA AREA  *  *  *                         05 00016
            18 *                                                                            05 00017
000001 A    19 X        EQU     1                                                           05 00018
000002 A    20 B        EQU     2                                                           05 00019
000007 A    21 SYS      EQU     7               FIRST SYSTEM DEVICE                         05 00020
000006 A    22 ALT      EQU     6               BI EQUIVALENT                               05 00021
000005 A    23 LIS      EQU     5               LO EQUIVALENT                               05 00022
000004 A    24 LIB      EQU     4               PI EQUIVALENT                               05 00023
000003 A    25 OC       EQU     3               SO EQUIVALENT                               05 00024
000002 A    26 DIR      EQU     2               SI EQUIVALENT                               05 00025
            27 *                                                                            05 00026
040400 A    28 RBIN     EQU     040400                                                      05 00027
041000 A    29 WBIN     EQU     041000                                                      05 00028
003000 A    30 SKRF     EQU     03000                                                       05 00029
103000 A    31 SKRR     EQU     0103000                                                     05 00030
000500      32          ORG     0500                                                        05 00031
            33          EJEC                                                                05 00032
            34 *                                                                            05 00033
            35 *            *  STACK CONTROL BLOCK  *                                       05 00034
            36 *                                                                            05 00035
000500      37 SGSCB0   BSS     2               EQUIP STACK (HIGHEST STACK IN MEMORY)       05 00036
000502 000006 A 38      DATA    6                                                       V2  05 00037
000503      39 SGSCB1   BSS     2               ASSIGN STACK                                05 00038
000505 000004 A 40      DATA    4                                                           05 00039
000506      41 SGSCB2   BSS     2               ADD/DELETE/REPLACE STACK                    05 00040
000510 000005 A 42      DATA    5                                                           05 00041
000511      43 SGSCB3   BSS     2               PARTITION PARAMETER STACK                   05 00042
000513 000004 A 44      DATA    4                                                           05 00043
000514      45 SGSCB4   BSS     2               INTERRUPT MODULE STACK                      05 00044
000516 000005 A 46      DATA    5                                                           05 00045
000517      47 SGSCB5   BSS     2               RESIDENT TASK NAME STACK                    05 00046
000521 000003 A 48      DATA    3                                                           05 00047
000522      49 SGSCB6   BSS     2               LOADER TABLE STACK                          05 00048
000524 000005 A 50      DATA    5                                                           05 00049
000525      51 SGSCB7   BSS     2               DATA PATCH STACK                            05 00050
000527 000005 A 52      DATA    5                                                           05 00051
000530      53 SGSCB8   BSS     2               TASK ENTRY NAME STACK                       05 00052
000532 000005 A 54      DATA    5                                                           05 00053
000533      55 SGSCB9   BSS     2               TEMPORARY STACK                             05 00054
000535 000005 A 56      DATA    5                                                           05 00055
000536      57 SGSC10   BSS     2               OVERLAY DIRECTORY STACK                     05 00056
000540 000007 A 58      DATA    7                                                           05 00057
000541      59 SGSC11   BSS     2               RELO DATA FIX-UP STACK                      05 00058
000543 000001 A 60      DATA    1                                                           05 00059
000544      61 SGSC12   BSS     2               ADD-ON FIX-UP STACK                         05 00060
000546 000001 A 62      DATA    1                                                           05 00061
000547 177777 A 63 ESCB DATA    -1              MUST GO AT END OF STACK CONTROL BLOCK       05 00062
       000544 A 64 BSTACK EQU   SGSC12          MUST POINT TO BASE OF LOWEST STACK          05 00063
            65          EJEC                                                                05 00064
            66 *                                                                            05 00065
            67 *            *  *  *  I/O TABLES  *  *  *                                    05 00066
            68 *                                                                            05 00067
000550      69 $LUN     BSS     1                                                           05 00068
000551      70 $PUN     BSS     1                                                           05 00069
       000551 A 71 $LUB EQU     *-1                                                    V2  05 00070
       000551 A 72 LUT  EQU     $LUB                                                   V2  05 00071
000552      73          BSS     22              LOGICAL UNIT TABLE                     V2  05 00072
            74 *                                                                            05 00073
       000576 A 75 $PUB EQU     *-2             PHYSICAL UNIT TABLE BASE                    05 00074
000600      76 PUT      BSS     44              PHYSICAL UNIT TABLE                    V2  05 00075
            77          EJEC                                                                05 00076
            78 *                                                                            05 00077
            79 *            *  *  *  MISC. PARAMETERS  *  *  *                            05 00078
            80 *                                                                            05 00079
000654      81 SGSIZE   BSS     1               SIZE OF MAIN MEMORY                         05 00080
000655      82 TPROG    BSS     1               ADDR. OF HIGHEST LOADED LOCATION            05 00081
000656      83 SGBASE   BSS     1               HIGHEST AVAILABLE STACK LOCATION            05 00082
000657 000000 A 84 V$BVN DATA    0               BOTTOM OF VORTEX NUCLEUS                    05 00083
000660 000000 A 85 V$LIT DATA    0               TOP OF LITERAL POOL                         05 00084
000661      86 V$CRDR   BSS     1               ADDR OF CORE RESIDENT DIRECTORY             05 00085
000662      87 ADCRDR   BSS     1               ABSOLUTE ADDR OF 'V$CRDR'                   05 00086
000663      88 AD$CAM   BSS     1               ABSOLUTE ADDR OF 'V$CAM'                    05 00087
            89          EJEC                                                                05 00088
            90 *                                                                            05 00089
            91 *            *  *  *  DATA BUFFERS  *  *  *                                 05 00090
            92 *                                                                            05 00091
       001130 A 93 BTSIZ EQU     600             SET UP FOR 8120 TRKS MAX.          E2505    05 00092
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000664               94 SGIBUF BSS    BTSIZ     INPUT  BUFFER                     -35     05 00093
002014               95 ITEM   BSS    10        STACK ITEM BUFFER                         05 00094
002026               96 SGOBUF BSS    120                                                 05 00095
       002026 A      97 SGVBUF EQU    SGOBUF    VIRTUAL MEMORY BUFFER                     05 00096
002216               98 SGPBUF BSS    120       PST BUFFER                                05 00097
002406               99 SGLBUF BSS    60        LIST BUFFER                               05 00098
       002406 A     100 SGWBUF EQU    SGLBUF    WORKING BUFFER                            05 00099
002502              101 TBUF1  BSS    10        DATA MANIPULATION BUFFER                  05 00100
002514              102 TBUF2  BSS    5         DATA MANIPULATION BUFFER                  05 00101
002521              103 TBUF3  BSS    5         DATA MANIPULATION BUFFER                  05 00102
       002216 A     104 TBUF4  EQU    SGPBUF                                              05 00103
       000664 A     105 LGOMIB EQU    SGIBUF    OBJECT MODULE INPUT BUFFER                05 00104
       002026 A     106 LGOUTB EQU    SGUBUF    OUTPUT BUFFER                             05 00105
                    107        EJEC                                                       05 00106
       002526 A     108 MT     EQU    *                                                   05 00107
002526 000000 A     109        DATA   000000                                              05 00108
002527 000001 A     110        DATA   000001                                              05 00109
002530 000002 A     111        DATA   000002                                              05 00110
002531 000004 A     112        DATA   000004                                              05 00111
002532 000010 A     113        DATA   000010                                              05 00112
002533 000020 A     114        DATA   000020                                              05 00113
       002534 A     115 KD32   EQU    *                                             D.105 00114
002534 000040 A     116        DATA   000040                                              05 00115
       002535 A     117 KD64   EQU    *                                             V2    05 00116
002535 000100 A     118        DATA   000100                                              05 00117
002536 000200 A     119        DATA   000200                                              05 00118
002537 000400 A     120        DATA   000400                                              05 00119
002540 001000 A     121        DATA   001000                                              05 00120
002541 002000 A     122        DATA   002000                                              05 00121
002542 004000 A     123        DATA   004000                                              05 00122
002543 010000 A     124        DATA   010000                                              05 00123
002544 020000 A     125        DATA   020000                                              05 00124
002545 040000 A     126        DATA   040000                                              05 00125
002546 100000 A     127        DATA   0100000                                             05 00126
002547 177776 A     128        DATA   0177776                                             05 00127
002550 177775 A     129        DATA   0177775                                             05 00128
002551 177773 A     130        DATA   0177773                                             05 00129
002552 177767 A     131        DATA   0177767                                             05 00130
002553 177757 A     132        DATA   0177757                                             05 00131
002554 177737 A     133        DATA   0177737                                             05 00132
002555 177677 A     134        DATA   0177677                                             05 00133
002556 177577 A     135        DATA   0177577                                             05 00134
002557 177377 A     136        DATA   0177377                                             05 00135
002560 176777 A     137        DATA   0176777                                             05 00136
002561 175777 A     138        DATA   0175777                                             05 00137
002562 173777 A     139        DATA   0173777                                             05 00138
002563 167777 A     140        DATA   0167777                                             05 00139
002564 157777 A     141        DATA   0157777                                             05 00140
002565 137777 A     142        DATA   0137777                                             05 00141
002566 077777 A     143        DATA   0077777                                             05 00142
002567 177777 A     144        DATA   0177777                                             05 00143
002570 177400 A     145        DATA   0177400                                             05 00144
002571 000377 A     146        DATA   0000377                                             05 00145
002572 000003 A     147        DATA   000003                                              05 00146
002573 000005 A     148        DATA   000005                                              05 00147
002574 000006 A     149        DATA   000006                                              05 00148
002575 000007 A     150        DATA   000007                                              05 00149
002576 000011 A     151        DATA   000011                                              05 00150
002577 000012 A     152        DATA   000012                                              05 00151
       002600 A     153 K15    EQU    *                                             D.105 00152
002600 000017 A     154        DATA   00017                                               05 00153
002601 000037 A     155        DATA   00037                                               05 00154
002602 000077 A     156        DATA   00077                                               05 00155
002603 000177 A     157        DATA   00177                                               05 00156
002604 000777 A     158        DATA   00777                                               05 00157
002605 001777 A     159        DATA   01777                                               05 00158
                    160        EJEC                                                       05 00159
                    161 *                                                                 05 00160
                    162 *                   *  * ERROR MESSAGE CODE NUMBERS *  *          05 00161
                    163 *                                                                 05 00162
                    164 *                                                                 05 00163
002606 130260 A     165 ER00   DATA   '00'                                                05 00164
002607 130261 A     166 ER01   DATA   '01'                                                05 00165
002610 130262 A     167 ER02   DATA   '02'                                                05 00166
002611 130263 A     168 ER03   DATA   '03'                                                05 00167
002612 130264 A     169 ER04   DATA   '04'                                                05 00168
002613 130265 A     170 ER05   DATA   '05'                                                05 00169
002614 130266 A     171 ER06   DATA   '06'                                                05 00170
002615 130267 A     172 ER07   DATA   '07'                                                05 00171
002616 130270 A     173 ER08   DATA   '08'                                                05 00172
002617 130271 A     174 ER09   DATA   '09'                                                05 00173
002620 130660 A     175 ER10   DATA   '10'                                                05 00174
002621 130661 A     176 ER11   DATA   '11'                                                05 00175
002622 130662 A     177 ER12   DATA   '12'                                                05 00176
002623 130663 A     178 ER13   DATA   '13'                                                05 00177
002624 130664 A     179 ER14   DATA   '14'                                                05 00178
002625 130665 A     180 ER15   DATA   '15'                                                05 00179
002626 131260 A     181 ER20   DATA   '20'                                                05 00180
002627 131261 A     182 ER21   DATA   '21'                                                05 00181
002630 131262 A     183 ER22   DATA   '22'                                                05 00182
002631 131263 A     184 ER23   DATA   '23'                                                05 00183
002632 131264 A     185 ER24   DATA   '24'                                                05 00184
002633 131265 A     186 ER25   DATA   '25'                                                05 00185
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002634 131266 A   187 ER26    DATA     '26'                                                    05 00186
002635 131660 A   188 ER30    DATA     '30'                                                    05 00187
002636 131661 A   189 ER31    DATA     '31'                                                    05 00188
002637 131662 A   190 ER32    DATA     '32'                                                    05 00189
002640 131663 A   191 ER33    DATA     '33'                                                    05 00190
002641 131664 A   192 ER34    DATA     '34'                                                    05 00191
002642 132260 A   193 ER40    DATA     '40'                                                    05 00192
002643 132261 A   194 ER41    DATA     '41'                                                    05 00193
002644 132262 A   195 ER42    DATA     '42'                                                    05 00194
002645 132263 A   196 ER43    DATA     '43'                                                    05 00195
002646 132264 A   197 ER44    DATA     '44'                                                    05 00196
002647 132265 A   198 ER45    DATA     '45'                                                    05 00197
002650 132266 A   199 ER46    DATA     '46'                                                    05 00198
002651 132267 A   200 ER47    DATA     '47'                                                    05 00199
002652 132270 A   201 ER48    DATA     '48'                                                    05 00200
                  202         EJEC                                                            05 00201
002653            203 ISTART  BSS      0          *  * START OF COMMON AREA INITIALIZED *  *  05 00202
                  204 *                                                                       05 00203
                  205 *                  *  *  *  ERROR RECOVERY TABLE  *  *  *              05 00204
                  206 *                                                                       05 00205
002653 000000 A   207 DREC    DATA     0            RECOVERY FLAG                             05 00206
002654 000000 A   208 INUNIT  DATA     0            CURRENT INPUT UNIT                        05 00207
002655 000000 A   209 MFLAG   DATA     0            RECOVERY MODE FLAG                        05 00208
                  210 *                                                                       05 00209
                  211         EJEC                                                            05 00210
                  212 *                                                                       05 00211
                  213 *                LOAD MODULE GENERATOR INTERFACE TABLE                  05 00212
                  214 *                                                                       05 00213
                  215 *                    THIS TABLE CONTAINS INPUT PARAMETERS               05 00214
                  216 *                  ESSENTIAL TO LOAD MODULE GENERATOR OPERATION         05 00215
                  217 *                                                                       05 00216
                  218 *                                                                       05 00217
002656 000000 A   219 SGBARS  DATA     0            BASE ADDRESS OF ROOT SEGMENT              05 00218
002657 000000 A   220 SGBSNR  DATA     0            BASE SECTOR NUMBER OF ROOT SEGMENT        05 00219
002660 000000 A   221 SGBIAP  DATA     0            BASE ADDRESS OF SG$IAD                    05 00220
002661 000000 A   222 SGBLIT  DATA     0            BASE ADDRESS OF SG$LIT                    05 00221
002662 000000 A   223 SGBAOD  DATA     0            BASE ADDRESS OF OVERLAY DIRECTORY         05 00222
002663 000000 A   224 SGODSZ  DATA     0            OVERLAY DIRECTORY SIZE                    05 00223
002664 000000 A   225 SGRPGM  DATA     0            SG$PGM FOR ROOT SEGMENT                   05 00224
002665 000000 A   226 SGRPED  DATA     0            SG$PED FOR ROOT SEGMENT                   05 00225
002666 000000 A   227 SGCIIL  DATA     0            SG$IIL - CURRENT INDIRECT LITERAL PNTR    05 00226
002667 000000 A   228 SGCIDL  DATA     0            SG$IDL - CURRENT DIRECT LITERAL PNTR      05 00227
002670 000000 A   229 SGERSE  DATA     0            PNTR INTO LOADER TABLE STACK FOR ROOT SEG 05 00228
002671 000000 A   230 SGCLUN  DATA     0            LOGICAL UNIT NUMBER FOR CURRENT SEGMENT   05 00229
002672 000000 A   231 SGCKEY  DATA     0            PROTECT KEY FOR CURRENT SEGMENT BUILD     05 00230
002673 000000 A   232 SGCSGN  DATA     0            SEGMENT NUMBER OF CURRENT SEGMENT         05 00231
002674 000000 A   233 SGTALT  DATA     0            TASK AND LOAD TYPE OF CURRENT SEGMENT     05 00232
002675 000000 A   234 SGCXEQ  DATA     0            SG$XEQ - EXECUTION ADDR OF CURRENT SEGMENT 05 00233
002676 000000 A   235 SGCHSN  DATA     0            SG$HSN - HIGHEST SECTOR NUM CURRENT SEG   05 00234
002677 000000 A   236 SGCPGM  DATA     0            SG$PGM FOR CURRENT SEGMENT                05 00235
002700 000000 A   237 SGCPED  DATA     0            SG$PED FOR CURRENT SEGMENT                05 00236
002701 000000 A   238 SGCBAD  DATA     0            BASE ADDRESS OF CURRENT SEGMENT           05 00237
002702 000000 A   239 SGCBSN  DATA     0            BASE SECTOR NUMBER OF CURRENT SEGMENT     05 00238
002703 000000 A   240 SG$OBP  DATA     0            OUTPUT BUFFER POINTER                     05 00239
002704            241 IEND    BSS      0          *  * END OF COMMON AREA INITIALIZED *  *  05 00240
                  242         EJEC                                                            05 00241
                  243 *                  *  *  *  MISC. DATA STORE  *  *  *                  05 00242
                  244 *          THE VALUES IN THE FOLLOWING ITEMS ARE STUFED BY V$SGEN1  -35 05 00243
                  245 *           AND CARRIED OVER FOR USE BY V$SGEN2,V$SGEN3             -35 05 00244
                  246 *                                                                       05 00245
002704            247 SGCLK1  BSS      1          *                                          05 00246
002705            248 SGCLK2  BSS      1          *  REAL-TIME CLOCK PARAMETERS              05 00247
002706            249 SGCLK3  BSS      1          *                                          05 00248
                  250 *                                                                       05 00249
002707            251 SGMRY1  BSS      1          *                                          05 00250
002710            252 SGMRY2  BSS      1          *  MAIN MEMORY PARAMETERS                  05 00251
002711            253 SGMRY3  BSS      1          *                                          05 00252
                  254         IFF      VORTEX-2                                        V2  05 00253
                  255 SGMRY4  BSS      1                                               V2  05 00254
                  256 *                                                                       05 00255
002712            257 SGEDR1  BSS      1          *  NUMBER OF EMPTY TIDB'S                  05 00256
002713            258 SGEDR2  BSS      1          *  STACK SIZE                              05 00257
002714            259 SGEDR3  BSS      1          *  NUM REASSIGN LOG UNITS                  05 00258
002715            260 SGEDR4  BSS      1          *  NUM NON-REASSIGN LOG UNITS              05 00259
002716            261 SGEDR5  BSS      1          *  NUM OP-COM REASSIGN LOG UNITS           05 00260
002717            262 SGEDR6  BSS      1          *  MAX PARTITION VALUE                     05 00261
002720            263 SGEDR7  BSS      1          *  (NOT USED)                              05 00262
002721            264 SGEDR8  BSS      1          *  PAGE SIZE                               05 00263
002722            265 SGEDR9  BSS      1          *  CHARACTER CODE FLAG                     05 00264
002723            266 SGEDRA  BSS      1          *  LIST FLAG                               05 00265
                  267 *                                                                       05 00266
002724            268 SGLUN1  BSS      1          *  TOTAL NUMBER OF LOGICAL UNITS           05 00267
002725            269 SGLUN2  BSS      1          *                                          05 00268
002726            270 SGLUN3  BSS      1          *                                          05 00269
                  271 *                                                                       05 00270
002727 000000 A   272 SGTMP1  DATA     0          *                                          05 00271
002730 000000 A   273 SGTMP2  DATA     0          *  GENERAL PURPOSE TEMPORARY STORAGE       05 00272
002731 000000 A   274 SGTMP3  DATA     0          *                                          05 00273
                  275         IFF      VORTEX-1                                        V2  05 00274
                  276         GOTO     1                                               V2  05 00275
                  277 *                                                                   V2  05 00276
                  278 V$BFC   DATA     0          BASE ADDRESS OF FOREGROUND COMMON       V2  05 00277
                  279 V$BTB   DATA     0          BASE ADDRESS OF USER BLOCK              V2  05 00278
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                    280 V$GFCB  DATA    0               BASE ADDRESS OF GLOBAL FCB'S                V2  05 00279
                    281 V$TRT   DATA    0               TOP ADDRESS OF RESIDENT TASKS               V2  05 00280
                    282 1       CONT                                                                V2  05 00281
002732              283 SGMOD   BSS     5               RMD MODEL INDIC.,0=MODEL A,B       -35          05 00282
                    284         IFT     V75                                                          V75*********
002737              285 SGMRY5  BSS     1               V75 FLAG                                     V75*********
                    286 *               WORD 0 = ADDRESS OF *+1                                          05 00283
                    287 *               WORDS 1-4 INDIC. FOR EACH RMD SPECIFIED ON SYS DIR.              05 00284
                    288         EJEC                                                                     05 00285
                    289 ********************************************************************************** 05 00286
                    290 *                                                                                  05 00287
                    291 ****     MASK TABLE DESCRIPTION                                              ***   05 00288
                    292 *                                                                                  05 00289
                    293 ********************************************************************************** 05 00290
002526 A            295 ZERO    EQU     MT              ZERO WORD                                        05 00292
002527 A            296 BS0     EQU     MT+1            BIT MASK CONTENTS 000001                         05 00293
002530 A            297 BS1     EQU     MT+2                              000002                         05 00294
002531 A            298 BS2     EQU     MT+3                              000004                         05 00295
002532 A            299 BS3     EQU     MT+4                              000010                         05 00296
002533 A            300 BS4     EQU     MT+5                              000020                         05 00297
002534 A            301 BS5     EQU     MT+6                              000040                         05 00298
002535 A            302 BS6     EQU     MT+7                              000100                         05 00299
002536 A            303 BS7     EQU     MT+8                              000200                         05 00300
002537 A            304 BS8     EQU     MT+9                              000400                         05 00301
002540 A            305 BS9     EQU     MT+10                             001000                         05 00302
002541 A            306 BS10    EQU     MT+11                             002000                         05 00303
002542 A            307 BS11    EQU     MT+12                             004000                         05 00304
002543 A            308 BS12    EQU     MT+13                             010000                         05 00305
002544 A            309 BS13    EQU     MT+14                             020000                         05 00306
002545 A            310 BS14    EQU     MT+15                             040000                         05 00307
002546 A            311 BS15    EQU     MT+16                            0100000                         05 00308
002547 A            312 BR0     EQU     MT+17           BIT MASK CONTENTS  0177776                       05 00309
002550 A            313 BR1     EQU     MT+18                              0177775                       05 00310
002551 A            314 BR2     EQU     MT+19                              0177773                       05 00311
002552 A            315 BR3     EQU     MT+20                              0177767                       05 00312
002553 A            316 BR4     EQU     MT+21                              0177757                       05 00313
002554 A            317 BR5     EQU     MT+22                              0177737                       05 00314
002555 A            318 BR6     EQU     MT+23                              0177677                       05 00315
002556 A            319 BR7     EQU     MT+24                              0177577                       05 00316
002557 A            320 BR8     EQU     MT+25                              0177377                       05 00317
002560 A            321 BR9     EQU     MT+26                              0176777                       05 00318
002561 A            322 BR10    EQU     MT+27                              0175777                       05 00319
002562 A            323 BR11    EQU     MT+28                              0173777                       05 00320
002563 A            324 BR12    EQU     MT+29                              0167777                       05 00321
002564 A            325 BR13    EQU     MT+30                              0157777                       05 00322
002565 A            326 BR14    EQU     MT+31                              0137777                       05 00323
002566 A            327 BR15    EQU     MT+32                              0077777                       05 00324
002567 A            328 NEG     EQU     MT+33           SET ALL BITS                                     05 00325
002570 A            329 LHW     EQU     MT+34           LEFT HALF WORD MASK 0177400                      05 00326
002571 A            330 RHW     EQU     MT+35           RIGHT HALF WORD MASK   0377                     05 00327
002527 A            331 ONE     EQU     MT+1            CONTAINS NUMBER  1                               05 00328
002530 A            332 TWO     EQU     MT+2            CONTAINS NUMBER  2                               05 00329
002572 A            333 THREE   EQU     MT+36           CONTAINS NUMBER  3                               05 00330
002531 A            334 FOUR    EQU     MT+3            CONTAINS NUMBER  4                               05 00331
002573 A            335 FIVE    EQU     MT+37           CONTAINS NUMBER  5                               05 00332
002574 A            336 SIX     EQU     MT+38           CONTAINS NUMBER  6                               05 00333
002575 A            337 SEVEN   EQU     MT+39           CONTAINS NUMBER  7                               05 00334
002532 A            338 EIGHT   EQU     MT+4            CONTAINS NUMBER  8                               05 00335
002576 A            339 NINE    EQU     MT+40           CONTAINS NUMBER  9                               05 00336
002577 A            340 TEN     EQU     MT+41           CONTAINS NUMBER 10                               05 00337
002527 A            341 BM1     EQU     MT+1            BIT MASK WORD  00001                             05 00338
002572 A            342 BM3     EQU     MT+36           BIT MASK WORD  00003                             05 00339
002575 A            343 BM7     EQU     MT+39           BIT MASK WORD  00007                             05 00340
002600 A            344 BM17    EQU     MT+42           BIT MASK WORD  00017                             05 00341
002601 A            345 BM37    EQU     MT+43           BIT MASK WORD  00037                             05 00342
002602 A            346 BM77    EQU     MT+44           BIT MASK WORD  00077                             05 00343
002603 A            347 BM177   EQU     MT+45           BIT MASK WORD  00177                             05 00344
002571 A            348 BM377   EQU     MT+35           BIT MASK WORD  00377                             05 00345
002604 A            349 BM777   EQU     MT+46           BIT MASK WORD  00777                             05 00346
002605 A            350 BM1777  EQU     MT+47           BIT MASK WORD  01777                             05 00347
                    351         EJEC                                                                     05 00348
                    352 ********************************************************************************** 05 00349
                    353 *                                                                                  05 00350
                    354 ****     BIT TEST BIT DESIGNATION                                            ***   05 00351
                    355 *                                                                                  05 00352
                    356 ********************************************************************************** 05 00353
000040 A            358 BA0     EQU     040             BT JUMPS WHEN A REGISTER IS 0                    05 00355
000000 A            359 BA1     EQU     000             BT JUMPS WHEN A REGISTER IS 1                    05 00356
000060 A            360 BB0     EQU     060             BT JUMPS WHEN B REGISTER IS 0                    05 00357
000020 A            361 BB1     EQU     020             BT JUMPS WHEN B REGISTER IS 1                    05 00358
                    363 ********************************************************************************** 05 00360
                    364 *                                                                                  05 00361
                    365 **       THE BIT CHECKED                                                         05 00362
                    366 *                                                                                  05 00363
                    367 ********************************************************************************** 05 00364
000000 A            369 B0      EQU     0                                                                05 00366
000001 A            370 B1      EQU     1                                                                05 00367
000002 A            371 B2      EQU     2                                                                05 00368
000003 A            372 B3      EQU     3                                                                05 00369
000004 A            373 B4      EQU     4                                                                05 00370
000005 A            374 B5      EQU     5                                                                05 00371
000006 A            375 B6      EQU     6                                                                05 00372
000007 A            376 B7      EQU     7                                                                05 00373
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                000010 A   377 B8      EQU     8                                                    05 00374
                000011 A   378 B9      EQU     9                                                    05 00375
                000012 A   379 B10     EQU     10                                                   05 00376
                000013 A   380 B11     EQU     11                                                   05 00377
                000014 A   381 B12     EQU     12                                                   05 00378
                000015 A   382 B13     EQU     13                                                   05 00379
                000016 A   383 B14     EQU     14                                                   05 00380
                000017 A   384 B15     EQU     15                                                   05 00381
                           385         EJEC                                                         05 00382
003000                     386         ORG     03000                                        -35     05 00383
                           387 *                                                                    05 00384
                           388 *       SG4VNI                                                       05 00385
                           389 *                                                                    05 00386
                           390 *                   PURPOSE:  TO INITIALIZE CERTAIN STACKS AND PARAMETERS  05 00387
                           391 *                             FOR FUTURE PROCESSING.               05 00388
                           392 *                                                                    05 00389
                           393 *                   CALLING SEQUENCE:  JMP   SG4VNI                  05 00390
                           394 *                                                                    05 00391
                           395 *                   RETURN PARAMETERS:  NONE                         05 00392
                           396 *                                                                    05 00393
                           397 *                                                                    05 00394
003000                     398 SGEN2   BSS     0                                                    05 00395
003000                     399 SG4VNI  BSS     0                 *  * ENTRY POINT *  *             05 00396
003000 005002 A    400             TZB                           CLEAR COMMON DATA AREA FROM        05 00397
003001 006030 A    401             LDXI    ISTART                  "ISTART" TO "IEND"               05 00398
003002 002653 A
003003 065000 A    402 VNI1    STB     0,X                                                          05 00399
003004 005145 A    403             INCR    045                                                      05 00400
003005 006140 A    404             SUBI    IEND                                                     05 00401
003006 002704 A
003007 001004 A    405             JAN     VNI1                                                     05 00402
003010 003003 A
003011 067000 I    406             STB     CBS+1           INDICATE VIRTUAL MEMORY NOT USED YET     05 00403
003012 005301 A    407             DECR    01                                                       05 00404
003013 057000 I    408             STA     CBS                                                      05 00405
                           409 *                                                                    05 00406
003014 012531 A    410             LDA     FOUR                                                     05 00407
003015 052671 A    411             STA     SGCLUN          INITIALIZE INPUT LOGICAL UNIT TO "LIB"   05 00408
                           412 *                                                                    05 00409
003016 030000 L    413 VNI2    LDX     =SGSCB6         PURGE LOADER TABLE STACK                     05 00410
003017 020000 L    414             LDB     =ITEM                                                    05 00411
003020 002000 A    415             CALL    SGGET                                                    05 00412
003021 014616 A
003022 001002 A    416             JAP     VNI2                                                     05 00413
003023 003016 A
                           417 *                                                                    05 00414
003024 030000 L    418 VNI3    LDX     =SGSCB7         CONVERT DEF NAMES                  D.105 00415
003025 020000 L    419             LDB     =TBUF1                                             D.105 00416
003026 002000 A    420             CALL    SGGET                                                    05 00417
003027 014616 A
003030 001004 A    421             JAN     VNI4            EXIT WHEN STACK EMPTY              D.105 00418
003031 003052 A
003032 006505 A    422             JSR     SG4PKK,X        CONVERT CHARS TO LOADER CODE       D.105 00419
003033 013772 A
003034 000006 A    423             DATA    6,TBUF1                                            D.105 00420
003035 002502 A
003036 010522 A    424             LDA     SGSCB6                                             D.105 00421
003037 053116 A    425             STA     VNIT            SAVE STACK POINTER                 D.105 00422
003040 030000 L    426             LDX     =SGSCB6                                            D.105 00423
003041 002000 A    427             CALL    SG4ENT          ENTER IN LOADER TABLE              D.105 00424
003042 013544 A
003043 002502 A    428             DATA    TBUF1                                              D.105 00425
003044 010522 A    429             LDA     SGSCB6                                             D.105 00426
003045 143116 A    430             SUB     VNIT                                               D.105 00427
003046 001016 A    431             JANZ    VNI3                                               D.105 00428
003047 003024 A
003050 001000 A    432             JMP     ADR2            ERROR IF MULTIPLE ENTRY            D.105 00429
003051 004165 A
                           433 *                                                                    05 00430
003052 030000 L    434 VNI4    LDX     =SGSCB8         PURGE TASK ENTRY STACK                       05 00431
003053 020000 L    435             LDB     =ITEM                                                    05 00432
003054 002000 A    436             CALL    SGGET                                                    05 00433
003055 014616 A
003056 001002 A    437             JAP     VNI4                                                     05 00434
003057 003052 A
003060 002000 A    438             CALL    SGEQDL          SET DELETES IF TC ENTRY            D.105 00435
003061 003271 A
003062 003250 A    439             DATA    VNIT1                                              D.105 00436
003063 000002 A    440             DATA    2                                                  D.105 00437
003064 003126 A    441             DATA    VNICP                                              D.105 00438
003065 001016 A    442             JANZ    VNIL11          DONT SET MUX IF NOT LOCATED        D.105 00439
003066 003076 A
003067 002000 A    443 VNIL1   CALL    SGEQDL          SET DELETES IF MX ENTRY            D.105 00440
003070 003271 A
003071 003252 A    444             DATA    VNIT2                                              D.105 00441
003072 000002 A    445             DATA    2                                                  D.105 00442
003073 003120 A    446             DATA    VNITP                                              D.105 00443
003074 001010 A    447             JAZ     VNIL2           DONT SET MUX FLAG IF NOT LOCATED   D.105 00444
003075 003100 A
003076 005101 A    448 VNIL11  INCR    1                                                  D.105 00445
003077 053117 A    449             STA     MXFLG           SET MUX FLAG               D.105 00446
003100 002000 A    450 VNIL2   CALL    SGEQDL          SET DELETES IF SP ENTRY            D.105 00447
003101 003271 A
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003102 003254 A   451          DATA    VNIT3                                          D.105 00448
003103 000002 A   452          DATA    2                                              D.105 00449
003104 003134 A   453          DATA    VNITSP                                         D.105 00450
003105 002000 A   454          CALL    SGEQDL  SET DELETE IF NO STATUS DRIVER FOUND     D.105 00451
003106 003271 A
003107 003256 A   455          DATA    VNIT4                                          D.105 00452
003110 000004 A   456          DATA    4                                              D.105 00453
003111 003140 A   457          DATA    VNITST                                         D.105 00454
003112 002000 A   458 VNIZ     CALL    SGPUR   PURGE TEMP STACK                       D.105 00455
003113 014243 A
003114 001000 A   459          JMP     SG4ICR  *  * EXIT ROUTINE *  *                   05 00456
003115 003443 A
003116 000000 A   460 VNIT     DATA    0                                              D.105 00457
003117 000000 A   461 MXFLG    DATA    0       MUX FLAG                               D.105 00458
003120 003142 A   462 VNITIP   DATA    VNIN1                                          D.105 00459
003121 003147 A   463          DATA    VNIN2                                          D.105 00460
003122 003154 A   464          DATA    VNIN3                                          D.105 00461
003123 003161 A   465          DATA    VNIN4                                          D.105 00462
003124 003166 A   466          DATA    VNIN5                                          D.105 00463
003125 000000 A   467          DATA    0                                              D.105 00464
003126 003173 A   468 VNICP    DATA    VNIN6                                          D.105 00465
003127 003200 A   469          DATA    VNIN7                                          D.105 00466
003130 003205 A   470          DATA    VNIN8                                          D.105 00467
003131 003212 A   471          DATA    VNIN9                                          D.105 00468
003132 003217 A   472          DATA    VNIN10                                         D.105 00469
003133 000000 A   473 VNITP    DATA    0                                              D.105 00470
003134 003224 A   474 VNITSP   DATA    VNIN11                                         D.105 00471
003135 003231 A   475          DATA    VNIN12                                         D.105 00472
003136 003236 A   476          DATA    VNIN13                                         D.105 00473
003137 000000 A   477          DATA    0                                              D.105 00474
003140 003243 A   478 VNITST   DATA    VNIN14                                         D.105 00475
003141 000000 A   479          DATA    0                                              D.105 00476
003142 152311 A   480 VNIN1    DATA    'TIDIWP  ',4                                   D.105 00477
003143 142311 A
003144 153720 A
003145 120240 A
003146 000004 A
003147 152311 A   481 VNIN2    DATA    'TIDOCL  ',4                                   D.105 00478
003150 142317 A
003151 141714 A
003152 120240 A
003153 000004 A
003154 152311 A   482 VNIN3    DATA    'TIDCEX  ',4                                   D.105 00479
003155 142303 A
003156 142730 A
003157 120240 A
003160 000004 A
003161 153324 A   483 VNIN4    DATA    'VTPOP   ',4                                   D.105 00480
003162 150317 A
003163 150240 A
003164 120240 A
003165 000004 A
003166 153324 A   484 VNIN5    DATA    'VTPUSH  ',4                                   D.105 00481
003167 150325 A
003170 151710 A
003171 120240 A
003172 000004 A
003173 152311 A   485 VNIN6    DATA    'TIDTEX  ',4                                   D.105 00482
003174 142324 A
003175 142730 A
003176 120240 A
003177 000004 A
003200 152311 A   486 VNIN7    DATA    'TIDOCT  ',4                                   D.105 00483
003201 142317 A
003202 141724 A
003203 120240 A
003204 000004 A
003205 152303 A   487 VNIN8    DATA    'IO$CEX  ',4                                   D.105 00484
003206 122303 A
003207 142730 A
003210 120240 A
003211 000004 A
003212 153324 A   488 VNIN9    DATA    'VT$TCQ  ',4                                   D.105 00485
003213 122324 A
003214 141721 A
003215 120240 A
003216 000004 A
003217 152331 A   489 VNIN10   DATA    'TYREAD  ',4                                   D.105 00486
003220 151305 A
003221 140704 A
003222 120240 A
003223 000004 A
003224 152311 A   490 VNIN11   DATA    'TIDLST  ',4                                   D.105 00487
003225 142314 A
003226 151724 A
003227 120240 A
003230 000004 A
003231 153244 A   491 VNIN12   DATA    'V$SPLC  ',4                                   D.105 00488
003232 151720 A
003233 146303 A
003234 120240 A
003235 000004 A
003236 153241 A   492 VNIN13   DATA    'V$SPRM  ',4                                   D.105 00489
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003237 151720 A
003240 151315 A
003241 120240 A
003242 000004 A
003243 153244 A   493 VNIN14 DATA    'V$CLPS  ',4                                  D.105 00490
003244 141714 A
003245 150323 A
003246 120240 A
003247 000004 A
003250 152303 A   494 VNIT1  DATA    'TC'                                          D.105 00491
003251 000000 A   495        DATA    0                                             D.105 00492
003252 146730 A   496 VNIT2  DATA    'MX'                                          D.105 00493
003253 000000 A   497        DATA    0                                             D.105 00494
003254 151720 A   498 VNIT3  DATA    'SP'                                          D.105 00495
003255 000000 A   499        DATA    0                                             D.105 00496
003256 146320 A   500 VNIT4  DATA    'LP D'                                        D.105 00497
003257 120304 A
003260 146320 A   501 VNIT5  DATA    'LP E'                                        D.105 00498
003261 120305 A
003262 146320 A   502 VNIT6  DATA    'LP G'                                        D.105 00499
003263 120307 A
003264 146320 A   503 VNIT7  DATA    'LP H'                                        D.105 00500
003265 120310 A
003266 146320 A   504 VNIT8  DATA    'LP J'                                        D.105 00501
003267 120312 A
003270 000000 A   505        DATA    0                                             D.105 00502
                  506        EJEC                                                  D.103 00503
                  507 *                                                            D.105 00504
                  508 *      SGEQDL                                                D.105 00505
                  509 *                                                            D.105 00506
                  510 *           PURPOSE: TO PLACE ENTRIES ON THE DELETE STACK WHEN D.105 00507
                  511 *                    REQUESTED NAMES ARE NOT LOCATED IN      D.105 00508
                  512 *                     EQUIPMENT STACK.                       D.105 00509
                  513 *                                                            D.105 00510
                  514 *           CALLING SEQUENCE:                                D.105 00511
                  515 *                 CALL    SGEQDL                             D.105 00512
                  516 *                 DATA    ADDR OF REQUESTED NAME             D.105 00513
                  517 *                 DATA    # CHARACTERS TO MATCH              D.105 00514
                  518 *                 DATA    ADDR OF DELETE ENTRIES IF NO MATCH D.105 00515
                  519 *                         ENCOUNTERED.                       D.105 00516
                  520 *                                                            D.105 00517
                  521 *           RETURN PARAMETERS:                               D.105 00518
                  522 *                 A = 0 IF NO MATCH AND ENTRIES ARE MADE     D.105 00519
                  523 *                     NON ZERO IF MATCH                      D.105 00520
                  524 *                                                            D.105 00521
                  525 *           NOTE:                                            D.105 00522
                  526 *           ASSEMBLED FOR MAX COMPARE COUNT OF 4.            D.105 00523
                  527 *           BLANK IN REQUEST NAME SPECIFIES IGNORE THAT      D.105 00524
                  528 *           CHARACTER POSITION.                              D.105 00525
                  529 *                                                            D.105 00526
003271            530 SGEQDL BSS   1                                               D.105 00527
                  531 *                          FETCH PARAMETERS FROM CALLER      D.105 00528
003272 023271 A   532        LDB   SGEQDL                                          D.105 00529
003273 036000 A   533        LDX   0,B          FETCH TARGET ADDR                  D.105 00530
003274 073442 A   534        STX   EQDL58                                          D.105 00531
003275 016001 A   535        LDA   1,B          FETCH CHAR COUNT                   D.105 00532
003276 053427 A   536        STA   EQDL50                                          D.105 00533
003277 016002 A   537        LDA   2,B          FETCH DELETE TABLE ADDR            D.105 00534
003300 053430 A   538        STA   EQDL51                                          D.105 00535
003301 005021 A   539        TBA                                                   D.105 00536
003302 122572 A   540        ADD   THREE                                           D.105 00537
003303 053271 A   541        STA   SGEQDL         SET NEW RETURN ADDR              D.105 00538
                  542 *                          NOW MOVE NEXT TARGET BYTES TO    D.105 00539
                  543 *                          TEMPORARY STORAGE                D.105 00540
       003304 A   544 EQDL   EQU   *                                               D.105 00541
003304 013427 A   545        LDA   EQDL50         INIT STORAGE COUNT               D.105 00542
003305 053437 A   546        STA   EQDL55                                          D.105 00543
003306 015000 A   547 EQDL00 LDA   0,X                                           D.105 00544
003307 004350 A   548        LSRA  8                                               D.105 00545
003310 002000 A   549        CALL  EQDL25                                          D.105 00546
003311 003415 A
003312 015000 A   550        LDA   0,X                                           D.105 00547
003313 153435 A   551        ANA   EQDL53                                          D.105 00548
003314 002000 A   552        CALL  EQDL25                                          D.105 00549
003315 003415 A
003316 005144 A   553        IXR                                                   D.105 00550
003317 001000 A   554        JMP   EQDL00                                          D.105 00551
003320 003306 A
003321 010500 A   555 EQDL03 LDA   SGSCB0       SAVE EQUIP TABLE FWA             D.105 00552
003322 053436 A   556        STA   EQDL54                                          D.105 00553
                  557 *                          BEGIN SEARCH                     D.105 00554
003323 013427 A   558 EQDL05 LDA   EQDL50       INIT COUNT                       D.105 00555
003324 053437 A   559        STA   EQDL55                                          D.105 00556
003325 015000 A   560 EQDL10 LDA   0,X                                           D.105 00557
003326 004350 A   561        LSRA  8                                               D.105 00558
003327 002000 A   562        CALL  EQDL15         TEST A LEFT CHARACTER            D.105 00559
003330 003340 A
003331 015000 A   563        LDA   0,X                                           D.105 00560
003332 153435 A   564        ANA   EQDL53                                          D.105 00561
003333 002000 A   565        CALL  EQDL15         NOW TEST A RIGHT                 D.105 00562
003334 003340 A
003335 005144 A   566        IXR                                                   D.105 00563
003336 001000 A   567        JMP   EQDL10         GO TRY NEXT EQUIP. WORD          D.105 00564
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003337 003325 A
                    568 *                                                                    D.105 00565
                    569 *                    THIS TESTS FOR TARGET BLANK (IGNORE),           D.105 00566
                    570 *                    AND DOES COMPARE OF EQUIP TABLE WITH            D.105 00567
                    571 *                    TARGET                                          D.105 00568
                    572 *                                                                    D.105 00569
003340              573 EQDL15  BSS     1                                                    D.105 00570
003341 053440 A     574         STA     EQDL56      SAVE CHARACTER                           D.105 00571
003342 013437 A     575         LDA     EQDL55      FETCH TEMPORARY COUNT                    D.105 00572
003343 005313 A     576         DECR    013                                                  D.105 00573
003344 001004 A     577         JAN     (SGEQDL)*   ITS A MATCH, GO EXIT                     D.105 00574
003345 103271 A
003346 053437 A     578         STA     EQDL55      SET NEW COUNT                            D.105 00575
003347 006016 A     579         LDAE    EQDL52,B    FETCH TARGET BYTE                        D.105 00576
003350 003431 A
003351 143441 A     580         SUB     EQDL57      IS IT A BLANK?                           D.105 00577
003352 001010 A     581         JAZ     (EQDL15)*   YES, IGNORE IT                           D.105 00578
003353 103340 A
003354 123441 A     582         ADD     EQDL57                                               D.105 00579
003355 143440 A     583         SUB     EQDL56      IS IT EQUIP CHARAC?                      D.105 00580
003356 001010 A     584         JAZ     (EQDL15)*   YES, EXIT- MATCH SO FAR                  D.105 00581
003357 103340 A
                    585 *                    CURRENT EQUIP ENTRY IS NOT A                    D.105 00582
                    586 *                    MATCH. GET TO NEXT ENTRY.                       D.105 00583
003360 013436 A     587         LDA     EQDL54                                               D.105 00584
003361 120502 A     588         ADD     SGSCB0+2                                             D.105 00585
003362 005014 A     589         TAX                                                          D.105 00586
003363 053436 A     590         STA     EQDL54                                               D.105 00587
003364 140501 A     591         SUB     SGSCB0+1    AT TABLE END?                            D.105 00588
003365 001016 A     592         JANZ    EQDL05      NO, GO TEST NEXT ENTRY                   D.105 00589
003366 003323 A
003367 013427 A     593         LDA     EQDL50      GET TO NEXT NAME                         D.105 00590
003370 005111 A     594         IAR                                                          D.105 00591
003371 004341 A     595         LSRA    1           FORCE BYTE COUNT TO WORD COUNT           D.105 00592
003372 123442 A     596         ADD     EQDL58                                               D.105 00593
003373 053442 A     597         STA     EQDL58      SET NEXT POSSIBLE NAME ADDR              D.105 00594
003374 005014 A     598         TAX                                                          D.105 00595
003375 015000 A     599         LDA     0,X         TEST FOR TERMINATOR                      D.105 00596
003376 001016 A     600         JANZ    EQDL        NO--GO TRY NEXT NAME                         05 00597
003377 003304 A
                    601 *                    THIS PLACES ENTRIES IN THE DELETE               D.105 00598
                    602 *                    STACK                                           D.105 00599
003400 023430 A     603 EQDL20  LDB     EQDL51      FETCH NEXT ENTRY ADDR                    D.105 00600
003401 043430 A     604         INR     EQDL51      BUMP FOR NEXT FETCH                      D.105 00601
003402 026000 A     605         LDB     0,B                                                  D.105 00602
003403 005001 A     606         TZA                 SET POSSIBLE COMPLETE FLAG               D.105 00603
003404 001020 A     607         JBZ     (SGEQDL)*   EXIT- COMPLETE                          D.105 00604
003405 103271 A
003406 030000 L     608         LDX     =SGSCB2                                              D.105 00605
003407 002000 A     609         CALL    SGPUT       PUT NAME IN DELETE STACK                 D.105 00606
003410 014331 A
003411 001004 A     610         JAN     TDF3        ERROR ON STACK OVERFLOW                  D.105 00607
003412 005110 A
003413 001000 A     611         JMP     EQDL20      GO MOVE NEXT ENTRY                       D.105 00608
003414 003400 A
                    612 *                                                                    D.105 00609
                    613 *                    THIS PLACES A TARGET BYTE IN TEMPORARY          D.105 00610
                    614 *                    STORAGE                                         D.105 00611
003415              615 EQDL25  BSS     1                                                    D.105 00612
003416 023437 A     616         LDB     EQDL55      FETCH COUNT                              D.105 00613
003417 001020 A     617         JBZ     EQDL03      COMPLETE IF ZERO                         D.105 00614
003420 003321 A
003421 005322 A     618         DBR                                                          D.105 00615
003422 063437 A     619         STB     EQDL55                                               D.105 00616
003423 006056 A     620         STAE    EQDL52,B    STORE CHARACTER                          D.105 00617
003424 003431 A
003425 001000 A     621         JMP     (EQDL25)*   AND EXIT                                 D.105 00618
003426 103415 A
                    622 *                    STORAGE AREA                                    D.105 00619
003427              623 EQDL50  BSS     1           CHAR COUNT                               D.105 00620
003430              624 EQDL51  BSS     1           DELETE TABLE ADDR                        D.105 00621
003431              625 EQDL52  BSS     4           4 TARGET BYTES                           D.105 00622
003435 000377 A     626 EQDL53  DATA    0377        BYTE MASK                                D.105 00623
003436              627 EQDL54  BSS     1           EQUIP TABLE FWA                          D.105 00624
003437              628 EQDL55  BSS     1           TEMP CHAR COUNT                          D.105 00625
003440              629 EQDL56  BSS     1           EQUIP CHAR STORAGE                       D.105 00626
003441 000240 A     630 EQDL57  DATA    0240        BLANK TEST                               D.105 00627
003442 000000 A     631 EQDL58  DATA    0           NAME SEARCH FWA                          D.105 00628
                    632         EJEC                                                             05 00629
                    633 *                                                                        05 00630
                    634 *       SG4ICR                                                           05 00631
                    635 *                                                                        05 00632
                    636 *       PURPOSE:  TO INPUT THE FIRST RECORD OF EACH COMPONENT,           05 00633
                    637 *                 CHECK FOR ADD/DELETE/REPLACE, AND ROUTE                05 00634
                    638 *                 TO APPLICABLE PROCESSOR.  (NAME IN TBUF1)              05 00635
                    639 *                                                                        05 00636
                    640 *       CALLING SEQUENCE:  JMP   SG4ICR    INPUTS AND ROUTES           05 00637
                    641 *                                                                        05 00638
                    642 *                          JMP   SG4IND    ROUTES ONLY (ASSUMES        05 00639
                    643 *                                          RECORD IN SGIBUF)           05 00640
                    644 *                                                                        05 00641
                    645 *       RETURN PARAMETERS:  NONE                                         05 00642
                    646 *                                                                        05 00643
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                    647 *
003443              648 SG4ICR BSS     0                * * ENTRY POINT * *                    05 00644
003443 012671 A     649        LDA     SGCLUN                                                  05 00645
003444 142531 A     650        SUB     FOUR                                                    05 00646
003445 001016 A     651        JANZ    ICR1             IF CURRENT INPUT UNIT IS "ALT"         05 00647
003446 003633 A                                                                                05 00648
                    652 *                                                                      05 00649
003447 012655 A     653        LDA     MFLAG                                                   05 00650
003450 001004 A     654        JAN     ICR2             IF "ADD NEXT FLAG" IS SET              05 00651
003451 003606 A
003452 002000 A     655        CALL    SGCLR                                                   05 00652
003453 014602 A
                    656 *                                                                      05 00653
003454 002000 A     657        CALL    IOCS             INPUT A RECORD FROM "LIB"              05 00654
003455 000000 E
003456 000404 A     658        DATA    RALF+LIB                                                05 00655
003457 000074 A     659        DATA    60,SGIBUF        READ A RECORD                          05 00656
003460 000664 A
003461 002000 A     660        CALL    IOCS                                                    05 00657
003462 003455 E
003463 000004 A     661        DATA    LIB                                                     05 00658
003464 004065 A     662        DATA    ICR4,ICR4,ICR4,*-6                                      05 00659
003465 004065 A
003466 004065 A
003467 003461 A
003470 015000 A     663 SG4IND LDA     0,X                                                     05 00660
003471 112546 A     664        ORA     BS15             SET "RECORD READ" FLAG FOR LMG         05 00661
003472 057000 I     665        STA     RS               STORE NUMBER OF WORDS READ             05 00662
                    666 *                                                                      05 00663
003473 010664 A     667        LDA     SGIBUF                                                  05 00664
003474 150000 L     668        ANA     =0173400                                                05 00665
003475 130000 L     669        ERA     =060400                                                 05 00666
003476 001010 A     670        JAZ     ICR5             IF FIRST RECORD OF AN OBJECT MODULE    05 00667
003477 003575 A
                    671 *                                                                      05 00668
003500 006505 A     672        JSR     SGGFI,X          GET DIRECTIVE MNEUMONIC                05 00669
003501 014420 A
003502 002502 A     673        DATA    TBUF1,3                                                 05 00670
003503 000003 A
003504 142531 A     674        SUB     FOUR                                                    05 00671
003505 001002 A     675        JAP     ICR6             ERROR IF MORE THAN THREE CHAR          05 00672
003506 004063 A
003507 005021 A     676        TBA                                                             05 00673
003510 140000 L     677        SUB     =0215                                                   05 00674
003511 053544 A     678        STA     ICR10            SAVE INDICATOR IF E-O-R                05 00675
003512 001010 A     679        JAZ     ICR7                                                    05 00676
003513 003517 A
003514 140000 L     680        SUB     =0254-0215                                              05 00677
003515 001016 A     681        JANZ    ICR6             ERROR IF TERMINATOR NOT COMMA OR E-O-R 05 00678
003516 004063 A
003517 006030 A     682 ICR7   LDXI    CRTAB            * * SEARCH "CRTAB" TABLE FOR MNEUMONIC * 05 00679
003520 004152 A
003521 015000 A     683        LDA     0,X                                                     05 00680
003522 001010 A     684        JAZ     ICR6             ERROR IF NO MATCH FOUND                05 00681
003523 004063 A
003524 132502 A     685        ERA     TBUF1                                                   05 00682
003525 001016 A     686        JANZ    ICR18            IF NO MATCH ON FIRST TWO CHAR          05 00683
003526 003534 A
003527 015001 A     687        LDA     1,X                                                     05 00684
003530 132503 A     688        ERA     TBUF1+1                                                 05 00685
003531 152570 A     689        ANA     LHW                                                     05 00686
003532 001010 A     690        JAZ     ICR8             IF MATCH FOUND.                        05 00687
003533 003541 A
003534 005144 A     691 ICR18  IXR                      BUMP POINTER                           05 00688
003535 005144 A     692        IXR                        TO NEXT TABLE ITEM                   05 00689
003536 005144 A     693        IXR                          AND                                05 00690
003537 001000 A     694        JMP     ICR7+2               CONTINUE                           05 00691
003540 003521 A
                    695 *                                                                      05 00692
003541 015002 A     696 ICR8   LDA     2,X                                                     05 00693
003542 053574 A     697        STA     ICR9             SAVE ADDR. OF APPLICABLE PROCESSING ROUTIN 05 00694
003543 006010 A     698        LDAI    0                                                       05 00695
003544 000000 A
003544              699 ICR10  BES     0                                                       05 00696
003545 001010 A     700        JAZ*    ICR9             GO TO ROUTINE IF NO NAME ON CONTROL REC. 05 00697
003546 103574 A
                    701 *                                                                      05 00698
003547 010000 L     702        LDA     ='  '            BLANK BUFFER                           05 00699
003550 052503 A     703        STA     TBUF1+1                                                 05 00700
003551 052504 A     704        STA     TBUF1+2                                                 05 00701
003552 052505 A     705        STA     TBUF1+3                                                 05 00702
003553 006505 A     706        JSR     SGGNI,X          GET NAME ON CONTROL RECORD             05 00703
003554 014424 A
003555 002502 A     707        DATA    TBUF1,8                                                 05 00704
003556 000010 A
003557 142575 A     708        SUB     SEVEN                                                   05 00705
003560 001002 A     709        JAP     ICR6             ERROR IF MORE THAN SIX CHAR            05 00706
003561 004063 A
003562 005021 A     710        TBA                                                             05 00707
003563 140000 L     711        SUB     =0215                                                   05 00708
003564 001010 A     712        JAZ     ICR11                                                   05 00709
003565 003571 A
003566 140000 L     713        SUB     =0254-0215                                              05 00710
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003567 001016 A  714          JANZ   ICR6          ERROR IF TERMINATOR NOT COMMA OR E-O-R      05 00711
003570 004063 A
003571 002000 A  715 ICR11    CALL   SG4ADR        SEARCH ADD/DELETE/REPLACE STACKS FOR MODS   05 00712
003572 004402 A
003573 001000 A  716          JMP    0             JUMP TO PROCESSING ROUTINE                 05 00713
003574 000000 A
003574           717 ICR9     RES    0                                                        05 00714
                 718 *                                                                       05 00715
                 719 *         * * CHECK NAME OF OBJECT MODULE * *                           05 00716
                 720 *                                                                       05 00717
003575 002000 A  721 ICR5     CALL   SGMOV         MOVE O.M. NAME TO "TBUF1"                  05 00718
003576 014325 A
003577 000004 A  722          DATA   4                                                        05 00719
003600 000667 A  723          DATA   SGIBUF+3                                                 05 00720
003601 002502 A  724          DATA   TBUF1                                                    05 00721
003602 002000 A  725          CALL   SG4ADR        SEARCH ADD/DELETE/REPLACE STACKS FOR MODS   05 00722
003603 004402 A
003604 001000 A  726          JMP    SG4LMP        JUMP TO PROCESSING ROUTINE                 05 00723
003605 012153 A
                 727 *                                                                       05 00724
                 728 *         * * HANDLE INPUT OF NEW COMPONENT (ADD OR REPLACE) * *        05 00725
                 729 *                                                                       05 00726
003606 152566 A  730 ICR2     ANA    BR15          TURN OFF "ADD NEXT FLAG"                   05 00727
003607 112530 A  731          ORA    TWO           TURN ON "CURRENTLY ADDING FLAG"            05 00728
003610 052655 A  732          STA    MFLAG           AND SAVE MODE                            05 00729
003611 006402 A  733          BT     RA1+B2,ICR3   IF "CURRENTLY REPLACING"                   05 00730
003612 003623 A
003613 002000 A  734          CALL   SGMOV         MOVE NAME TO "ADD AFTER" MESSAGE           05 00731
003614 014325 A
003615 000004 A  735          DATA   4                                                        05 00732
003616 002502 A  736          DATA   TBUF1                                                    05 00733
003617 004042 A  737          DATA   ICR12+6                                                  05 00734
003620 020000 L  738          LDB    =ICR12        (BR)=POINTER TO "ADD AFTER" MESSAGE        05 00735
003621 001000 A  739          JMP    ICR17                                                    05 00736
003622 003631 A
003623 002000 A  740 ICR3     CALL   SGMOV         MOVE NAME TO "REPLACE" MESSAGE             05 00737
003624 014325 A
003625 000004 A  741          DATA   4                                                        05 00738
003626 002502 A  742          DATA   TBUF1                                                    05 00739
003627 004053 A  743          DATA   ICR13+5                                                  05 00740
003630 020000 L  744          LDB    =ICR13        (BR)= POINTER TO "REPLACE" MESSAGE         05 00741
003631 002000 A  745 ICR17    CALL   SGWSO         PRINT MESSAGE                              05 00742
003632 015054 A
003633 020000 L  746 ICR1     LDB    =ICR14                                                   05 00743
003634 002000 A  747          CALL   SGWSO         PRINT "READY"                              05 00744
003635 015054 A
003636 002000 A  748 ICR16    CALL   SGCLR                                                    05 00745
003637 014602 A
003640 002000 A  749          JMPM   IOCS          INPUT REPLY ON "OC" DEVICE                 05 00746
003641 003462 E
003642 000403 A  750          DATA   RALF+OC                                                  05 00747
003643 000012 A  751          DATA   10,SGIBUF                                      E.2*******
003644 000664 A
003645 002000 A  752          JMPM   IOCS                                                     05 00749
003646 003641 E
003647 000003 A  753          DATA   OC                                                       05 00750
003650 003636 A  754          DATA   ICR16,ICR16,ICR16,*-6                                    05 00751
003651 003636 A
003652 003636 A
003653 003645 A
003654 010664 A  755          LDA    SGIBUF                                                   05 00752
003655 140000 L  756          SUB    ='AL'                                                    05 00753
003656 001010 A  757          JAZ    ICR15         IF REPLY SAID "ALT"                        05 00754
003657 003671 A
003660 140000 L  758          SUB    ='LI'-'AL'                                               05 00755
003661 001016 A  759          JANZ   ICR1          REJECT IF REPLY NOT "LIB" OR "ALT"         05 00756
003662 003633 A
003663 012531 A  760          LDA    FOUR                                                     05 00757
003664 052671 A  761          STA    SGCLUN        SET LUN TO "LIB"                           05 00758
003665 005001 A  762          LZA                                                             05 00759
003666 052655 A  763          STA    MFLAG         SET MODE FLAG TO NORMAL PROCESSING         05 00760
003667 001000 A  764          JMP    SG4ICR        GO GET NEXT COMPONENT                      05 00761
003670 003443 A
                 765 *         * * HANDLE INPUT FROM "ALT" * *                               05 00762
                 766 *                                                                       05 00763
003671 010665 A  767 ICR15    LDA    SGIBUF+1                                         E.2*******
003672 140000 L  768          SUB    ='T,'                                            E.2*******
003673 001016 A  769          JANZ   ICR19         IF NO NAME SPECIFIED                E.2*******
003674 003716 A
003675 002000 A  770          CALL   SGMOV         MOVE TARGET NAME TO STORAGE         E.2*******
003676 014325 A
003677 000004 A  771          DATA   4,SGIBUF+2,ICR20                                  E.2*******
003700 000666 A
003701 004075 A
003702 001106 A  772          JS1N   ICR19         IF SSW1 NOT SET DO NOT REWIND ALT   E.2*******
003703 003716 A
003704 002000 A  773          CALL   IOCS          REWIND ALT UNIT                     E.2*******
003705 003646 E
003706 002006 A  774          DATA   REW+ALT                                           E.2*******
003707 002000 A  775          CALL   IOCS                                              E.2*******
003710 003705 E
003711 000006 A  776          DATA   ALT                                               E.2*******
003712 004065 A  777          DATA   ICR4,ICR4,ICR19,*-6                               E.2*******
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003713 004065 A
003714 003716 A
003715 003707 A
003716 002000 A   778 ICR19   CALL    SGCLR          CLEAR BUFFER                                  E.2********
003717 014602 A
003720 012574 A   779         LDA     SIX                                                      C    05 00765
003721 052671 A   780         STA     SGCLUN         SET LUN TO "ALT"                              05 00766
003722 002000 A   781         CALL    IOCS           READ A RECORD FROM "ALT"                      05 00767
003723 003710 E
003724 000406 A   782         DATA    RALF+ALT                                                     05 00768
003725 000074 A   783         DATA    60,SGIBUF                                                    05 00769
003726 000664 A
003727 002000 A   784         CALL    IOCS                                                         05 00770
003730 003723 E
003731 000006 A   785         DATA    ALT                                                          05 00771
003732 004065 A   786         DATA    ICR4,ICR4,ICR4,*-6                                           05 00772
003733 004065 A
003734 004065 A
003735 003727 A
003736 074072 A   787         STX     ICR31                                                 E.2********
003737 014135 A   788         LDA     ICR20                                                 E.2********
003740 001010 A   789         JAZ     ICR30          IF NAME SEARCH NOT SPECIFIED           E.2********
003741 004026 A
003742 010664 A   790 ICR19A  LDA     SGIBUF         FETCH FIRST WORD                       E.2********
003743 004355 A   791         LSRA    13                                                    E.2********
003744 152572 A   792         ANA     THREE                                                 E.2********
003745 142572 A   793         SUB     THREE                                                 E.2********
003746 001010 A   794         JAZ     ICR25          IF OBJECT MODULE                       E.2********
003747 004007 A
003750 010664 A   795         LDA     SGIBUF                                                E.2********
003751 006140 A   796         SUBI    'TD'                                                  E.2********
003752 152304 A
003753 001010 A   797         JAZ     ICR21          IF FOUND                               E.2********
003754 003757 A
003755 001000 A   798         JMP     ICR6           REPORT CONTROL REC ERROR               E.2********
003756 004063 A
       003757 A   799 ICR21    EQU     *                                                     E.2********
003757 006030 A   800         LDXI    SGIBUF+2                                              E.2********
003760 000666 A
003761 006020 A   801         LDBI    ICR20                                                 E.2********
003762 004075 A
003763 002000 A   802         CALL    SGCPR          COMPARE TO TARGET NAME                 E.2********
003764 004101 A
003765 001010 A   803         JAZ     ICR30          IF MATCH, CONTINUE ALT PROCESSING      E.2********
003766 004026 A
003767 002000 A   804 ICR22   CALL    SGCLR          CLEAR BUFFER                           E.2********
003770 014602 A
003771 002000 A   805         CALL    IOCS           GET NEXT RECORD FROM ALT               E.2********
003772 003730 E
003773 000406 A   806         DATA    RALF+ALT                                              E.2********
003774 000074 A   807         DATA    60,SGIBUF                                             E.2********
003775 000664 A
003776 002000 A   808         CALL    IOCS           IF EOF, POST MODULE  NOT FOUND         E.2********
003777 003772 E
004000 000006 A   809         DATA    ALT                                                   E.2********
004001 004065 A   810         DATA    ICR4,ICR35,ICR4,*-6                                   E.2********
004002 004072 A
004003 004065 A
004004 003776 A
004005 001000 A   811         JMP     ICR19A         CHECK THIS RECORD                      E.2********
004006 003742 A
       004007 A   812 ICR25    EQU     *                                                     E.2********
004007 010664 A   813         LDA     SGIBUF                                                E.2********
004010 150000 L   814         ANA     =0173400                                              E.2********
004011 130000 L   815         SRA     =060400                                               E.2********
004012 001016 A   816         JANZ    ICR22          IGNORE IF NOT FIRST RECORD             E.2********
004013 003767 A
004014 006030 A   817         LDXI    SGIBUF+3       MODULE NAME WORDS                      E.2********
004015 000667 A
004016 006020 A   818         LDBI    ICR20                                                 E.2********
004017 004075 A
004020 002000 A   819         CALL    SGCPR          COMPARE TO TARGET NAME                 E.2********
004021 004101 A
004022 001010 A   820         JAZ     ICR30          IF MATCH, CONTINUE ALT PROCESSING      E.2********
004023 004026 A
004024 001000 A   821         JMP     ICR22          CONTINUE SEARCH                        E.2********
004025 003767 A
       004026 A   822 ICR30    EQU     *                                                     E.2********
004026 005001 A   823         IZS                                                           E.2********
004027 054045 A   824         STA     ICR20                                                 E.2********
004030 006030 A   825         LDXI    0              RESTORE X                              E.2********
004031 000000 A
004031             826 ICR31   BES     0                                                     E.2********
004032 001000 A   827         JMP     SG4IND         GO ANALYZE RECORD TYPE                     05 00773
004033 003470 A
                   828 *                                                                         05 00774
                   829 *         *  * MESSAGES *  *                                            05 00775
                   830 *                                                                         05 00776
004034 000011 A   831 ICR12   DATA    9,'ADD AFTER'                                              05 00777
004035 140704 A
004036 142240 A
004037 140706 A
004040 152305 A
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004041 151240 A
004042                832          BSS     4                                                    05 00778
                      833 *                                                                     05 00779
004046 000010 A       834 ICR13    DATA    8,'REPLACE'                                          05 00780
004047 151305 A
004050 150314 A
004051 140703 A
004052 142640 A
004053                835          BSS     4                                                    05 00781
                      836 *                                                                     05 00782
004057 000003 A       837 ICR14    DATA    3,'READY'                                            05 00783
004060 151305 A
004061 140704 A
004062 154640 A
                      838 *                                                                     05 00784
                      839 *              * * ERROR MESSAGES * *                                 05 00785
                      840 *                                                                     05 00786
004063 012611 A       841 ICR6     LDA     ER02        POST "CONTROL REC. SYNTAX ERROR" MESSAGE  05 00787
004064 001006 A       842          DATA    01006                                                05 00788
004065 012606 A       843 ICR4     LDA     ER00        POST "IO READ ERROR" MESSAGE              05 00789
004066 002000 A       844          CALL    SG4ASC        RECOVER AND INPUT RECORD                05 00790
004067 013766 A
004070 001000 A       845          JMP     SG4IND      GO PROCESS NEW RECORD                     05 00791
004071 003470 A
004072 012616 A       846 ICR35    LDA     ER08                                                 E.2********
004073 001000 A       847          JMP     ICR4+1      RECOVER AND INPUT RECORD                 E.2********
004074 004066 A
004075 000000 A       848 ICR20    DATA    0,0,0,0     TARGET NAME BUFFER                       E.2********
004076 000000 A
004077 000000 A
004100 000000 A
                      849          EJEC                                                         E.2********
                      850 *                                                                     E.2********
                      851 *        SUBROUTINE-SGCPR   (COMPARE TO BYTE ARRAYS FOR MATCH)        E.2********
                      852 *                           (TERMINATES ON MISMATCH OF OCCURENCE      E.2********
                      853 *                            OF BLANK IN TARGET ARRAY)                E.2********
                      854 *                                                                     E.2********
                      855 *        CALLING SEQUENCE                                             E.2********
                      856 *        LDX     INPUT NAME ADDR                                      E.2********
                      857 *        LDB     TARGET NAME ADDR                                     E.2********
                      858 *                (ADDR IS COMPLEMENTED FOR RIGHT BYTE)                E.2********
                      859 *        CALL    SGCPR                                                E.2********
                      860 *                                                                     E.2********
                      861 *        RETURNS                                                      E.2********
                      862 *        (A)=0 FOR GOOD COMPARE                                       E.2********
                      863 *        (B) AND (X) POINTING TO NEXT BYTES AFTER COMPARE STOP        E.2********
                      864 *                                                                     E.2********
004101 000000 A       865 SGCPR    ENTR                                                         E.2********
004102 074045 A       866          STX     CPRX                                                 E.2********
004103 064043 A       867          STB     CPRB                                                 E.2********
004104 024042 A       868 CPR10    LDB     CPRB                                                 E.2********
004105 002000 A       869          CALL    CPFTCH      FETCH TARGET BYTE                        E.2********
004106 004130 A
004107 064037 A       870          STB     CPPB                                                 E.2********
004110 054040 A       871          STA     CPRT        SAVE BYTE                                E.2********
004111 006140 A       872          SUBI    0240                                                 E.2********
004112 000240 A
004113 001010 A       873          JAZ     CPRTN       END OF COMPARE IF BLANK FOUND            E.2********
004114 004124 A
004115 024032 A       874          LDB     CPRX                                                 E.2********
004116 002000 A       875          CALL    CPFTCH      FETCH INPUT BYTE                         E.2********
004117 004130 A
004120 064027 A       876          STB     CPRX                                                 E.2********
004121 134027 A       877          ERA     CPRT        TARGET BYTE                              E.2********
004122 001012 A       878          JAZ     CPR10       IF MATCH FOUND                           E.2********
004123 004104 A
       004124 A       879 CPRTN    EQU     *                                                    E.2********
004124 024022 A       880          LDB     CPRB                                                 E.2********
004125 034020 A       881          LDX     CPRX                                                 E.2********
004126 001000 A       882          RETU*   SGCPR                                                E.2********
004127 104101 A
004130 000000 A       883 CPFTCH   ENTR                                                         E.2********
004131 005021 A       884          TBA                                                          E.2********
004132 001004 A       885          JAN     CPF10       IF RIGHT BYTE FETCH                      E.2********
004133 004141 A
004134 016000 A       886          LDA     0,B                                                  E.2********
004135 004350 A       887          LSRA    8                                                    E.2********
004136 005222 A       888          CPB                 SET FOR RIGHT BYTE                       E.2********
004137 001000 A       889          RETU*   CPFTCH                                               E.2********
004140 104130 A
004141 005222 A       890 CPF10    CPB                                                          E.2********
004142 016000 A       891          LDA     0,B                                                  E.2********
004143 152571 A       892          ANA     RHM                                                  E.2********
004144 005122 A       893          IBR                 SET FOR NEXT LEFT BYTE                   E.2********
004145 001000 A       894          RETU*   CPFTCH                                               E.2********
004146 104130 A
                      895 *                                                                     E.2********
004147 000000 A       896 CPRB     DATA    0           TARGET BYTE POINTER                      E.2********
004150 000000 A       897 CPRX     DATA    0           INPUT BYTE POINTER                       E.2********
004151 000000 A       898 CPRT     DATA    0           TARGET BYTE                              E.2********
                      899          EJEC                                                         05 00792
                      900 *                                                                     05 00793
                      901 *              * * TABLE OF CONTROL RECORDS * *                       05 00794
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                    902 *
004152              903 CRTAB   BSS     0                                                    05 00795
004152 151714 A     904         DATA    'SLM'                                                05 00796
004153 146640 A                                                                              05 00797
004154 004476 A     905         DATA    SG4LMI                                               05 00798
004155 152304 A     906         DATA    'TDF'                                                05 00799
004156 143240 A                                                                              05 00800
004157 004614 A     907         DATA    SG4TDF                                               05 00801
004160 142716 A     908         DATA    'END'                                                05 00802
004161 142240 A                                                                              05 00803
004162 005126 A     909         DATA    SG4END                                           V2  05 00804
                    910         IFT     VORTEX-2                                         V2  05 00805
                    911         GOTO    1                                                V2  05 00806
                    912         DATA    'CTL'                                            V2  05 00807
                    913         DATA    SGCTL                                            V2  05 00808
                    914 1       CONT                                                     V2  05 00809
004163 000000 A     915         DATA    0       END-OF-TABLE FLAG                            05 00810
                    916         IFT     VORTEX-2                                         V2  05 00811
                    917         GOTO    1                                                V2  05 00812
                    918         EJEC                                                     V2  05 00813
                    919 *                                                                V2  05 00814
                    920 *       SGCTL                                                    V2  05 00815
                    921 *                                                                V2  05 00816
                    922 *       PURPOSE: TO PROCESS DIRECTIVE: CTL,21                    V2  05 00817
                    923 *                                                                V2  05 00818
                    924 *       ENTRY: DIRECT TO SGCTL                                   V2  05 00819
                    925 *                                                                V2  05 00820
                    926 *       EXIT : DIRECT TO SG4LHG                                  V2  05 00821
                    927 *                                                                V2  05 00822
                    928 SGCTL   LDA     TBUF1                                            V2  05 00823
                    929         SUBI    '21'                                             V2  05 00824
                    930         JANZ    ICR6        OP FIELD MUST BE '21'                V2  05 00825
                    931         JMP     SG4LHG      PROCESS TABLES, ETC.                 V2  05 00826
                    932 1       CONT                                                     V2  05 00827
                    933         EJEC                                                         05 00828
                    934 *                                                                    05 00829
                    935 *       SG4ADR                                                       05 00830
                    936 *                                                                    05 00831
                    937 *       PURPOSE:  TO DETERMINE THE ADD/DELETE/REPLACE STATUS         05 00832
                    938 *                 OF A COMPONENT AND PERFORM DELETE OPERATION         05 00833
                    939 *                 IF REQUIRED.                                       05 00834
                    940 *                                                                    05 00835
                    941 *       CALLING SEQUENCE:  CALL   SG4ADR                             05 00836
                    942 *                                                                    05 00837
                    943 *       RETURN PARAMETERS:  NONE                                     05 00838
                    944 *                                                                    05 00839
                    945 *                                                                    05 00840
004164 005001 A     946 ADR1    TZA         SET PROCESSING MODE (MFLAG) TO NORMAL            05 00841
                    947 *                                                                    05 00842
004165 052655 A     948 ADR2    STA     MFLAG       STORE PROCESSING MODE STATUS             05 00843
004166 006010 A     949         LDAI    0177777                                              05 00844
004167 177777 A                                                                          B.2 05 00845
004170 054045 A     950         STA     ADR12A+1    SET MASK                                 05 00846
004171 054051 A     951         STA     ADR12B      SET UP MASK TO DEFAULT                   05 00847
004172 012502 A     952         LDA     TBUF1                                                05 00848
004173 140000 L     953         SUB     ='CT'       IF PROGRAM IS A CONTROLLER TABLE         05 00849
004174 001010 A     954         JAZ     ADR10                                                05 00850
004175 004232 A                                                                              05 00851
004176 140000 L     955         SUB     ='IS'-'CT'  IF PROGRAM IS AN INITIALIZER             05 00852
004177 001010 A     956         JAZ     ADR11                                                05 00853
004200 004357 A                                                                          D.1 05 00854
004201 140000 L     957         SUB     ='TB'-'IS'  IF A 'TDF' CONTROL RECORD            B.2 05 00855
004202 001010 A     958         JAZ     ADR10                                                05 00856
004203 004232 A                                                                              05 00857
004204 140000 L     959         SUB     ='VZ'-'TB'                                           05 00858
004205 001016 A     960         JANZ    ADR8A                                            D.1 05 00859
004206 004267 A                                                                              05 00860
004207 006020 A     961         LDBI    0377                                             B.2 05 00861
004210 000377 A                                                                              05 00862
004211 064031 A     962         STB     ADR12B      MODIFY MASK BELOW                    B.2 05 00863
                    963 *                                                                    05 00864
004212 012504 A     964         LDA     TBUF1+2                                              05 00865
004213 130000 L     965         ERA     ='  '                                                05 00866
004214 001016 A     966         JANZ    ADR9        IF NAME IS OF FORM 'NNCM'                05 00867
004215 004226 A                                                                              05 00868
004216 006010 A     967         LDAI    0177400                                              05 00869
004217 177400 A                                                                              05 00870
004220 054015 A     968         STA     ADR12A+1    MASK OUT CONTROLLER NO. FOR RMD          05 00871
004221 054021 A     969         STA     ADR12B      MODIFY MASK BELOW                    B.2 05 00872
004222 012503 A     970         LDA     TBUF1+1                                              05 00873
004223 020000 L     971         LDB     ='D0'                                                05 00874
004224 062503 A     972         STB     TBUF1+1     SET CONTROLLER ZERO IN RMD NAME          05 00875
004225 001006 A     973         DATA    01006                                                05 00876
                    974 *                                                                    05 00877
004226 010000 L     975 ADR9    LDA     =' 0'       SET CONTROLLER ZERO IN NON-RMD NAME      05 00878
004227 022504 A     976         LDB     TBUF1+2                                              05 00879
004230 004450 A     977         LLRL    8                                                    05 00880
004231 052504 A     978         STA     TBUF1+2     SET UP SECOND WORD OF NAME               05 00881
            004232 A 979 ADR10  EQU     *                                                B.2 05 00882
004232 030500 A     980         LDX     SGSCB0      (XR)=PNTR TO EQUIP STACK                 05 00883
004233 015000 A     981 ADR12   LDA     0,X                                                  05 00884
004234 142503 A     982         SUB     TBUF1+1                                              05 00885
004235 006150 A     983 ADR12A  ANAI    0177777     MASK MODIFIED                            05 00886
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004236 177777 A
004237 054011 A   984          STA     ADR13          COMPARE AND SAVE FIRST WORD OF NAME          05 00877
004240 012504 A   985          LDA     TBUF1+2                                                     05 00878
004241 145001 A   986          SUB     1,X            COMPARE SECOND WORD OF NAME                  05 00879
004242 006150 A   987          ANAI    0177777                                             B.2     05 00880
004243 177777 A
004243            988 ADR12B   BES     0              MASK MODIFIED ABOVE                  B.2     05 00881
004244 054006 A   989          STA     ADR14          SAVE SECOND WORD OF NAME                     05 00882
004245 154003 A   990          ANA     ADR13                                                       05 00883
004246 001016 A   991          JANZ    ADR15          IF NEITHER WORD ZERO (BAD MATCH)             05 00884
004247 004256 A
004250 006010 A   992          LDAI    0                                                           05 00885
004251 000000 A
004251            993 ADR13    BES     0                                                           05 00886
004252 006110 A   994          ORAI    0              COMBINE TWO WORDS                            05 00887
004253 000000 A
004253            995 ADR14    BES     0                                                           05 00888
004254 001010 A   996          JAZ     ADR8           IF EXACT MATCH, RETURN                       05 00889
004255 004401 A
004256 005041 A   997 ADR15    TXA                                                                 05 00890
004257 120502 A   998          ADD     SGSCB0+2       BUMP INDEX                                   05 00891
004260 005014 A   999          TAX                                                                 05 00892
004261 140501 A  1000          SUB     SGSCB0+1                                                    05 00893
004262 001016 A  1001          JANZ    ADR12          IF MORE ENTRIES TO CHECK                     05 00894
004263 004233 A
004264 012531 A  1002          LDA     FOUR           SET UP DELETE                                05 00895
004265 001000 A  1003          JMP     ADR3             AND GO DO IT                               05 00896
004266 004431 A
004267 023117 A  1004 ADR8A    LDB     MXFLG                                               D.105   00897
004270 001026 A  1005          JBNZ    ADR8           EXIT IF MUX PRESENT                  D.105   00898
004271 004401 A
004272 006140 A  1006          SUBI    'C5'-'VZ'                                           D.105   00899
004273 166333 A
004274 001016 A  1007          JANZ    ADR8B                                               D.105   00900
004275 004303 A
004276 012503 A  1008          LDA     TBUF1+1                                             D.105   00901
004277 006140 A  1009          SUBI    '2 '                                                D.105   00902
004300 131240 A
004301 001000 A  1010          JMP     ADR8E                                               D.105   00903
004302 004351 A
004303 006140 A  1011 ADR8B    SUBI    'CC'-'C5'                                           D.105   00904
004304 000016 A
004305 001010 A  1012          JAZ     ADR8D                                               D.105   00905
004306 004346 A
004307 006140 A  1013          SUBI    'TC'-'CC'                                           D.105   00906
004310 010400 A
004311 001010 A  1014          JAZ     ADR8D                                               D.105   00907
004312 004346 A
004313 006140 A  1015          SUBI    'VT'-'TC'                                           D.105   00908
004314 001021 A
004315 001016 A  1016          JANZ    ADR8           EXIT IF NONE OF THESE                D.105   00909
004316 004401 A
004317 012503 A  1017          LDA     TBUF1+1                                             D.105   00910
004320 006140 A  1018          SUBI    'PU'                                                D.105   00911
004321 150325 A
004322 001016 A  1019          JANZ    ADR8C                                               D.105   00912
004323 004333 A
004324 012504 A  1020          LDA     TBUF1+2                                             D.105   00913
004325 006140 A  1021          SUBI    'SH'                                                D.105   00914
004326 151710 A
004327 001010 A  1022          JAZ     ADR8F          NAME IS 'V1PUSH'                     D.105   00915
004330 004354 A
004331 001000 A  1023          JMP     ADR8           OTHERWISE EXIT                       D.105   00916
004332 004401 A
004333 006140 A  1024 ADR8C    SUBI    'PO'-'PU'                                           D.105   00917
004334 177772 A
004335 001016 A  1025          JANZ    ADR8D                                               D.105   00918
004336 004346 A
004337 012503 A  1026          LDA     TBUF1+1                                             D.105   00919
004340 006140 A  1027          SUBI    'P '                                                D.105   00920
004341 150240 A
004342 001010 A  1028          JAZ     ADR8F          NAME IS 'VTPOP'                      D.105   00921
004343 004354 A
004344 001000 A  1029          JMP     ADR8           OTHERWISE EXIT                       D.105   00922
004345 004401 A
004346 012503 A  1030 ADR8D    LDA     TBUF1+1                                             D.105   00923
004347 006140 A  1031          SUBI    '8 '                                                D.105   00924
004350 122240 A
004351 152570 A  1032 ADR8E    ANA     LHW            TEST 3RD CHAR                        D.105   00925
004352 001016 A  1033          JANZ    ADR8           EXIT IF NO MATCH                     D.105   00926
004353 004401 A
004354 012531 A  1034 ADR8F    LDA     FOUR                                                D.105   00927
004355 001000 A  1035          JMP     ADR3           OTHERWISE DELETE                     D.105   00928
004356 004431 A
                 1036 *                                                                             05 00929
004357 002000 A  1037 ADR11    CALL    /DCS           LOCATE SYSTEM RMD'S DST                      05 00930
004360 003777 E
004361 000007 A  1038          DATA    7                                                           05 00931
004362 004366 A  1039          DATA    *+4,*+3,*+2,*-6                                             05 00932
004363 004366 A
004364 004366 A
004365 004357 A
004366 015002 A  1040          LDA     2,X            FORM NAME OF RMD                             05 00933
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004367 004350 A 1041          LSRA    8                                                    05 00934
004370 025003 A 1042          LDB     3,X                                                  05 00935
004371 004050 A 1043          LRLB    8                                                    05 00936
004372 004450 A 1044          LLRL    8                                                    05 00937
004373 132503 A 1045          ERA     TBUF1+1       COMPARE MODEL CODE TO INITIALIZER NAME 05 00938
004374 001010 A 1046          JAZ*    SG4ADR        RETURN, IF SAME                        05 00939
004375 104402 A
004376 012531 A 1047          LDA     FOUR                                                 05 00940
004377 001000 A 1048          JMP     ADR3          OTHERWISE, DELETE THIS INITIALIZER     05 00941
004400 004431 A
                1049 *                                                                     05 00942
004401 001000 A 1050 ADR8     JMP     0             *  * RETURN *  *                       05 00943
004402 000000 A
                1051 *                                                                     05 00944
004402          1052 SG4ADR   BES     0             *  * ENTRY POINT *  *                  05 00945
004403 012671 A 1053          LDA     SGCLUN                                               05 00946
004404 142574 A 1054          SUB     SIX                                                  05 00947
004405 001010 A 1055          JAZ*    SG4ADR        IGNORE A/D/R IF LU=ALT                 05 00948
004406 104402 A
004407 005301 A 1056          DECR    01            SET SEARCH ONLY FLAG                   05 00949
004410 020000 L 1057          LDB     =TBUF1                                               05 00950
004411 030000 L 1058          LDX     =SGSCB2                                              05 00951
004412 002000 A 1059          CALL    SGSAE           AND SEARCH A/D/R STACK FOR NAME MATCH 05 00952
004413 014744 A
004414 000004 A 1060          DATA    4               WITH COMPONENT.                      05 00953
004415 005041 A 1061          TXA                                                          05 00954
004416 001004 A 1062          JAN     ADR1          IF NO NAME MATCH                       05 00955
004417 004164 A
004420 015004 A 1063          LDA     4,X                                                  05 00956
004421 150000 L 1064          ANA     =014                                                 05 00957
004422 001010 A 1065          JAZ     ADR2          IF A/D/R DOESN'T REFER TO NUCLEUS PROC. 05 00958
004423 004165 A
004424 006402 A 1066          BT      RA1+B2,ADR3   IF DELETE OR REPLACE                   05 00959
004425 004431 A
004426 012546 A 1067          LDA     BS15                                                 05 00960
004427 001000 A 1068          JMP     ADR2          GO SET (MFLAG) FOR "ADD NEXT"; RETURN  05 00961
004430 004165 A
                1069 *                                                                     05 00962
004431 005102 A 1070 ADR3     INCR    02                                                   05 00963
004432 062655 A 1071          STB     MFLAG         SET (MFLAG) FOR "CURRENTLY DELETING"   05 00964
004433 006443 A 1072          BT      RA0+B3,ADR4   IF REQUEST IS FOR "DELETE ONLY"        05 00965
004434 004437 A
004435 020000 L 1073          LDB     =0100005      SET (MFLAG) FOR "ADD NEXT","CURRENTLY  05 00966
004436 062655 A 1074          STB     MFLAG           DELETING","REPACE REQUESTED"         05 00967
004437 010664 A 1075 ADR4     LDA     SGIBUF                                               05 00968
004440 150000 L 1076          ANA     =064400                                              05 00969
004441 130000 L 1077          ERA     =064400                                              05 00970
004442 001016 A 1078          JANZ    ADR5          IF BINARY END RECORD OR NON-BINARY REC. 05 00971
004443 004462 A
                1079 *                                                                     05 00972
004444 002000 A 1080          CALL    IOCS          READ A RECORD                          05 00973
004445 004360 E
004446 040404 A 1081          DATA    RBIN+LIB                                             05 00974
004447 000074 A 1082          DATA    60,SGIBUF                                            05 00975
004450 000664 A
004451 002000 A 1083          CALL    IOCS            AND CHECK STATUS                     05 00976
004452 004445 E
004453 000004 A 1084          DATA    LIB                                                  05 00977
004454 004467 A 1085          DATA    ADR6,ADR7,ADR7,*-6                                   05 00978
004455 004471 A
004456 004471 A
004457 004451 A
004460 001000 A 1086          JMP     ADR4          IF O.K., GO READ (DELETE) SOMEMORE     05 00979
004461 004437 A
                1087 *                                                                     05 00980
004462 012655 A 1088 ADR5     LDA     MFLAG                                                05 00981
004463 152550 A 1089          ANA     BR1                                                  05 00982
004464 052655 A 1090          STB     MFLAG         TURN OFF "CURRENTLY DELETING" FLAG     05 00983
004465 001000 A 1091          JMP     SG4ICR          AND START NEXT COMPONENT PROCESSING  05 00984
004466 003443 A
                1092 *                                                                     05 00985
                1093 *                                                                     05 00986
004467 012606 A 1094 ADR6     LDA     ER00          POST "READ ERROR" MESSAGE              05 00987
004470 001006 A 1095          DATA    01006                                                05 00988
004471 012616 A 1096 ADR7     LDA     ER08          POST "EOF OR BEOD ERROR" MESSAGE       05 00989
004472 002000 A 1097          CALL    SG4PRO                                               05 00990
004473 013617 A
004474 001000 A 1098          JMP     ADR3          TURN OFF FLAG AND RETURN               05 00991
004475 004462 A
                1099          EJEC                                                         05 00992
                1100 *                                                                     05 00993
                1101 *        SG4LMI                                                       05 00994
                1102 *                                                                     05 00995
                1103 *                PURPOSE:  DEFINE VIRTUAL MEMORY AND SET OTHER OPTIONS 05 00996
                1104 *                          FOR THE LOAD MODULE PROCESSOR.           05 00997
                1105 *                                                                   05 00998
                1106 *                CALLING SEQUENCE:  INDIRECT JUMP THROUGH CR PROC TABLE 05 00999
                1107 *                                                                   05 01000
                1108 *                RETURN PARAMETERS:  NONE                           05 01001
                1109 *                                                                   05 01002
                1110 *                                                                   05 01003
004476          1111 SG4LMI   BSS     0                                                  05 01004
004476 002000 A 1112          CALL    IOCS          GET VORTEX SYSTEM DST ADDRESS IN X   D.105 01005
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004477 004452 E
004500 000007 A 1113          DATA    7                       LUN=7                                                   D.105 01006
004501 004505 A 1114          DATA    *+4,*+3,*+2,*-6                                                                 D.105 01007
004502 004505 A
004503 004505 A
004504 004476 A
004505 015003 A 1115          LDA     3,X
004506 152571 A 1116          ANA     RHW             GET DEVICE LETTER ID                                            D.105 01009
004507 006140 A 1117          SUBI    0303                                                                            D.105 01010
004510 000303 A
004511 005002 A 1118          TZB                                                                                     D.105 01011
004512 001004 A 1119          JAN     *+3             SET B=0 FOR A,B                                                 D.105 01012
004513 004515 A
004514 005112 A 1120          INCR    012             SET B=1 FOR C,B=2 FOR D                                         D.105 01013
004515 012502 A 1121          LDA     TBUF1                                                                           05 01014
004516 052672 A 1122          STA     SGCKEY                                                                          05 01015
004517 006140 A 1123          SUBI    'IN'                                                                            05 01016
004520 144716 A
004521 001010 A 1124          JAZ     LMI1            IF NAME IS 'INITIALIZER'                                        05 01017
004522 004555 A
004523 006140 A 1125          SUBI    'VO'-'IN'                                                                       05 01018
004524 006401 A
004525 001016 A 1126          JANZ    LMI8            ERROR IF NOT 'VORTEX' (NUCLEUS) EITHER                          05 01019
004526 004607 A
                    1127 *                                                                                            05 01020
004527 012574 A 1128          LDA     SIX             MODEL A,B                                       -35             05 01021
004530 001020 A 1129          JBZ     LMI3            YES                                             E2505           05 01022
004531 004537 A
004532 012532 A 1130          LDA     EIGHT           NO.                                             -35             05 01023
004533 005322 A 1131          DBR                                                                     E2505           05 01024
004534 001020 A 1132          JBZ     LMI3            JUMP IF MODEL 'C'                               E2505           05 01025
004535 004537 A
004536 012577 A 1133          LDA     TEN             NO, HAVE MODEL 'D'                              E2505           05 01026
004537 052676 A 1134 LMI3     STA     SGCHSN          SET HIGHEST SECT. NO. TO SAVE LO-CORE                           05 01027
004540 005012 A 1135          TAB                                                                     E2505           05 01028
004541 012707 A 1136          LDA     SGMRY1          TOP OF MEMORY                                   -35             05 01029
004542 142710 A 1137          SUB     SGMRY2          SIZE OF FOREGROUND COMMON                       -35             05 01030
004543 005111 A 1138          IAR                                                                             V2      05 01031
                    1139          IFT     VORTEX-2                                                                V2      05 01032
                    1140          GOTO    1                                                                       V2      05 01033
                    1141          TAB                                                                             V2      05 01034
                    1142          ANA     BM777                                                                   V2      05 01035
                    1143          SUB     KD80                                                                    V2      05 01036
                    1144          JAP     *+4             WILL GLOBAL FCB'S FIT IN PAGE ?                         V2      05 01037
                    1145          LSRB    9               NO                                                      V2      05 01038
                    1146          LRLB    9                                                                       V2      05 01039
                    1147          TCA                                                                             V2      05 01040
                    1148          LDB     SGCHSN          RESTORE MODEL INDEX                                     V2      05 01041
                    1149 1        CONT                                                                            V2      05 01042
004544 052664 A 1150          STA     SGRPGM                                                                          05 01043
004545 052665 A 1151          STA     SGRPED                                                                          05 01044
004546 052700 A 1152          STA     SGCPED          USED TO SET MA FOR VORTEX NUCLEUS.              -35             05 01045
004547 005021 A 1153          TBA                                                                     E2505           05 01046
004550 142574 A 1154          SUB     SIX                                                             E2505           05 01047
004551 020000 L 1155          LDB     =+2                                                             E2505           05 01048
004552 062674 A 1156          STB     SGTALT          SET FOR REVERSE LOAD                            E2505           05 01049
004553 001000 A 1157          JMP     LMI2            GO TO FINISH INITIALIZATION                                     05 01050
004554 004572 A
                    1158 *                                                                                            05 01051
004555 005001 A 1159 LMI1     TZA                     INITIALIZE INTERFACE TABLE FOR INITIALIZER                       05 01052
004556 052664 A 1160          STA     SGRPGM                                                                          05 01053
004557 052665 A 1161          STA     SGRPED                                                                          05 01054
004560 052700 A 1162          STA     SGCPED                                                                          05 01055
004561 001020 A 1163          JBZ     LMI4                                                            E2505           05 01056
004562 004570 A
004563 012530 A 1164          LDA     TWO                                                             -35             05 01057
004564 005322 A 1165          DBR                                                                     E2505           05 01058
004565 001020 A 1166          JBZ     LMI4            JMP IF MODEL 'C'                                E2505           05 01059
004566 004570 A
004567 012531 A 1167          LDA     FOUR                                                            E2505           05 01060
004570 052676 A 1168 LMI4     STA     SGCHSN          SET START FOR INITIALIZER                       E2505           05 01061
004571 052674 A 1169          STA     SGTALT                                                                          05 01062
       004572 A 1170 LMI2     EQU     *                                                               -35             05 01063
004572 005111 A 1171          IAR                                                                     E2505           05 01064
004573 052657 A 1172          STA     SGBSNR          BASE SECTOR NO., ROOT SEGMENT.                  -35             05 01065
004574 052702 A 1173          STA     SGCSSN          BASE SECTOR NO. OF CURRENT SEGMENT.             -35             05 01066
                    1174 *                                                                                            05 01067
004575 005001 A 1175          TZA                                                                                     05 01068
004576 052673 A 1176          STA     SGCSGN                                                                          05 01069
004577 052677 A 1177          STA     SGCPGM                                                                          05 01070
004600 052701 A 1178          STA     SGCBAD                                                                          05 01071
004601 052656 A 1179          STA     SGBARS                                                                          05 01072
004602 006010 A 1180          LDAI    LIP                                                                             05 01073
004603 000004 A
004604 052671 A 1181          STA     SGCLUN                                                                          05 01074
004605 001000 A 1182          JMP     SG4ICR          GO READ NEXT RECORD FROM SGL                                    05 01075
004606 003443 A
                    1183 *                                                                                            05 01076
004607 012612 A 1184 LMI8     LDA     ERR4            POST 'PARAMETER ERROR' MESSAGE                                  05 01077
004610 002000 A 1185          CALL    SG4ASC                                                                          05 01078
004611 013766 A
004612 001000 A 1186          JMP     SG4IND          GO TO PROCESS CORRECTED CONTROL RECORD                          05 01079
004613 003470 A
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                    1187            IFF     VORTEX-2                                                        V2  05 01080
                    1188 KD80       DATA    80                                                              V2  05 01081
                    1189            EJEC                                                                        05 01082
                    1190 *                                                                                      05 01083
                    1191 *          SG4TDF                                                                      05 01084
                    1192 *                                                                                      05 01085
                    1193 *                  PURPOSE:  TO UNPACK "TDF" CONTROL RECORDS AND BUILD              05 01086
                    1194 *                            RESIDENT TIDB'S.                                      05 01087
                    1195 *                                                                                      05 01088
                    1196 *                  CALLING SEQUENCE:  INDIRECT JUMP FROM SG4ICR                      05 01089
                    1197 *                                                                                      05 01090
                    1198 *                  RETURN PARAMETERS:  NONE                                          05 01091
                    1199 *                                                                                      05 01092
                    1200 *                                                                                      05 01093
004614              1201 SG4TDF DSS     0               *  * ENTRY POINT *  *                                05 01094
004614 012700 A     1202        LDA     SGCPED                                                                  05 01095
004615 005311 A     1203        DAR                                                                             05 01096
004616 057000 I     1204        STA     MA              SET UP VIRTUAL MEMORY ADDR. REGISTER                    05 01097
                    1205 *                                                                                      05 01098
004617 005001 A     1206        TZA                     ZERO THE WORKING BUFFER                                 05 01099
                    1207        IFT     VORTEX-1                                                        V75*********
                    1208        GOTO    1                                                               V75*********
                    1209        IFT     V75                                                             V75*********
004620 030000 L     1210        LDX     =36                                                             V75*********
                    1211        IFF     V75                                                             V75*********
                    1212        LDX     =36                                                             V75*********
                    1213 1      CONT                                                                    V75*********
004621 005344 A     1221 TDF1   DXR                                                                         05 01104
004622 006055 A     1222        STAE    SGWBUF,X                                                            05 01105
004623 002406 A
004624 001046 A     1223        JXNZ    TDF1                                                                05 01106
004625 004621 A
                    1224 *                                                                                      05 01107
                    1225 *                                                                                      05 01108
004626 010000 L     1226        LDA     ='  '           GET NAME OF TASK PROCESSOR                          05 01109
004627 052514 A     1227        STA     TBUF2                                                               05 01110
004630 052515 A     1228        STA     TBUF2+1                                                             05 01111
004631 052516 A     1229        STA     TBUF2+2                                                             05 01112
004632 006505 A     1230        JSR     SGGNI,X                                                             05 01113
004633 014424 A
004634 002514 A     1231        DATA    TBUF2,8                                                             05 01114
004635 000010 A
004636 142575 A     1232        SUB     SEVEN                                                               05 01115
004637 001002 A     1233        JAP     TDF5                                                                05 01116
004640 005117 A
004641 005021 A     1234        TBA                                                                         05 01117
004642 140000 L     1235        SUB     =0254                                                               05 01118
004643 001016 A     1236        JANZ    TDF5                                                                05 01119
004644 005117 A
004645 002000 A     1237        CALL    SGMOV           MOVE TASK NAME TO WORKING BUFFER (TIDB)             05 01120
004646 014325 A
004647 000003 A     1238        DATA    3                                                                   05 01121
004650 002514 A     1239        DATA    TBUF2                                                               05 01122
004651 002430 A     1240        DATA    SGWBUF+18                                                           05 01123
                    1241 *                                                                                  05 01130
004652 010000 L     1242        LDA     ='  '                                                               05 01131
004653 052216 A     1243        STA     TBUF4                                                               05 01132
004654 052217 A     1244        STA     TBUF4+1                                                             05 01133
004655 052220 A     1245        STA     TBUF4+2                                                             05 01134
004656 006505 A     1246        JSR     SGGNI,X         INPUT SPECIAL DPCOM LINK (OR ZERO)                  05 01135
004657 014424 A
004660 002216 A     1247        DATA    TBUF4,8                                                             05 01136
004661 000010 A
004662 142575 A     1248        SUB     SEVEN                                                               05 01137
004663 001002 A     1249        JAP     TDF5            ERROR, IF MORE THAN SIX CHARACTERS                  05 01138
004664 005117 A
004665 005021 A     1250        TBA                                                                         05 01139
004666 140000 L     1251        SUB     =0254                                                               05 01140
004667 001016 A     1252        JANZ    TDF5            ERROR, IF NOT TERMINATED BY COMMA                   05 01141
004670 005117 A
                    1253 *                                                                                  05 01142
004671 010000 L     1254        LDA     =0254                                                               05 01143
004672 002000 A     1255        CALL    SG2GAC          GET AND CONVERT STATUS WORD                         05 01144
004673 014203 A
004674 005021 A     1256        TBA                                                                         05 01145
004675 142566 A     1257        SUB     BR15                                                                05 01146
004676 001002 A     1258        JAP     TDF6            IF OUT OF BOUNDS                                    05 01147
004677 005121 A
004700 062407 A     1259        STB     SGWBUF+1        PUT IN TIDB                                         05 01148
                    1260        IFT     VORTEX-2                                                        V2  05 01149
                    1261        GOTO    1                                                               V2  05 01150
                    1262        LDA     SGWBUF+1        GET STATUS WORD                                 V2  05 01151
                    1263        BT      RA1+B10,TDF7        RESIDENT TASK ?                             V2  05 01152
                    1264        LDA     TBUF2           NO                                              V2  05 01153
                    1265        SUB     TDF0                                                            V2  05 01154
                    1266        JANZ    TDF8                                                            V2  05 01155
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                    1267          LDA     TBUF2+1                                                    V2  05 01156
                    1268          SUB     TDF0+1                                                     V2  05 01157
                    1269          JANZ    TDF8                                                       V2  05 01158
                    1270          LDA     TBUF2+2                                                    V2  05 01159
                    1271          SUB     TDF0+2                                                     V2  05 01160
                    1272          JANZ    TDF8                                                       V2  05 01161
                    1273 TDF7     LDA     SGWBUF+2    IS NAME 'V$OPCM' ?                             V2  05 01162
                    1274          ORA     BS8         SET TBPL BIT 8                                 V2  05 01163
                    1275          STA     SGWBUF+2                                                   V2  05 01164
                    1276 TDF8     EQU     *                                                          V2  05 01165
                    1277 1        CONT                                                               V2  05 01166
                    1278 *                                                                               05 01167
004701 005001 A     1279          TZA                                                                  V75*********
004702 002000 A     1280          CALL    SG3GAC      GET AND CONVERT PRIORITY LEVEL                       05 01169
004703 014203 A
004704 005021 A     1281          TBA                                                                  05 01170
004705 142534 A     1282          SUB     BS5                                                          05 01171
004706 001002 A     1283          JAP     TDF6        IF GREATER THAN 31                               05 01172
004707 005121 A
004710 122601 A     1284          ADD     BM37                                                         05 01173
004711 001004 A     1285          JAN     TDF6        IF LESS THAN 1                                   05 01174
004712 005121 A
004713 005021 A     1286          TBA                                                                  V2  05 01175
004714 112410 A     1287          ORA     SGWBUF+2    MERGE PRIORITY LEVEL                             V2  05 01176
004715 052410 A     1288          STA     SGWBUF+2                                                     V2  05 01177
004716 062506 A     1289          STB     TBUF1+4                                                          05 01178
                    1290 *                                                                               05 01179
                    1291          IFF     V75                                                          V75*********
                    1292          GOTO    1                                                            V75*********
004717 012737 A     1293          LDA     SGMRY5                                                       V75*********
004720 001010 A     1294          JAZ     TDF8C       V75 SYSTEM ?                                     V75*********
004721 004764 A
004722 006017 A     1295          LDAE    SGSVCH      YES                                              V75*********
004723 014577 A
004724 140000 L     1296          SUB     =0254       GET TERMINATOR                                   V75*********
                    1297          IFF     VORTEX-2                                                     V75*********
                    1298          JANZ    TDF8C       TEST FOR COMMA                                   V75*********
                    1299          IFT     VORTEX-1                                                     V75*********
                    1300          GOTO    2                                                            V75*********
004725 001010 A     1301          JAZ     TDF8A       TEST FOR COMMA                                   V75*********
004726 004734 A
004727 012407 A     1302          LDA     SGWBUF+1                                                     V75*********
004730 006453 A     1303          BT      RA0+11,TDF8B  RESIDENT TIDB ?                                V75*********
004731 004761 A
004732 001000 A     1304          JMP     TDF8C       YES                                              V75*********
004733 004764 A
                    1305 2        CONT                                                                 V75*********
004734 006505 A     1306 TDF8A    JSR     SGGNI,X     YES. GET NEXT 3 CHARS                            V75*********
004735 014424 A
004736 002507 A     1307          DATA    TBUF1+5                                                      V75*********
004737 000003 A     1308          DATA    3                                                            V75*********
004740 142572 A     1309          SUB     THREE                                                        V75*********
004741 001016 A     1310          JANZ    TDF6                                                         V75*********
004742 005121 A
004743 012507 A     1311          LDA     TBUF1+5                                                      V75*********
004744 006130 A     1312          ERAI    'V7'                                                         V75*********
004745 153267 A
004746 001016 A     1313          JANZ    TDF6        ERROR IF NOT 'V75'                               V75*********
004747 005121 A
004750 012510 A     1314          LDA     TBUF1+6                                                      V75*********
004751 006130 A     1315          ERAI    '5 '                                                         V75*********
004752 132640 A
004753 152570 A     1316          ANA     LHW                                                          V75*********
004754 001016 A     1317          JANZ    TDF6        LONG TIDB ?                                      V75*********
004755 005121 A
004756 012545 A     1318          LDA     BS14        YES                                              V75*********
004757 112410 A     1319          ORA     SGWBUF+2    SET V75 FLAG                                     V75*********
004760 052410 A     1320          STA     SGWBUF+2                                                     V75*********
004761 006010 A     1321 TDF8B    LDAI    -10                                                          V75*********
004762 177766 A
004763 001006 A     1322          DATA    A1006                                                        V75*********
                    1323 1        CONT                                                                 V75*********
004764 005001 A     1324 TDF8C    TZA                                                                  V75*********
                    1325          IFT     V75                                                          V75*********
004765 052507 A     1326          STA     TBUF1+5     SAVE V75 FLAG                                    V75*********
004766 127000 1     1327          ADD     MA                                                           V75*********
                    1328          IFF     VORTEX-1                                                     V75*********
004767 140000 L     1329          SUB     =25                                                          V75*********
                    1330          IFF     VORTEX-2                                                     V75*********
                    1331          SUB     -28                                                          V75*********
004770 052505 A     1332          STA     TBUF1+3     STORE TIDB BASE ADDRESS                          V75*********
004771 006505 A     1333          JSR     SG4PKK,X    PACK NAME IN LOADER CODE                             05 01180
004772 013772 A
004773 000006 A     1334          DATA    6,TBUF1                                                          05 01181
004774 002502 A
                    1335 *                                                                               05 01182
004775 012505 A     1336          LDA     TBUF1+3                                                      05  05 01183
004776 052014 A     1337          STA     ITEM        SAVE ADDRESS                                     05  05 01184
004777 012506 A     1338          LDA     TBUF1+4                                                      05  05 01185
005000 004244 A     1339          LRLA    4                                                            05  05 01186
005001 112020 A     1340          ORA     ITEM+4                                                       05  05 01187
005002 052020 A     1341          STA     ITEM+4      PUT PRIORITY IN ENTRY                            05  05 01188
005003 020000 L     1342          LDB     =ITEM                                                        05  05 01189
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005004 030000 L 1343          LDX     =SGSCB8                                                  05 01190
005005 005301 A 1344          DECR    01                                                       05 01191
005006 002000 A 1345          CALL    SGSAE           SEARCH TASK ENTRY STACK FOR NAME         05 01192
005007 014744 A
005010 000000 A 1346          DATA    0                                                        05 01193
005011 005041 A 1347          TXA                                                              05 01194
005012 001002 A 1348          JAP     TDF6            ERROR, IF IT'S BEEN USED BEFORE          05 01195
005013 005121 A
005014 020000 L 1349          LDB     =ITEM                                                    05 01196
005015 030000 L 1350          LDX     =SGSCB8                                                  05 01197
005016 002000 A 1351          CALL    SGPUT           PUT ENTRY NAME IN STACK                  05 01198
005017 014331 A
005020 001004 A 1352          JAN     TDF3            ERROR, IF NO ROOM                        05 01199
005021 005110 A
005022 030000 L 1353          LDX     =SGSCB6                                                  05 01200
005023 002000 A 1354          CALL    SG4ENT          PUT ENTRY NAME IN LOADER TABLE           05 01201
005024 013544 A
005025 002502 A 1355          DATA    TBUF1                                                    05 01202
                1356          IFT     VORTEX-2                                          V2     05 01203
                1357          GOTO    1                                                 V2     05 01204
                1358          LDA     SGWBUF+1        GET STATUS WORD                   V2     05 01205
                1359          BT      RA1+B10,TDF9     IS TASK RESIDENT ?               V2     05 01206
                1360          LDAI    0143152         NO                                V2     05 01207
                1361          STA     SGWBUF+010      LOAD FL LIB/KEY                   V2     05 01208
                1362 TDF9     EQU     *                                                 V2     05 01209
                1363 1        CONT                                                      V2     05 01210
                1364 *                                                                         05 01211
                1365          IFF     VORTEX-2                                          V75*******
                1366          LDA     =29                                               V75*******
                1367          IFF     VORTEX-1                                          V75*******
005026 010000 L 1368          LDA     =26                                               V75*******
                1369          IFT     V75                                               V75*******
005027 142507 A 1370          SUB     TBUF1+5                                           V75*******
005030 005012 A 1371          TAB                                                       V75*******
005031 005322 A 1372 TDF2     DBR                                                              05 01216
005032 006016 A 1373          LDAE    SGWBUF,B                                                 05 01217
005033 002406 A
005034 057000 I 1374          STA     VDATA                                                    05 01218
005035 006505 A 1375          JSR     VMNCT,X                                                  05 01219
005036 013215 A
005037 017000 I 1376          LDA     MA                                                       05 01220
005040 005311 A 1377          DAR                                                              05 01221
005041 057000 I 1378          STA     MA                                                       05 01222
005042 001026 A 1379          JBNZ    TDF2            IF MORE WORDS TO STORE                   05 01223
005043 005031 A
                1380 *                                                                         05 01224
005044 005112 A 1381          INCR    012                                                      05 01225
005045 062700 A 1382          STB     SGCPED          RESTORE LOCATION COUNTER                 05 01226
005046 142540 A 1383          SUB     SS9                                                      05 01227
005047 001004 A 1384          JAN     TDF4            IF NUCLEUS EXCEEDS AVAILABLE MEMORY      05 01228
005050 005118 A
                1385 *                                                                         05 01229
005051 012407 A 1386          LDA     SGWBUF+1        GET STATUS WORD                          05 01230
                1387          IFF     VORTEX-1                                          V2     05 01231
005052 006440 A 1388          BT      RA0+B0,SG4ICR    AND RETURN IF TASK NON-RESIDENT(B0=0 C   05 01232
005053 003443 A
                1389          IFF     VORTEX-1                                          V2     05 01233
                1390          GOTO    1                                                 V2     05 01234
                1391          BT      RA1+B0,TDF10    IS TASK RESIDENT ?                 D.105 01235
                1392          LDA     SGWBUF+2        NO                                V2     05 01236
                1393          BT      RA1+B8,TDF11        IS TASK VORTEX II OPCOM ?     V2     05 01237
                1394          JMP     SG4ICR          NO. EXIT                          V2     05 01238
                1395 1        CONT                                                      V2     05 01239
005054 017000 I 1396 TDF10    LDA     MA                                                V2     05 01240
005055 122577 A 1397          ADD     TEN                                                      05 01241
005056 052517 A 1398          STA     TBUF2+3         SAVE ADDR. OF TIDB CELL NEEDING PROC. ADDR 05 01242
005057 030000 L 1399          LDX     -SGSCB6                                                  05 01243
005060 002000 A 1400          CALL    SG4EXT          PLACE EXTERNAL FOR TASK IN LOADER TABLE  05 01244
005061 013440 A
005062 002514 A 1401          DATA    TBUF2                                                    05 01245
005063 017000 I 1402          LDA     MA                                                       05 01246
005064 122532 A 1403          ADD     EIGHT                                                    05 01247
005065 052517 A 1404          STA     TBUF2+3         SAVE ADDR. OF TIDB CELL NEEDING PROC. ADDR 05 01248
005066 030000 L 1405          LDX     =SGSCB6                                                  05 01249
005067 002000 A 1406          CALL    SG4EXT          PLACE EXTERNAL FOR TASK IN LDR TABLE     05 01250
005070 013440 A
005071 002514 A 1407          DATA    TBUF2                                                    05 01251
                1408          IFT     VORTEX-2                                          V2     05 01252
                1409          GOTO    1                                                 V2     05 01253
                1410 TDF11    LDA     MA                                                V2     05 01254
                1411          ADDI    28                                                V2     05 01255
                1412          STA     TDFM+3          STORE LINK ADDRESS OF 'V$MIMG'    V2     05 01256
                1413          LDX     =SGSCB6                                           V2     05 01257
                1414          CALL    SG4EXT          ENTER IN SYMBOL TABLE             V2     05 01258
                1415          DATA    TDFM                                              V2     05 01259
                1416 1        CONT                                                      V2     05 01260
005072 012216 A 1417          LDA     TBUF4           GET FIRST CHAR OF SPECIAL OPCOM LINK     05 01261
005073 004350 A 1418          LSRA    8                                                        05 01262
005074 130000 L 1419          ERA     =0260                                                    05 01263
005075 001010 A 1420          JAZ     SG4ICR          *  * RETURN, IF NO SPECIAL LINK          05 01264
005076 003443 A
005077 017000 I 1421          LDA     MA                                                       05 01265
005100 122576 A 1422          ADD     NINE                                                     05 01266
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005101 052221 A 1423          STA     TBUF4+3       COMPUTE ADDR FOR SPECIAL LINK                    05 01267
005102 030000 L 1424          LDX     =SGSCB6                                                        05 01268
005103 002000 A 1425          CALL    SG4EXT        MAKE EXTERNAL ENTRY FOR SPECIAL LINK             05 01269
005104 013440 A
005105 002216 A 1426          DATA    TBUF4                                                          05 01270
005106 001000 A 1427          JMP     SG4ICR        *  * RETURN *  *                                 05 01271
005107 003443 A
                1428 *                                                                               05 01272
                1429 *        *  * POST ERROR MESSAGES *  *                                         05 01273
                1430 *                                                                               05 01274
005110 012632 A 1431 TDF3     LDA     ER24          POST 'STACK OVERFLOW ERROR' MESSAGE              05 01275
005111 001006 A 1432          DATA    01006                                                          05 01276
005112 012635 A 1433 TDF4     LDA     ER30          POST 'NUCLEUS SIZE ERROR' MESSAGE                05 01277
005113 002000 A 1434          CALL    SG4PRO                                                         05 01278
005114 013617 A
005115 001000 A 1435          JMP     RELOAD        GO RELOAD DIRECTIVE PROCESSOR                    05 01279
005116 015031 A
                1436 *                                                                               05 01280
005117 012611 A 1437 TDF5     LDA     ER03          POST 'SYNTAX ERRIR' MESSAGE                      05 01281
005120 001006 A 1438          DATA    01006                                                          05 01282
005121 012612 A 1439 TDF6     LDA     ER04          POST 'PARAMETER ERROR' MESSAGE                   05 01283
005122 002000 A 1440          CALL    SG4ASC          RECOVER TO REREAD CONTROL RECORD               05 01284
005123 013766 A
005124 001000 A 1441          JMP     SG4IND                                                         05 01285
005125 003470 A
                1442          IFT     VORTEX-2                                                 V2    05 01286
                1443          GOTO    1                                                        V2    05 01287
                1444 TDFM     DATA    'V$MIMG',0                                               V2    05 01288
                1445 TDFO     DATA    'V$OPCM'                                                 V2    05 01289
                1446 1        CONT                                                             V2    05 01290
                1447          EJEC                                                                   05 01291
                1448 *                                                                               05 01292
                1449 *        SG4END                                                                 05 01293
                1450 *                                                                               05 01294
                1451 *              PURPOSE:  PURGE LOAD-MODULE-GENERATOR STACKS                     05 01295
                1452 *                                                                               05 01296
                1453 *              CALLING SEQUENCE:  INDIRECT JUMP FROM SG4ICR                     05 01297
                1454 *                                                                               05 01298
                1455 *              RETURN PARAMETERS:  NONE                                         05 01299
                1456 *                                                                               05 01300
                1457 *                                                                               05 01301
005126          1458 SG4END   BSS     0                                                              05 01302
005126 002000 A 1459          CALL    SGPUR           PURGE TEMPORARY STACK                          05 01303
005127 014243 A
005130 012672 A 1460          LDA     SGLKEY                                                         05 01304
005131 140000 L 1461          SUB     ='V0'                                                          05 01305
                1462          IFF     VORTEX-2                                                 V2    05 01306
                1463          JAZ     SG4SAC                                                   V2    05 01307
                1464          IFF     VORTEX-1                                                 V2    05 01308
005132 001010 A 1465          JAZ     SG4LHG          IF PROCESSING NUCLEUS, GENERATE TABLES         05 01309
005133 005136 A
005134 001000 A 1466          JMP     SG4ICR        *  * EXIT ROUTINE *  *                           05 01310
005135 003443 A
                1467          EJEC                                                                   05 01311
                1468 *                                                                               05 01312
                1469 *        SG4LHG                                                                 05 01313
                1470 *              PURPOSE:  TO GENERATE INTERRUPT LINE HANDLERS                    05 01314
                1471 *                                                                               05 01315
                1472 *              CALLING SEQUENCE:  JMP    SG4LHG                                 05 01316
                1473 *                                                                               05 01317
                1474 *              RETURN PARAMETERS:  NONE                                         05 01318
                1475 *                                                                               05 01319
                1476 *                                                                               05 01320
005136          1477 SG4LHG   BSS     0             *  * ENTRY POINT *  *                             05 01321
005136 012700 A 1478          LDA     SGCPED                                                         05 01322
005137 005311 A 1479          DAR                                                                    05 01323
005140 057000 I 1480          STA     MA            SET UP VIRTUAL MEMORY ADDRESS REGISTER           05 01324
005141 054265 A 1481          STA     LHG9+3                                                         05 01325
005142 030000 L 1482          LDX     =SGSCB6                                                        05 01326
005143 002000 A 1483          CALL    SG4ENT        PUT "V$END" IN LDR TABLE                         05 01327
005144 013544 A
005145 005424 A 1484          DATA    LHG9                                                           05 01328
                1485 *                                                                               05 01329
005146 012571 A 1486          LDA     RM377         INITIALIZE ALL INTERRUPT MASKS TO DISABLED       05 01330
005147 052216 A 1487          STA     TBUF4                                                          05 01331
005150 052217 A 1488          STA     TBUF4+1                                                        05 01332
005151 052220 A 1489          STA     TBUF4+2                                                        05 01333
005152 052221 A 1490          STA     TBUF4+3                                                        05 01334
005153 052222 A 1491          STA     TBUF4+4                                                        05 01335
005154 052223 A 1492          STA     TBUF4+5                                                        05 01336
005155 052224 A 1493          STA     TBUF4+6                                                        05 01337
005156 052225 A 1494          STA     TBUF4+7                                                        05 01338
                1495 *                                                                               05 01339
                1496 *                                                                               05 01340
                1497 *                                                                               05 01341
005157 010514 A 1498          LDA     SGSCB4                                                         05 01342
005160 005014 A 1499 LHG1     TAX                   (XR)= POINTER TO INTERRUPT STACK                 05 01343
005161 074126 A 1500          STX     LHG2          SAVE POINTER                                     05 01344
005162 140515 A 1501          SUB     SGSCB4+1                                                       05 01345
005163 001016 A 1502          JANZ    LHG3          IF NOT END OF STACK                              05 01346
005164 005245 A
                1503 *                                                                               05 01347
005165 017000 I 1504          LDA     MA                                                             05 01348
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005166 005111 A 1505          IAR                                                    05 01349
005167 054233 A 1506          STA     LHG8+3                                         05 01350
005170 030000 L 1507          LDX     =SGSCB6                                        05 01351
005171 002000 A 1508          CALL    SG4ENT    PUT "V$LHD" IN LDR TABLE             05 01352
005172 013544 A
005173 005420 A 1509          DATA    LHG8                                           05 01353
               1510 *                                                                05 01354
005174 017000 I 1511          LDA     MA                                             05 01355
005175 057000 I 1512          STA     PLC       RESTORE LOCATION COUNTER             05 01356
005176 142540 A 1513          SUB     BS9                                            05 01357
005177 001004 A 1514          JAN     LHG14     ERROR, IF MEMORY SPACE EXCEEDED      05 01358
005200 005240 A
               1515 *                                                                05 01359
005201 006505 A 1516          JSR     SG4PKK,X  CONVERT "#$IM" TO LOADER CODE        05 01360
005202 013772 A
005203 000006 A 1517          DATA    6,LHG12                                        05 01361
005204 005431 A
005205 005301 A 1518          DECR    01                                             05 01362
005206 030000 L 1519          LDX     =SGSCB6                                        05 01363
005207 020000 L 1520          LDB     =ITEM                                          05 01364
005210 002000 A 1521          CALL    SGSAE     SEARCH DATA PATCH STACK FOR "#$IM"   05 01365
005211 014744 A
005212 000000 A 1522          DATA    0                                              05 01366
005213 122575 A 1523          ADD     SEVEN                                          05 01367
005214 057000 I 1524          STA     MA        (MA)= (V$IM+7)                       05 01368
005215 005041 A 1525          TXA                                                    05 01369
005216 001004 A 1526          JAN     LHG15     ERROR,IF "#$IM" NOT FOUND            05 01370
005217 005236 A
               1527 *                                                                05 01371
005220 022532 A 1528          LDB     EIGHT     STORE 8-WORDS OF PIM MASK IN LOW CORE 05 01372
005221 005322 A 1529 LHG13    DBR               AT (V$IM)                            05 01373
005222 006016 A 1530          LDAE    TBUF4,B                                        05 01374
005223 002216 A
005224 057000 I 1531          STA     VDATA                                          05 01375
005225 006505 A 1532          JSR     VMWCT,X                                        05 01376
005226 013215 A
005227 017000 I 1533          LDA     MA                                             05 01377
005230 005311 A 1534          DAR                                                    05 01378
005231 057000 I 1535          STA     MA        DECREMENT MEMORY ADDRESS             05 01379
005232 001086 A 1536          JBNZ    LHG13                                          05 01380
005233 005221 A
005234 001000 A 1537          JMP     SG4FTG    *  * EXIT *  *                       05 01381
005235 005433 A
               1538 *                                                                05 01382
               1539 *                                                                05 01383
               1540 *                                                                05 01384
005236 012647 A 1541 LHG15    LDA     ER45      POST "UNDEFINED EXTERNAL" MESSAGE    05 01385
005237 001006 A 1542          DATA    01006                                          05 01386
005240 012635 A 1543 LHG14    LDA     ER30      POST "MEMORY SIZE ERROR" MESSAGE     05 01387
005241 002000 A 1544          CALL    SG4PRO                                         05 01388
005242 013617 A
005243 001000 A 1545          JMP     RELOAD      AND GO RELOAD DIRECTIVE PROCESSOR  05 01389
005244 015031 A
               1546 *                                                                05 01390
               1547 *                                                                05 01391
005245 017000 I 1548 LHG3     LDA     MA                                             05 01392
005246 054161 A 1549          STA     LHG10     SAVE CURRENT MEMORY ADDRESS          05 01393
005247 142531 A 1550          SUB     FOUR                                           05 01394
               1551          IFT     VORTEX-2                                 V2    05 01395
               1552          GOTO    1                                        V2    05 01396
               1553          LDB     0,X                                      V2    05 01397
               1554          LRLB    1                                        V2    05 01398
               1555          ASRB    15                                       V2    05 01399
               1556          XBNZ    DAR       TYPE 2 DIRECT CONNECT IS 6 WORDS   V2 05 01400
               1557 1        CONT                                             V2    05 01401
005250 057000 I 1558          STA     VDATA     SET-UP ADDR. OF CURRENT LINE HANDLER 05 01402
               1559 *                                                                05 01403
005251 015000 A 1560          LDA     0,X                                            05 01404
005252 152571 A 1561          ANA     RNW                                      V2    05 01405
005253 004241 A 1562          LRLA    1                                              05 01406
005254 122535 A 1563          ADD     BS6                                            05 01407
005255 005111 A 1564          IAR                                                    05 01408
005256 057000 I 1565          STA     MA        COMPUTE TRAP (LOC+1) FOR INTERRUPT LINE 05 01409
               1566          IFT     VORTEX-2                                 V2    05 01410
               1567          GOTO    1                                        V2    05 01411
               1568          STA     LHG17     SAVE MA                        V2    05 01412
               1569          LDA     VDATA                                    V2    05 01413
               1570          STA     LHG18     SAVE VDATA                     V2    05 01414
               1571          LDX     =SGSCB6                                  V2    05 01415
               1572          LDB     LHG16                                    V2    05 01416
               1573          DECR    1                                        V2    05 01417
               1574          CALL    SGSAE     SEARCH LOADER TABLE FOR 'V$MPID' V2  05 01418
               1575          DATA    0                                        V2    05 01419
               1576          TXA                                              V2    05 01420
               1577          JAN     LHG15     ERROR IF NOT IN TABLE          V2    05 01421
               1578          LDA     0,X                                      V2    05 01422
               1579          JAP     LHG15     ERROR IF DEFINED               V2    05 01423
               1580          STX     LHG19     SAVE CURRENT LINK              V2    05 01424
               1581 LHGL1    ANA     BR15                                     V2    05 01425
               1582          JAZ     LHCK2     EXIT AT CHAIN END              V2    05 01426
               1583          STA     LHG20     SAVE FORWARD LINK              V2    05 01427
               1584          STA     MA                                       V2    05 01428
               1585          JSR     VMRCT,X   READ NEXT LINK                 V2    05 01429
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                    1586          LDA     MA                                                                V2  05  01430
                    1587          SUB     LHG17                                                             V2  05  01431
                    1588          JAZ     LHGX1       LINK FOUND ?                                          V2  05  01432
                    1589          LDA     LHG20       NO                                                    V2  05  01433
                    1590          STA     LHG19       UPDATE                                                V2  05  01434
                    1591          LDA     VDATA                                                             V2  05  01435
                    1592          JMP     LHGL1       LOOP                                                  V2  05  01436
                    1593 LHGX1    LDA     LHG19                                                             V2  05  01437
                    1594          STA     MA                                                                V2  05  01438
                    1595          JSR     VMWCT,X     LINK OVER ITEM                                        V2  05  01439
                    1596 LHGX2    EQU     *                                                                 V2  05  01440
                    1597          LDA     LHG18                                                             V2  05  01441
                    1598          STA     VDATA                                                             V2  05  01442
                    1599          LDA     LHG17       RESTORE VIRTUAL PARAMETERS                            V2  05  01443
                    1600          STA     MA                                                                V2  05  01444
                    1601 1        CONT                                                                      V2  05  01445
005257 006505 A     1602          JSR     VMWCT,X       AND STORE ADDR OF LINE HANDLER                          05  01446
005260 013215 A
005261 005311 A     1603          DAR                                                                           05  01447
005262 057000 I     1604          STA     MA                                                                    05  01448
005263 012541 A     1605          LDA     BS10                                                                  05  01449
005264 057000 I     1606          STA     VDATA                                                                 05  01450
005265 006505 A     1607          JSR     VMWCT,X     STORE "JMPM" INSTR IN TRAP (LOC)                          05  01451
005266 013215 A
                    1608 *                                                                                        05  01452
005267 034020 A     1609          LDX     LHG2                                                                  05  01453
005270 015000 A     1610          LDA     0,X         GET INTERRUPT LINE NUMBER                                 05  01454
005271 152571 A     1611          ANA     RHW         REMOVE POSSIBLE DIRECT-CONNECT BIT                        05  01455
005272 004543 A     1612          LLSR    3                                                                     05  01456
005273 004155 A     1613          LSRB    13          (BR)= PIM LINE NUMBER                                     05  01457
005274 005013 A     1614          TAX               (XR)= PIM MODULE NUMBER                                     05  01458
005275 006016 A     1615          LDAL    MT+1,B                                                                05  01459
005276 002527 A
005277 006135 A     1616          ERAE    TBUF4,X                                                               05  01460
005300 002216 A
005301 006055 A     1617          STAE    TBUF4,X     TURN OFF (ENABLE) PIM MASK BIT                            05  01461
005302 002216 A
                    1618 *                                                                                        05  01462
005303 014124 A     1619          LDA     LHG10                                                                 05  01463
005304 057000 I     1620          STA     MA          RESTORE (MA) TO LINE HANDLER REGION                       05  01464
                    1621 *                                                                                        05  01465
005305 002000 A     1622          CALL    SGMOV       GET NAME OF INTERRUPT PROCESSOR                           05  01466
005306 014325 A
005307 000005 A     1623          DATA    5                                                                     05  01467
005310 000000 A     1624 LHG2     DATA    0,TBUF1                                                               05  01468
005311 002502 A
005312 012506 A     1625          LDA     TBUF1+4                                                               05  01469
005313 057000 I     1626          STA     VDATA       SAVE INTERRUPT EVENT WORD                                 05  01470
005314 012502 A     1627          LDA     TBUF1                                                                 05  01471
005315 001004 A     1628          JAN     LHG3        IF DIRECTLY-CONNECTED INTERRUPT                           05  01472
005316 005364 A
                    1629 *                                                                                        05  01473
005317 017000 I     1630          LDA     MA                                                                    05  01474
005320 052506 A     1631          STA     TBUF1+4     ADDR OF HANDLER LOC NEEDING PROC. ADDR.                   05  01475
005321 005311 A     1632 DAR      DAR                                                                       V2  05  01476
005322 057000 I     1633          STA     MA          SET UP VIRTUAL MEMORY ADDR.                               05  01477
005323 006505 A     1634          JSR     VMWCT,X       AND STORE EVENT WORD                                    05  01478
005324 013215 A
005325 030000 L     1635          LDX     =SGSCB6                                                               05  01479
005326 002000 A     1636          CALL    SG4EXT      PLACE EXTERNAL TO PROCESSOR IN LDR TABLE                  05  01480
005327 013440 A
005330 002503 A     1637          DATA    TBUF1+1                                                               05  01481
005331 017000 I     1638          LDA     MA                                                                    05  01482
005332 005311 A     1639          DAR                                                                           05  01483
005333 057000 I     1640          STA     MA          DECR VIR. MEM. ADDR.                                      05  01484
005334 054062 A     1641          STA     LHG5+3                                                                05  01485
005335 030000 L     1642          LDX     =SGSCB6                                                               05  01486
005336 002000 A     1643          CALL    SG4EXT      PLACE EXT. TO COMMON HANDLER IN LDR TABLE                 05  01487
005337 013440 A
005340 005414 A     1644          DATA    LHG5                                                                  05  01488
005341 012541 A     1645          LDA     BS10                                                                  05  01489
005342 057000 I     1646          STA     VDATA       SET UP 'JMPM' INSTR.                                      05  01490
005343 017000 I     1647          LDA     MA                                                                    05  01491
005344 005311 A     1648          DAR                                                                           05  01492
005345 057000 I     1649          STA     MA          DECR VIR. MEM. ADDR.                                      05  01493
005346 006505 A     1650 LHG7     JSR     VMWCT,X       AND STORE 'JMPM'                                        05  01494
005347 013215 A
005350 005311 A     1651          DAR                                                                           05  01495
005351 057000 I     1652          STA     MA          DECR VIR. MEM. ADDR.                                      05  01496
005352 005002 A     1653          TZB               *                                                           05  01497
005353 067000 I     1654          STB     VDATA     *                                                           05  01498
005354 006505 A     1655          JSR     VMWCT,X       AND STORE 'ENTR' (ENTRY POINT)                          05  01499
005355 013215 A
005356 005311 A     1656          DAR                                                                           05  01500
005357 057000 I     1657          STA     MA          DECR VIR. MEM. ADDR.                                      05  01501
005360 017000 I     1658          LDA     LHG9                                                                  05  01502
005361 122573 A     1659          ADD     FIVE        UPDATE POINTER TO INTERRUPT STACK                         05  01503
005362 001000 A     1660          JMP     LHG1          AND CONTINUE                                            05  01504
005363 005160 A
                    1661 *                            *  * PROCESS DIRECTLY CONNECTED INT. *  *                05  01505
                    1662 *                                                                                        05  01506
005364 006505 A     1663 LHG6     JSR     VMWCT,X     STORE EVENT WORD                                          05  01507
005365 013215 A
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005366 017000 I 1664          LDA     MA                                                          05 01508
005367 005311 A 1665          DAR                                                                 05 01509
005370 057000 I 1666          STA     MA              DECR VIR. MEM. ADDR.                        05 01510
005371 052506 A 1667          STA     TBUF1+4                                                     05 01511
005372 030000 L 1668          LDX     =SGSCB6                                                     05 01512
005373 002000 A 1669          CALL    SG4EXT          PLACE EXT TO INT. PROC. IN LDR TABLE        05 01513
005374 013440 A
005375 002503 A 1670          DATA    TBUF1+1                                                     05 01514
                1671          IFT     VORTEX-2                                            V2      05 01515
                1672          GOTO    1                                                   V2      05 01516
                1673          LDA     TBUF1                                               V2      05 01517
                1674          LRLA    1                                                   V2      05 01518
                1675          JAP     LHG22           TEST FOR SPECIAL DIRECT CONNECT     V2      05 01519
                1676          LDA     MA                                                  V2      05 01520
                1677          DAR                     DROP ADDRESS                        V2      05 01521
                1678          STA     MA                                                  V2      05 01522
                1679          STA     LHG21+3                                             V2      05 01523
                1680          LDX     =SGSCB6                                             V2      05 01524
                1681          CALL    SG4EXT          SET 'V$DHD'                         V2      05 01525
                1682          DATA    LHG21                                               V2      05 01526
                1683 LHG22    EQU     *                                                   V2      05 01527
                1684 1        CONT                                                        V2      05 01528
005376 012541 A 1685          LDA     BS10                                                        05 01529
005377 057000 I 1686          STA     VDATA           SET UP 'JMPM' INSTR.                        05 01530
005400 017000 I 1687          LDA     MA                *                                         05 01531
005401 005311 A 1688          DAR                       *                                         05 01532
005402 057000 I 1689          STA     MA              DECR VIR. MEM. ADDR.                        05 01533
005403 006505 A 1690          JSR     VMWCT,X           AND STORE 'JMPM'                          05 01534
005404 013215 A
005405 005311 A 1691          DAR                                                                 05 01535
005406 057000 I 1692          STA     MA              DECR VIR. MEM. ADDR.                        05 01536
005407 024003 A 1693          LDB     LHG4              *                                         05 01537
005410 067000 I 1694          STB     VDATA             SET UP INTERRUPT DISABLE INSTR.           05 01538
005411 001000 A 1695          JMP     LHG7            REJOIN COMMON ROUTINE TO FINISH             05 01539
005412 005346 A
                1696 *                                                                            05 01540
                1697 *                                                                            05 01541
005413 100747 A 1698 LHG4     EXC     0747            CLOCK INTERRUPT DISABLE (INSTRUCTION)       05 01542
                1699 *                                                                            05 01543
005414 153244 A 1700 LHG5     DATA    'V$IHD',0       EXTERNAL SET-UP FOR COMMON INT. HANDLER     05 01544
005415 144710 A
005416 142240 A
005417 000000 A
                1701 *                                                                            05 01545
005420 153244 A 1702 LHG8     DATA    'V$LHD',0                                                   05 01546
005421 146310 A
005422 142240 A
005423 000000 A
                1703 *                                                                            05 01547
005424 153244 A 1704 LHG9     DATA    'V$END',0                                                   05 01548
005425 142716 A
005426 142240 A
005427 000000 A
                1705 *                                                                            05 01549
005430 000000 A 1706 LHG10    DATA    0               TEMPORARY STORE FOR (MA)                    05 01550
                1707 *                                                                            05 01551
005431 153244 A 1708 LHG12    DATA    'V$IM ',0                                                   05 01552
005432 144715 A
005433 120240 A
005434 000000 A
                1709          IFT     VORTEX-2                                            V2      05 01553
                1710          GOTO    1                                                   V2      05 01554
                1711 LHG16    DATA    *-1                                                 V2      05 01555
                1712          DATA    05157           'V$MPID' IN LOADER CODE             V2      05 01556
                1713          DATA    0102267                                             V2      05 01557
                1714          DATA    015                                                 V2      05 01558
                1715 LHG17    BSS     1               SAVE MA                             V2      05 01559
                1716 LHG18    BSS     1               SAVE VDATA                          V2      05 01560
                1717 LHG19    BSS     1               BACK LINK                           V2      05 01561
                1718 LHG20    BSS     1               FORWARD LINK                        V2      05 01562
                1719 LHG21    DATA    'V$DHD',0                                           V2      05 01563
                1720 1        CONT                                                        V2      05 01564
                1721          EJEC                                                                05 01565
                1722 *                                                                            05 01566
                1723 *        SG4FTG                                                              05 01567
                1724 *                                                                            05 01568
                1725 *          PURPOSE:  TO GENERATE THE BIC FLAG TABLE                          05 01569
                1726 *                                                                            05 01570
                1727 *          CALLING SEQUENCE:  JMP  SG4FTG                                    05 01571
                1728 *                                                                            05 01572
                1729 *          RETURN PARAMETERS:  NONE                                          05 01573
                1730 *                                                                            05 01574
                1731 *                                                                            05 01575
005435          1732 SG4FTG   BSS     0                                                           05 01576
005435 017000 I 1733          LDA     LLC                                                         05 01577
005436 057000 I 1734          STA     MA              SET UP VIRTUAL MEMORY ADDR. REGISTER        05 01578
005437 006010 A 1735          LDAI    '!B'                                                        05 01579
005440 120702 A
005441 052514 A 1736          STA     TBUF2           FIRST TWO CHAR OF EVERY LOADER TABLE        05 01580
                1737 *                  ITEM GENERATED BY THIS ROUTINE                            05 01581
                1738 *                                                                            05 01582
005442 010500 A 1739          LDA     SGSCB0                                                      05 01583
005443 005014 A 1740 FTG8     TAX                     (XR)= POINTER TO EQUIP STACK                05 01584
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005444 074177 A 1741          STX     FTG7          SAVE POINTER                                   05 01585
005445 140501 A 1742          SUB     SGSCB0+1                                                     05 01586
005446 001016 A 1743          JANZ    FTG1          IF NOT END OF EQUIP STACK                      05 01587
005447 005461 A
                    1744 *                                                                         05 01588
005450 017000 I 1745          LDA     MA                                                           05 01589
005451 057000 I 1746          STA     LLC           RESTORE LOADING LOCATION COUNTER               05 01590
005452 142540 A 1747          SUB     BS9                                                          05 01591
005453 001004 A 1748          JAN     FTG2          ERROR IF NUCLEUS TOO LARGE                     05 01592
005454 005637 A
005455 002000 A 1749          CALL    SGPUR         PURGE THE TEMPORARY STACK                      05 01593
005456 014243 A
005457 001000 A 1750          JMP     SG4COT        EXIT ROUTINE  *  *  *                          05 01594
005460 005670 A
                    1751 *                                                                         05 01595
                    1752 *                                                                         05 01596
005461 015003 A 1753 FTG1     LDA     3,X                                                          05 01597
005462 152571 A 1754          ANA     RHW           GET BIC NUMBER FROM EQUIP STACK ITEM           05 01598
005463 052517 A 1755          STA     TBUF2+3         AND SAVE                                     05 01599
005464 052521 A 1756          STA     TBUF3                                                      E.2********
005465 001010 A 1757          JAZ     FTG3          IF NO BIC (ZERO) GO DIRECTLY TO MAKE           05 01600
005466 005574 A
                    1758 *                            LOADER TABLE STACK ENTRY                     05 01601
005467 010533 A 1759          LDA     SGSCB9                                                       05 01602
005470 005012 A 1760 FTG6     TAB                   (BR)= POINTER TO TEMPORARY STACK ITEM          05 01603
005471 140534 A 1761          SUB     SGSCB9+1                                                     05 01604
005472 001010 A 1762          JAZ     FTG4          IF ENTIRE TEMP STACK SEARCHED                  05 01605
005473 005611 A
005474 015003 A 1763          LDA     3,X                                                          05 01606
005475 152571 A 1764          ANA     RHW                                                          05 01607
005476 146000 A 1765          SUB     0,B           COMPARE BIC NUM WITH TEMP STACK ENTRIES        05 01608
005477 001010 A 1766          JAZ     FTG5          IF MATCH FOUND                                 05 01609
005500 005505 A
005501 005021 A 1767          TBA                                                                  05 01610
005502 120535 A 1768          ADD     SGSCB9+2      OTHERWISE, UPDATE POINTER                      05 01611
005503 001000 A 1769          JMP     FTG6            AND CONTINUE                               05 01612
005504 005470 A
                    1770 *                                                                         05 01613
005505 016001 A 1771 FTG5     LDA     1,B           GET V.M. ADDR. OF PREVIOUSLY STORED BIC ND     05 01614
005506 052517 A 1772          STA     TBUF2+3         AND SAVE                                     05 01615
005507 001000 A 1773          JMP     FTG3                                                       E.2********
005510 005574 A
                    1774 *                                                                         05 01616
005511 012521 A 1775 FTG9     LDA     TBUF3         CONVERT DEVICE ADDRESS                       E.2********
005512 006150 A 1776          ANAI    0X0           TO TWO SIX BIT                               E.2********
005513 000070 A
005514 006120 A 1777          ADDI    03200         LOADER CODE WORDS                            E.2********
005515 003200 A
005516 004243 A 1778          LSLA    03                                                         E.2********
005517 005012 A 1779          TAB                                                                E.2********
005520 012521 A 1780          LDA     TBUF3                                                      E.2********
005521 006150 A 1781          ANAI    07                                                         E.2********
005522 000007 A
005523 006120 A 1782          ADDI    020                                                        E.2********
005524 000020 A
005525 005031 A 1783          DATA    05031         INCLUSIVE OR B INTO A                        E.2********
005526 054116 A 1784          STA     FTG16         STORE LOADER WORD IN !BICXX BUF              E.2********
005527 006010 A 1785          LDAI    -1            SEARCH ONLY                                  E.2********
005530 177777 A
005531 006020 A 1786          LDBI    FTG16-2       FOR !BICXX                                   E.2********
005532 005643 A
005533 006030 A 1787          LDXI    SGSCB6        IN LOADER TABLE                              E.2********
005534 000522 A
005535 002000 A 1788          CALL    SGSAE                                                      E.2********
005536 014744 A
005537 000000 A 1789          DATA    0             SIZE OF KEY                                  E.2********
005540 001002 A 1790          JAP     FTG14         JUMP IF ENTRY FOUND                          E.2********
005541 005566 A
005542 006030 A 1791          LDXI    15            LINEAR SEARCH THRU DEFAULT TABL              E.2********
005543 000017 A
005544 006015 A 1792 FTG11    LDAE    FTGTBL,X                                                   E.2********
005545 005650 A
005546 152571 A 1793          ANA     RHW           DEV ADDR IS IN RHW                           E.2********
005547 142521 A 1794          SUB     TBUF3         CURRENT BIC DA                               E.2********
005550 001010 A 1795          JAZ     FTG13         JUMP IF MATCH                                E.2********
005551 005563 A
005552 001002 A 1796          JAP     FTG15         ERROR - NOT IN DEFAULT TABLE                 E.2********
005553 005633 A
005554 005041 A 1797          TXA                                                                E.2********
005555 005311 A 1798          DAR           DECREMENT INDEX                                      E.2********
005556 001004 A 1799          JAN     FTG15         ERROR--NOT IN DEFAULT TBL                    E.2********
005557 005633 A
005560 005014 A 1800          TAX                                                                E.2********
005561 001000 A 1801          JMP     FTG11         LOOP                                         E.2********
005562 005544 A
005563 006015 A 1802 FTG13    LDAE    FTGTBL,X      BIC DA FOUND IN DEFAULT TABLE                E.2********
005564 005650 A
005565 004350 A 1803          LSRA    3             TRAP LOC IN LHW                              E.2********
005566 057000 I 1804 FTG14    STA     VDATA                                                      E.2********
005567 006505 A 1805          JSR     VMWCT,X       STORE TRAP LOC IN BIC FLAG TABL              E.2********
005570 013215 A
005571 017000 I 1806          LDA     MA                                                         E.2********
005572 005311 A 1807          DAR                                                                E.2********
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005573 057000 I 1808          STA     MA                                                          E.2*********
005574 034047 A 1809 FTG3     LDX     FTG7        PTR TO EQUIP STACK ENTRY                        E.2*********
005575 015000 A 1810          LDA     0,X         MOVE CONTROLLER NAME                            E.2*********
005576 052515 A 1811          STA     TBUF2+1                                                       05 01618
005577 015001 A 1812          LDA     1,X                                                           05 01619
005600 052516 A 1813          STA     TBUF2+2                                                       05 01620
005601 030000 L 1814          LDX     =SGSCB6                                                       05 01621
005602 002000 A 1815          CALL    SG4ENT      MAKE ENTRY FOR BIC NO. IN LOADER TABLE            05 01622
005603 013544 A
005604 002514 A 1816          DATA    TBUF2                                                         05 01623
005605 014036 A 1817          LDA     FTG7                                                          05 01624
005606 120502 A 1818          ADD     SGSCB0+2    UPDATE EQUIP STACK POINTER                        05 01625
005607 001000 A 1819          JMP     FTG8          AND CONTINUE                                    05 01626
005610 005443 A
                1820 *                                                                              05 01627
005611 015003 A 1821 FTG4     LDA     3,X                                                           05 01628
005612 152571 A 1822          ANA     RHW                                                           05 01629
005613 052502 A 1823          STA     TBUF1       SAVE BIC NUMBER                                   05 01630
005614 005211 A 1824          CPA                                                                   05 01631
005615 057000 I 1825          STA     VDATA                                                         05 01632
005616 006505 A 1826          JSR     VMWCT,X     MAKE ENTRY IN BIC FLAG TABLE                      05 01633
005617 013215 A
005620 017000 I 1827          LDA     MA                                                            05 01634
005621 052503 A 1828          STA     TBUF1+1     SAVE BIC FLAG TABLE ADDR FOR TEMP STACK           05 01635
005622 052517 A 1829          STA     TBUF2+3       AND LOADER TABLE STACK                          05 01636
005623 005311 A 1830          DAR                                                                   05 01637
005624 057000 I 1831          STA     MA          DECREMENT FOR NEXT ENTRY                          05 01638
005625 030000 L 1832          LDX     =SGSCB9                                                       05 01639
005626 020000 L 1833          LDB     =TBUF1                                                        05 01640
005627 002000 A 1834          CALL    SGPUT       MAKE TEMP STACK ENTRY                             05 01641
005630 014331 A
005631 001002 A 1835          JAP     FTG9        IF ENTRY MADE                                   E.2*********
005632 005511 A
                1836 *                                                                              05 01644
                1837 *        * * POST ERRORS * *                                                   05 01645
                1838 *                                                                              05 01646
005633 012633 A 1839 FTG15    LDA     ER25        POST "INCOMPLETE DEFINITION"                    E.2*********
005634 001006 A 1840          DATA    01006                                                       E.2*********
005635 012632 A 1841          LDA     ER24        POST "STACK OVERFLOW ERROR" MESSAGE               05 01647
005636 001006 A 1842          DATA    01006                                                         05 01648
005637 012635 A 1843 FTG2     LDA     ER30        POST "SYSTEM MEMORY EXCEEDED ERROR" MESS.         05 01649
005640 002000 A 1844          CALL    SG4PRO                                                        05 01650
005641 013617 A
005642 001000 A 1845          JMP     RELOAD      GO RELOAD SYSTEM                                  05 01651
005643 015031 A
                1846 *                                                                              05 01652
005644 000000 A 1847 FTG7     DATA    0                                                             05 01653
005645 030000 A 1848 FTG16    DATA    030000      LOADER CODE FOR                                 E.2*********
005646 061246 A 1849          DATA    061246      !BIC XX                                         E.2*********
005647 000000 A 1850          DATA    0                                                           E.2*********
                1851 *                                                                          E.2*********
                1852 *        DEFAULT TABLE                                                     E.2*********
005650 057076 A 1853 FTGTBL   DATA    057076      TRAP 136  BIC 76                                E.2*********
005651 046074 A 1854          DATA    046074           114       74                               E.2*********
005652 045072 A 1855          DATA    045072           112       72                               E.2*********
005653 044070 A 1856          DATA    044070           110       70                               E.2*********
005654 056066 A 1857          DATA    056066           134       66                               E.2*********
005655 055064 A 1858          DATA    055064           132       64                               E.2*********
005656 054062 A 1859          DATA    054062           130       62                               E.2*********
005657 053060 A 1860          DATA    053060           126       60                               E.2*********
005660 052056 A 1861          DATA    052056           124       56                               E.2*********
005661 051054 A 1862          DATA    051054           122       54                               E.2*********
005662 050052 A 1863          DATA    050052           120       52                               E.2*********
005663 047050 A 1864          DATA    047050           116       50                               E.2*********
005664 043026 A 1865          DATA    043026           106       26                               E.2*********
005665 042024 A 1866          DATA    042024           104       24                               E.2*********
005666 041022 A 1867          DATA    041022           102       22                               E.2*********
005567 040020 A 1868          DATA    040020           100       20                               E.2*********
                1869          EJEC                                                                  05 01654
                1870 *                                                                              05 01655
                1871 *        SG4COT                                                                05 01656
                1872 *                                                                              05 01657
                1873 *        PURPOSE:  TO BUILD THE CONTROLLER ADDRESS TABLE (COTAD)               05 01658
                1874 *                                                                              05 01659
                1875 *        CALLING SEQUENCE:  JMP   SG4COT                                       05 01660
                1876 *                                                                              05 01661
                1877 *        RETURN PARAMETERS:  NONE                                              05 01662
                1878 *                                                                              05 01663
                1879 *                                                                              05 01664
005670          1880 SG4COT   BSS     0           * * ENTRY POINT * *                               05 01665
005670 010501 A 1881          LDA     SGSCB0+1    COMPUTE THE NUMBER OF ENTRIES                     05 01666
005671 140500 A 1882          SUB     SGSCB0        IN THE EQUIP STACK,                             05 01667
005672 005012 A 1883          TAB                   AND SAVE THE RESULT IN (COT1)                   05 01668
005673 005001 A 1884          TZA                                                                   05 01669
005674 170502 A 1885          DIV     SGSCB0+2                                                      05 01670
005675 064170 A 1886          STB     COT7+3                                                        05 01671
005676 005322 A 1887          DBR                                                                   05 01672
005677 064155 A 1888          STB     COT1                                                          05 01673
                1889 *                                                                              05 01674
005700 017000 I 1890          LDA     LLC                                                           05 01675
005701 057000 I 1891          STA     MA          SAVE VIRTUAL MEMORY LOC. FOR BUILDING COTA        05 01676
005702 010500 A 1892          LDA     SGSCB0      INITIALIZE EQUIP STACK POINTER                    05 01677
005703 005014 A 1893 COT3     TAX                                                                   05 01678
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005704 074151 A 1894          STX     COT2          SAVE EQUIP STACK POINTER                          05 01679
005705 140501 A 1895          SUB     SGSCB0+1                                                        05 01680
005706 001002 A 1896          JAP     COT4          IF END OF EQUIP STACK SCAN                        05 01681
005707 006031 A
005710 010000 L 1897          LDA     ='CT'                                                           05 01682
005711 052502 A 1898          STA     TBUF1         SET "CT" FOR CONTROLLER TABLE ENTRY               05 01683
                     1899 *                                                                           05 01684
005712 015000 A 1900          LDA     0,X           CREATE LOADER TABLE ENTRY                         05 01685
005713 052503 A 1901          STA     TBUF1+1         FROM CONTROLLER TABLE NAME                      05 01686
005714 052515 A 1902          STA     TBUF2+1                                                         05 01687
005715 015001 A 1903          LDA     1,X             AND STRING ADDRESS TO COTAD (CURRENT MA)        05 01688
005716 052504 A 1904          STA     TBUF1+2                                                         05 01689
005717 052516 A 1905          STA     TBUF2+2                                                         05 01690
005720 017000 I 1906          LDA     MA                                                              05 01691
005721 110000 L 1907          ORA     =0100000                                                        05 01692
005722 052505 A 1908          STA     TBUF1+3                                                         05 01693
005723 030000 L 1909          LDX     =SGSCB6                                                         05 01694
005724 002000 A 1910          CALL    SG4EXT        ENTER EXTERNAL IN LOADER TABLE                    05 01695
005725 013440 A
005726 002502 A 1911          DATA    TBUF1                                                           05 01696
                     1912 *                                                                           05 01697
005727 034126 A 1913          LDX     COT2          CREATE DATA PATCH TABLE ENTRY                     05 01698
005730 010000 L 1914          LDA     =' #'           FROM CONTROLLER TABLE NAME AND '#' CHAR         05 01699
005731 025000 A 1915          LDB     0,X             AND ENTER COTAD RELATIVE ADDR IN                05 01700
005732 004450 A 1916          LLRL    8               DATA PATCH TABLE.                               05 01701
005733 052502 A 1917          STA     TBUF1                                                           05 01702
005734 010000 L 1918          LDA     ='  '                                                           05 01703
005735 004450 A 1919          LLRL    8                                                               05 01704
005736 025001 A 1920          LDB     1,X                                                             05 01705
005737 004450 A 1921          LLRL    8                                                               05 01706
005740 052503 A 1922          STA     TBUF1+1                                                         05 01707
005741 062504 A 1923          STB     TBUF1+2                                                         05 01708
005742 014112 A 1924          LDA     COT1                                                            05 01709
005743 052505 A 1925          STA     TBUF1+3                                                         05 01710
005744 005311 A 1926          DAR                                                                     05 01711
005745 054107 A 1927          STA     COT1                                                            05 01712
                     1928 *.                                                                          05 01713
005746 010000 L 1929          LDA     ='#A'         PUT DEVICE ADDR IN DATA PATCH TABLE               05 01714
005747 052514 A 1930          STA     TBUF2                                                           05 01715
005750 015002 A 1931          LDA     2,X                                                             05 01716
005751 152571 A 1932          ANA     PHW                                                             05 01717
005752 052517 A 1933          STA     TBUF2+3                                                         05 01718
005753 030000 L 1934          LDX     =SGSCB7                                                         05 01719
005754 002000 A 1935          CALL    SG4ENT                                                          05 01720
005755 013544 A
005756 002514 A 1936          DATA    TBUF2                                                           05 01721
                     1937 *                                                                           05 01722
005757 010000 L 1938          LDA     ='#T'         PUT RETRY COUNT IN DATA PATCH TABLE               05 01723
005760 052514 A 1939          STA     TBUF2                                                           05 01724
005761 034074 A 1940          LDX     COT2                                                            05 01725
005762 015003 A 1941          LDA     3,X                                                             05 01726
005763 152570 A 1942          ANA     LHW                                                             05 01727
005764 052517 A 1943          STA     TBUF2+3                                                         05 01728
005765 030000 L 1944          LDX     =SGSCB7                                                         05 01729
005766 002000 A 1945          CALL    SG4ENT                                                          05 01730
005767 013544 A
005770 002514 A 1946          DATA    TBUF2                                                           05 01731
                     1947 *                                                                    V2    05 01732
005771 006010 A 1948          LDAI    '#D'          SET 1ST 2 CHARS TO '#D'                           05 01733
005772 121704 A
005773 052514 A 1949          STA     TBUF2                                                   V2      05 01734
005774 034061 A 1950          LDX     COT2                                                    V2      05 01735
005775 015005 A 1951          LDA     5,X                                                     V2      05 01736
005776 052517 A 1952          STA     TBUF2+3       STORE I/O VALUE                           V2      05 01737
005777 030000 L 1953          LDX     =SGSCB7                                                 V2      05 01738
006000 002000 A 1954          CALL    SG4ENT        ENTER I/O VALUE IN LDR TABLE              V2      05 01739
006001 013544 A
006002 002514 A 1955          DATA    TBUF2                                                   V2      05 01740
                     1956 *                                                                   V2      05 01741
006003 006010 A 1957          LDAI    '#M'          SET 1ST 2 CHARS TO '#M'                           05 01742
006004 121715 A
006005 052514 A 1958          STA     TBUF2                                                   V2      05 01743
006006 034047 A 1959          LDX     COT2                                                    V2      05 01744
006007 015004 A 1960          LDA     4,X                                                     V2      05 01745
006010 052517 A 1961          STA     TBUF2+3       STORE MULTIPLEXOR ADDRESS                 V2      05 01746
006011 030000 L 1962          LDX     =SGSCB7                                                 V2      05 01747
006012 002000 A 1963          CALL    SG4ENT        ENTER MULTIPLEXOR ADDRESS IN LDR TABLE    V2      05 01748
006013 013544 A
006014 002514 A 1964          DATA    TBUF2                                                   V2      05 01749
                     1965 *                                                                           05 01750
006015 030000 L 1966          LDX     =SGSCB7       PUT COTAD RELATIVE ADDR PNTR IN DATA PAT.         05 01751
006016 002000 A 1967          CALL    SG4ENT                                                          05 01752
006017 013544 A
006020 002502 A 1968          DATA    TBUF1                                                           05 01753
                     1969 *                                                                           05 01754
006021 017000 I 1970          LDA     MA                                                              05 01755
006022 054037 A 1971          STA     COT6+3        SAVE ADDR FOR FINAL LOADER TABLE ADDR.            05 01756
006023 005311 A 1972          DAR                                                                     05 01757
006024 057030 I 1973          STA     MA            UPDATE ADDR REGISTER FOR NEXT COTAD ENTRY         05 01758
006025 014030 A 1974          LDA     COT2                                                            05 01759
006026 120502 A 1975          ADD     SGSCB0+2      BUMP EQUIP STACK POINTER                          05 01760
006027 001000 A 1976          JMP     COT3            AND CONTINUE                                    05 01761
006030 005700 A
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                    1977 *                                                                                  05 01762
006031 017000 I     1978 COT4   LDA     MA                                                                  05 01763
006032 057000 I     1979        STA     LLC         RESTORE LOADING LOCATION COUNTER                        05 01764
006033 142540 A     1980        SUB     BS9                                                                 05 01765
006034 001004 A     1981        JAN     COT5        IF SYSTEM MEMORY SIZE ERROR                             05 01766
006035 006050 A
                    1982 *                                                                                  05 01767
006036 030000 L     1983        LDX     =SGSCB7                                                             05 01768
006037 002000 A     1984        CALL    SG4ENT      MAKE DATA PATCH ENTRY FOR NUM-CONTROLLERS               05 01769
006040 013544 A
006041 006063 A     1985        DATA    COT7                                                                05 01770
006042 030000 L     1986        LDX     =SGSCB6                                                             05 01771
006043 002000 A     1987        CALL    SG4ENT      MAKE LOADER TABLE ENTRY FOR                             05 01772
006044 013544 A
006045 006057 A     1988        DATA    COT6          START OF CONTROLLER ADDRESS TABLE                     05 01773
                    1989 *                                                                                  05 01774
006046 001000 A     1990        JMP     SG4DSB      *  * EXIT ROUTINE *  *                                  05 01775
006047 006067 A
                    1991 *                                                                                  05 01776
006050 012635 A     1992 COT5   LDA     ER30        POST "SYSTEM MEMORY SIZE ERROR" MESSAGE                 05 01777
006051 002000 A     1993        CALL    SG4PRO                                                              05 01778
006052 013617 A
006053 001000 A     1994        JMP     RELOAD      GO TO RELOAD SYSTEM                                     05 01779
006054 015031 A
                    1995 *                                                                                  05 01780
                    1996 *                                                                                  05 01781
006055 000000 A     1997 COT1   DATA    0           COTAD RELATIVE POINTER                                  05 01782
                    1998 *                                                                                  05 01783
006056 000000 A     1999 COT2   DATA    0           EQUIP STACK POINTER                                     05 01784
                    2000 *                                                                                  05 01785
006057 153244 A     2001 COT6   DATA    'V$COTA'    COTAD START LOCATION - LOADER                           05 01786
006060 141717 A
006061 152301 A
006062 000000 A     2002        DATA    0                                       TABLE ENTRY             05 01787
                    2003 *                                                                                  05 01788
006063 121644 A     2004 COT7   DATA    '#$NCTR',0  NUM OF CONTROLLERS FOR LOW-CORE                         05 01789
006064 147303 A
006065 152322 A
006066 000000 A
                    2005        EJEC                                                                        05 01790
                    2006 *                                                                                  05 01791
                    2007 *      SG4DSB                                                                      05 01792
                    2008 *                                                                                  05 01793
                    2009 *          PURPOSE:  TO GENERATE THE DST BLOCK AND PROVIDE                         05 01794
                    2010 *                    LINKAGE TO IT.  (MUST FOLLOW SG4COT)                          05 01795
                    2011 *                                                                                  05 01796
                    2012 *          CALLING SEQUENCE:  JMP  SG4DSB                                          05 01797
                    2013 *                                                                                  05 01798
                    2014 *          RETURN PARAMETERS:  NONE                                                05 01799
                    2015 *                                                                                  05 01800
                    2016 *                                                                                  05 01801
006067              2017 SG4DSB BSS.    0           *  * ENTRY POINT *  *                                   05 01802
006067 005001 A     2018        TZA                                                                         05 01803
006070 057000 I     2019        STA     VDATA                                                               05 01804
006071 017000 I     2020        LDA     LLC                                                                 05 01805
006072 057000 I     2021        STA     MA          SET UP VIRTUAL MEMORY ADDRESS                           05 01806
                    2022 *                                                                                  05 01807
006073 006505 A     2023        JSR     VMWCT,X     STORE TWO ZEROS TO INDICATE END OF DST BLK              05 01808
006074 013215 A
006075 005311 A     2024        DAR                                                                         05 01809
006076 057000 I     2025        STA     MA                                                                  05 01810
006077 006505 A     2026        JSR     VMWCT,X                                                             05 01811
006100 013215 A
006101 005311 A     2027        DAR                                                                         05 01812
006102 057000 I     2028        STA     MA          UPDATE MEMORY ADDRESS                                   05 01813
                    2029 *                                                                                  05 01814
006103 010500 A     2030        LDA     SGSCB0      GET CONTROLLER/UNIT INFO FROM EQUIP STACK               05 01815
006104 005014 A     2031 DSB1   TAX                                                                         05 01816
006105 074407 A     2032        STX     DSB2        SAVE PNTR TO EQUIP STACK                                05 01817
006106 140501 A     2033        SUB     SGSCB0+1                                                            05 01818
006107 001016 A     2034        JANZ    DSB3        IF MORE ITEMS IN STACK (BUILD ANOTHER DST)              05 01819
006110 006165 A
                    2035 *                                                                                  05 01820
006111 017000 I     2036        LDA     MA                                                                  05 01821
006112 057000 I     2037        STA     LLC         RESTORE LOCATION COUNTER                                05 01822
006113 005112 A     2038        INCR    012                                                                 05 01823
006114 064405 A     2039        STB     DSB5+3      PUT DST START ADDR. IN LINK ENTRY                       05 01824
006115 064406 A     2040        STB     DSB8                                                                05 01825
006116 142540 A     2041        SUB     BS9                                                                 05 01826
006117 001004 A     2042        JAN     DSB6        ERROR, IF NUCLEUS EXCEEDS MEMORY SPACE                  05 01827
006120 006534 A
                    2043 *                                                                                  05 01828
006121 005001 A     2044        TZA                                                                         05 01829
006122 054373 A     2045        STA     DSB4        INITIALIZE NUM. DST ENTRIES TO ZERO                     05 01830
006123 030000 L     2046 DSB101 LDX     =SGSCB9                                                             05 01831
006124 020000 L     2047        LDB     =TBUF2                                                              05 01832
006125 002000 A     2048        CALL    SGGET       GET DST LINK NAME                                       05 01833
006126 014616 A
006127 001004 A     2049        JAN     DSB102        IF NO MORE DST LINKS                                  05 01834
006130 006157 A
006131 044364 A     2050        INR     DSB4                                                                05 01835
006132 014363 A     2051        LDA     DSB4                                                                05 01836
006133 004250 A     2052        LRLA    8                                                                   05 01837
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006134 114361 A 2053          ORA     DSB4                                          05 01838
006135 052517 A 2054          STA     TBUF2+3     PUT DST ENTRY NUMBER IN LINK ENTRY 05 01839
006136 030000 L 2055          LDX     =SGSCB7                                       05 01840
006137 002000 A 2056          CALL    SG4ENT      SEARCH AND ENTER IN DATA PATCH STACK 05 01841
006140 013544 A
006141 002514 A 2057          DATA    TBUF2                                         05 01842
006142 012514 A 2058          LDA     TBUF2                                         05 01843
006143 152560 A 2059          ANA     BR9         CONVERT LABEL FROM "#X.." TO "!XX..." 05 01844
006144 052514 A 2060          STA     TBUF2                                         05 01845
006145 014356 A 2061          LDA     DSB8        SET-UP LINK ADDRESS               05 01846
006146 052517 A 2062          STA     TBUF2+3                                       05 01847
006147 122572 A 2063          ADD     THREE                                         05 01848
006150 054353 A 2064          STA     DSB3        SET-UP ADDR FOR NEXT DST ENTRY    05 01849
                2065 *                                                              05 01850
006151 030000 L 2066          LDX     =SGSCB6                                       05 01851
006152 002000 A 2067          CALL    SG4ENT      MAKE LDR STACK ENTRY              05 01852
006153 013544 A
006154 002514 A 2068          DATA    TBUF2                                         05 01853
006155 001000 A 2069          JMP     DSB101      GO GET ANOTHER                    05 01854
006156 006123 A
                2070 *                                                              05 01855
006157 030000 L 2071 DSB102   LDX     =SGSCB6                                       05 01856
006160 002000 A 2072          CALL    SG4ENT      SEARCH AND ENTER "DST BLOCK ADDR" LINK 05 01857
006161 013544 A
006162 006517 A 2073          DATA    DSB5                                          05 01858
006163 001000 A 2074          JMP     SG4LUT      *  * EXIT *  *                    05 01859
006164 006545 A
                2075 *                                                              05 01860
                2076 *          *  * PROCESS CONTROLLER DATA-BUILD DST *  *         05 01861
                2077 *                                                              05 01862
006165 015002 A 2078 DSB3     LDX     2,X                                           05 01863
006166 004350 A 2079          LSRA    8                                             05 01864
006167 054333 A 2080          STA     DSB7        SAVE NUMBER OF UNITS (ON CONTROLLER) 05 01865
                2081 *                                                              05 01866
006170 010000 L 2082          LDA     =' #'       BUILD DATA PATCH NAME FOR CONTROLLER 05 01867
006171 025000 A 2083          LDB     0,X           ADDRESS TABLE (COTAD) POINTER.  05 01868
006172 062515 A 2084          STB     TBUF2+1       (OF THE FORM:                   05 01869
006173 004450 A 2085          LLRL    8                                             05 01870
006174 052502 A 2086          STA     TBUF1                 #MMCX   -  FOR NON-RMD  05 01871
006175 010000 L 2087          LDA     ='  '                                         05 01872
006176 004450 A 2088          LLRL    8                 OR    #DCX    -  FOR RMD)   05 01873
006177 025001 A 2089          LDB     1,X                                           05 01874
006200 004450 A 2090          LLRL    8                                             05 01875
006201 052503 A 2091          STA     TBUF1+1                                       05 01876
006202 152571 A 2092          ANA     RHW                                           05 01877
006203 054322 A 2093          STA     DSB103      SAVE CONTROLLER NUMBER (FOR NON-RMD) 05 01878
006204 062504 A 2094          STB     TBUF1+2                                       05 01879
                2095 *                                                              05 01880
006205 006505 A 2096          JSR     SG4PKK,X    CONVERT (COTAD) PNTR ENTRY TO LDR CODE 05 01881
006206 013772 A
006207 000006 A 2097          DATA    6-TBUF1                                       05 01882
006210 002502 A
006211 005301 A 2098          DECR    01                                            05 01883
006212 030000 L 2099          LDX     =SGSCB7                                       05 01884
006213 020000 L 2100          LDB     =ITEM                                         05 01885
006214 002000 A 2101          CALL    SGSAE       SEARCH DATA PATCH TABLE FOR (COTAD) PNTR 05 01886
006215 014744 A
006216 000000 A 2102          DATA    0                                             05 01887
006217 005041 A 2103          TXA                                                   05 01888
006220 001004 A 2104          JAN     DSB106      ERROR IF PNTR NAME NOT FOUND      05 01889
006221 006532 A
006222 015000 A 2105          LDA     0,X                                           05 01890
006223 001004 A 2106          JAN     DSB106      ERROR IF PNTR NOT DEFINED         05 01891
006224 006532 A
006225 052516 A 2107          STA     TBUF2+2     SAVE (COTAD) POINTER              05 01892
                2108 *                                                              05 01893
006226 010000 L 2109          LDA     =C260                                         05 01894
006227 054273 A 2110          STA     DSB20       INITIALIZE UNIT NUMBER (IN ASCII) 05 01895
                2111 *                                                              05 01896
006230 012515 A 2112 DSB19    LDA     TBUF2+1     GET FIRST TWO CHAR OF CONTROLLER NAME 05 01897
006231 130000 L 2113          CRA     ='D '                                         05 01898
006232 152570 A 2114          ANA     LHW                                           05 01899
006233 001010 A 2115          JAZ     DSB20       IF RMD DEVICE                     05 01900
006234 006306 A
                2116 *                                                              05 01901
006235 014270 A 2117          LDA     DSB103                                        05 01902
006236 004250 A 2118          LRLA    8                                             05 01903
006237 114265 A 2119          ORA     DSB20                                         05 01904
006240 052514 A 2120          STA     TBUF2       PUT CONTROLLER-UNIT CHARS TOGETHER 05 01905
                2121 *                                                              05 01906
006241 002000 A 2122          CALL    DSB200      CHECK ASSIGN STACK AND DEFINE ASSIGNABILIT 05 01907
006242 006400 A
006243 012514 A 2123 DSB10    LDA     TBUF2       PACK CONTROLLER/UNIT CHARS        05 01908
006244 140000 L 2124          SUB     ='00'         IN DST FORMAT                   05 01909
006245 004546 A 2125          LLSR    8             *                               05 01910
006246 004342 A 2126          LSRA    8             *                               05 01911
006247 004452 A 2127          LLRL    10            *                               05 01912
006250 052514 A 2128          STA     TBUF2         AND SAVE IN (TBUF2)             05 01913
006251 004251 A 2129          LRLA    2                                             05 01914
006252 150000 L 2130          ANA     =C000300                                      05 01915
006253 112516 A 2131          ORA     TBUF2+2     REDUCE UNIT NUM TO 2 BITS         05 01916
006254 052516 A 2132          STA     TBUF2+2       AND "OR" INTO DST               05 01917
                2133 *                                                              05 01918
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006255 002000 A 2134          CALL    DSB201      SET UP ASSIGNABILITY CODE AND STORE DST    05 01919
006256 006457 A
                2135 *                              IN VIRTUAL MEMORY                        05 01920
006257 014245 A 2136          LDA     DSB20                                                  05 01921
006260 004250 A 2137          LRLA    8                                                      05 01922
006261 110000 L 2138          ORA     =0240                                                  05 01923
006262 052504 A 2139          STA     TBUF1+2     SET UP NAME OF FORM "$MMCU# IN (TBUF)      05 01924
                2140 *                                                                       05 01925
006263 030000 L 2141          LDX     =SGSCB9                                                05 01926
006264 020000 L 2142          LDB     =TBUF1                                                 05 01927
006265 002000 A 2143          CALL    SGPUT       PUT NAME IN TEMPORARY STACK                05 01928
006266 014331 A
006267 001004 A 2144          JAN     DSB104      ERROR IF NO ROOM                           05 01929
006270 006536 A
006271 012516 A 2145 DSB28    LDA     TBUF2+2                                                05 01930
006272 150000 L 2146          ANA     =077                                                   05 01931
006273 052516 A 2147          STA     TBUF2+2     SAVE (COTAD) POINTER FOR NEXT DST ENTRY    05 01932
006274 014226 A 2148          LDA     DSB7                                                   05 01933
006275 005311 A 2149          DAR                                                            05 01934
006276 054224 A 2150          STA     DSB7        DECR NUMBER OF UNITS ON CONTROLLER         05 01935
006277 044225 A 2151          INR     DSB20       INCR UNIT NUMBER                           05 01936
006300 001016 A 2152          JANZ    DSB19       IF MORE UNITS ON CONTROLLER                05 01937
006301 006230 A
006302 014212 A 2153          LDA     DSB2                                                   05 01938
006303 120502 A 2154          ADD     SGSCB0+2    UPDATE EQUIP STACK POINTER              V2 05 01939
006304 001000 A 2155          JMP     DSB1          AND GO GET NEXT STACK ITEM               05 01940
006305 006104 A
                2156 *                                                                       05 01941
                2157 *          *  * PROCESS RMD CONTROLLER ENTRIES *  *                     05 01942
                2158 *                                                                       05 01943
006306 010511 A 2159 DSB22    LDA     SGSCB3      SEARCH PARTITION PARAMETER STACK           05 01944
006307 005014 A 2160 DSB25    TAX                   FOR PARTITIONS ON REQUESTED UNIT         05 01945
006310 074220 A 2161          STX     DSB26       SAVE PNTR INTO STACK                       05 01946
006311 140512 A 2162          SUB     SGSCB3+1                                               05 01947
006312 001010 A 2163          JAZ     DSB28       IF STACK SEARCH COMPLETE                   05 01948
006313 006271 A
006314 015000 A 2164          LDA     0,X                                                    05 01949
006315 132515 A 2165          ERA     TBUF2+1                                                05 01950
006316 001016 A 2166          JANZ    DSB27       IF CONTROLLERS DON'T MATCH                 05 01951
006317 006374 A
006320 015001 A 2167          LDA     1,X                                                    05 01952
006321 004350 A 2168          LSRA    8                                                      05 01953
006322 134202 A 2169          ERA     DSB20                                                  05 01954
006323 001016 A 2170          JANZ    DSB27       UF UNITS DON'T MATCH                       05 01955
006324 006374 A
006325 012516 A 2171          LDA     TBUF2+2     SAVE (COTAD) PNTR FOR NEXT PARTITION       05 01956
006326 152602 A 2172          ANA     BM77                                                   05 01957
006327 052516 A 2173          STA     TBUF2+2                                                05 01958
006330 015001 A 2174          LDA     1,X                                                    05 01959
006331 052514 A 2175          STA     TBUF2       GET UNIT-PARTITION CHARS                   05 01960
006332 152571 A 2176          ANA     RHW                                                    05 01961
006333 054173 A 2177          STA     DSB204      SAVE PARTITION CHAR                        05 01962
                2178 *                                                                       05 01963
006334 002000 A 2179          CALL    DSB200      CHECK ASSIGN STACK AND DEFINE ASSIGNABILIT 05 01964
006335 006400 A
                2180 *                                                                       05 01965
006336 012514 A 2181          LDA     TBUF2       PACK UNIT/PARTITION CHARS                  05 01966
006337 140000 L 2182          SUB     ='00'         IN DST FORMAT                            05 01967
006340 005002 A 2183          TZE                                                            05 01968
006341 004546 A 2184          LLSR    6             *                                        05 01969
006342 004342 A 2185          LSRA    2             *                                        05 01970
006343 004452 A 2186          LLRL    10            *                                        05 01971
006344 052514 A 2187          STA     TBUF2         AND SAVE IN (TBUF2)                      05 01972
006345 142537 A 2188          SUB     BS8                                                    05 01973
006346 004446 A 2189          LLRL    6                                                      05 01974
006347 004341 A 2190          LSRA    1                                                      05 01975
006350 004475 A 2191          LLRL    29                                                     05 01976
006351 150000 L 2192          ANA     =063700                                                05 01977
006352 112516 A 2193          ORA     TBUF2+2     FORM 2-BIT UNIT NUMBER AND PST POINTER     05 01978
006353 052516 A 2194          STA     TBUF2+2       AND PACK INTO DST BUFFER                 05 01979
                2195 *                                                                       05 01980
006354 002000 A 2196          CALL    DSB201      SET UP ASSIGNABILITY CODE AND STORE DST    05 01981
006355 006457 A
006356 012503 A 2197          LDA     TBUF1+1       IN VIRTUAL MEMORY                        05 01982
006357 152570 A 2198          ANA     LHW                                                    05 01983
006360 114144 A 2199          ORA     DSB20       SET UP NAME OF FORM "#DCUP" IN (TBUF1)     05 01984
006361 052503 A 2200          STA     TBUF1+1                                                05 01985
006362 014144 A 2201          LDA     DSB204                                                 05 01986
006363 004250 A 2202          LRLA    8                                                      05 01987
006364 110000 L 2203          ORA     =0240                                                  05 01988
006365 052504 A 2204          STA     TBUF1+2                                                05 01989
                2205 *                                                                       05 01990
006366 030000 L 2206          LDX     =SGSCB9                                                05 01991
006367 020000 L 2207          LDB     =TBUF1                                                 05 01992
006370 002000 A 2208          CALL    SGPUT       PUT NAME IN TEMPORARY STACK                05 01993
006371 014331 A
006372 001004 A 2209          JAN     DSB104      ERROR IF NO ROOM                           05 01994
006373 006536 A
006374 014134 A 2210 DSB27    LDA     DSB26                                                  05 01995
006375 122531 A 2211          ADD     FOUR        BUMP PARTITION STACK POINTER               05 01996
006376 001000 A 2212          JMP     DSB25         AND LOOK FOR MORE PARTITIONS             05 01997
006377 006307 A
                2213          EJEC                                                           05 01998
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                    2214 *                                                                                  05 01999
                    2215 *      DSB200                                                                      05 02000
                    2216 *                                                                                  05 02001
                    2217 *            PURPOSE:  TO SCAN ASSIGN STACK AND DETERMINE                          05 02002
                    2218 *                      ASSIGNABILITY CODE FOR DEVICE WHOSE NAME                    05 02003
                    2219 *                      IS IN (TBUF2) OF THE FORM:                                  05 02004
                    2220 *                                                                                  05 02005
                    2221 *                            (TBUF2)   =  CU    OR   UP                            05 02006
                    2222 *                            (TBUF2+2) =  MM           DC                           05 02007
                    2223 *                                                                                  05 02008
                    2224 *            CALLING SEQUENCE:  CALL  DSB200                                       05 02009
                    2225 *                                                                                  05 02010
                    2226 *            RETURN PARAMETERS:  (DSB11)= ASSIGNABILITY CODE                       05 02011
                    2227 *                                       (011= NO ASSIGNS MADE)                     05 02012
                    2228 *                                                                                  05 02013
                    2229 *                                                                                  05 02014
006400 000000 A     2230 DSB200 ENTR                                                                        05 02015
006401 012572 A     2231        LDA     THREE                                                               05 02016
006402 054125 A     2232        STA     DSB11       INITIALIZE CODE WORD                                    05 02017
006403 010503 A     2233        LDA     SGSCB1      SEARCH ASSIGN STACK                                     05 02018
006404 005014 A     2234 DSB14  TAX                                                                         05 02019
006405 140504 A     2235        SUB     SGSCB1+1                                                            05 02020
006406 001010 A     2236        JAZ*    DSB200      RETURN, IF SEARCH COMPLETE                              05 02021
006407 106400 A
006410 015000 A     2237        LDA     0,X                                                                 05 02022
006411 132515 A     2238        ERA     TBUF2+1                                                             05 02023
006412 001016 A     2239        JANZ    DSB16       CONTINUE IF NO MATCH                                    05 02024
006413 006453 A
006414 015001 A     2240        LDA     1,X                                                                 05 02025
006415 132514 A     2241        ERA     TBUF2                                                               05 02026
006416 001016 A     2242        JANZ    DSB16       CONTINUE IF NO MATCH                                    05 02027
006417 006453 A
006420 015003 A     2243        LDA     3,X                                                                 05 02028
006421 152571 A     2244        ANA     RHW         GET ASSOCIATED LUN                                      05 02029
006422 142527 A     2245        SUB     ONE                                                                 05 02030
006423 001016 A     2246        JANZ    DSB18       IF NOT "OPCOM" UNIT                                     05 02031
006424 006432 A
006425 012542 A     2247        LDA     BS11                                                                05 02032
006426 112516 A     2248        ORA     TBUF2+2                                                             05 02033
006427 052516 A     2249        STA     TBUF2+2     SET OPCOM FLAG IN DST                                   05 02034
006430 001000 A     2250        JMP     DSB12       SET ASSIGN CODE TO CLASS #1                             05 02035
006431 006443 A
006432 006140 A     2251 DSB18  SUBI    100                                                         D.105   05 02036
006433 000144 A
006434 001004 A     2252        JAN     DSB12       IF UNIT 2 TO 100, SET TO CLASS #1                       05 02037
006435 006443 A
006436 140000 L     2253        SUB     =79                                                                 05 02038
006437 001004 A     2254        JAN     DSB13       IF UNIT 101 TO 179, SET TO CLASS #2                     05 02039
006440 006445 A
006441 005102 A     2255        INCR    02          SET TO CLASS #3                                         05 02040
006442 001006 A     2256        DATA    01006                                                               05 02041
006443 005002 A     2257 DSB12  TZB                 SET TO CLASS #1                                         05 02042
006444 001006 A     2258        DATA    01006                                                               05 02043
006445 022530 A     2259 DSB13  LDB     TWO         SET TO CLASS #2                                         05 02044
006446 014061 A     2260        LDA     DSB11                                                               05 02045
006447 132572 A     2261        ERA     THREE                                                               05 02046
006450 001016 A     2262        JANZ    DSB16       IF CLASS PREVIOUSLY DETERMINED                  V2      05 02047
006451 006453 A
006452 064050 A     2263        STB     DSB11       STORE CLASS CODE                                        05 02048
006453 005041 A     2264 DSB16  TXA                                                                         05 02049
006454 122531 A     2265        ADD     FOUR        BUMP STACK POINTER                                      05 02050
006455 001000 A     2266        JMP     DSB14       SEARCH SOME-MORE                                        05 02051
006456 006404 A
                    2267        EJEC                                                                        05 02052
                    2268 *                                                                                  05 02053
                    2269 *      DSB201                                                                      05 02054
                    2270 *                                                                                  05 02055
                    2271 *            PURPOSE:  PACK ASSIGNABILITY CODE IN DST AND STORE                    05 02056
                    2272 *                      DST IN VIRTUAL MEMORY                                       05 02057
                    2273 *                                                                                  05 02058
                    2274 *            CALLING SEQUENCE:  CALL  DSB201                                       05 02059
                    2275 *                                                                                  05 02060
                    2276 *            RETURN PARAMETERS:  NONE                                              05 02061
                    2277 *                                                                                  05 02062
                    2278 *                                                                                  05 02063
006457 000000 A     2279 DSB201 ENTR                                                                        05 02064
006460 014047 A     2280        LDA     DSB11                                                               05 02065
006461 132572 A     2281        ERA     THREE                                                               05 02066
006462 001010 A     2282        JAZ     *+3         IF ASSIGNABILITY CODE NOT SET,                          05 02067
006463 006465 A
006464 014043 A     2283        LDA     DSB11                       SET TO CLASS #1                     05 02068
006465 004255 A     2284        LRLA    13                                                                  05 02069
006466 112514 A     2285        ORA     TBUF2                                                               05 02070
006467 052514 A     2286        STA     TBUF2       PACK CLASS CODE INTO DST                                05 02071
                    2287 *                                                                                  05 02072
006470 022516 A     2288        LDB     TBUF2+2                                                             05 02073
006471 067000 I     2289        STB     VDATA                                                               05 02074
006472 006505 A     2290        JSR     VMUST,X     OUTPUT LAST WORD OF DST ENTRY                           05 02075
006473 013215 A
006474 017000 I     2291        LDA     XB                                                                  05 02076
006475 005311 A     2292        DAR                                                                         05 02077
006476 057000 I     2293        STA     MA                                                                  05 02078
006477 022515 A     2294        LDB     TBUF2+1                                                             05 02079
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006500 067000 I 2295          STB     VDATA                                                    05 02080
006501 006505 A 2296          JSR     VMWCT,X       OUTPUT SECOND WORD OF DST ENTRY            05 02081
006502 013215 A
006503 005311 A 2297          DAR                                                              05 02082
006504 057000 I 2298          STA     MA                                                       05 02083
006505 022514 A 2299          LDB     TBUF2                                                    05 02084
006506 067000 I 2300          STB     VDATA                                                    05 02085
006507 006505 A 2301          JSR     VMWCT,X       OUTPUT FIRST WORD OF DST ENTRY             05 02086
006510 013215 A
006511 005311 A 2302          DAR                                                              05 02087
006512 057000 I 2303          STA     MA            (MA)= NEXT AVAILABLE CELL                  05 02088
006513 001000 A 2304          JMP*    DSB201        * * RETURN * *                             05 02089
006514 106457 A
                2305 *                                                                         05 02090
                2306 *        * * DATA CELLS * *                                               05 02091
                2307 *                                                                         05 02092
006515 000000 A 2308 DSB2     DATA    0             EQUIP STACK PNTR                           05 02093
006516 000000 A 2309 DSB4     DATA    0             DST ENTRY COUNTER                          05 02094
006517 153244 A 2310 DSB5     DATA    'V$DSTB',0    LDR TABLE ENTRY FOR BASE OF DST BLOCK      05 02095
006520 142323 A
006521 152302 A
006522 000000 A
006523 000000 A 2311 DSB7     DATA    0             NUMBER OF UNITS                            05 02096
006524 000000 A 2312 DSB8     DATA    0             DST ADDRESS COUNTER                        05 02097
006525 000000 A 2313 DSB20    DATA    0             UNIT NUMBER (ASCII)                        05 02098
006526 000000 A 2314 DSB103   DATA    0             CONTROLLER NUMBER (ASCII)                  05 02099
006527 000000 A 2315 DSB204   DATA    0             PARTITION LETTER (ASCII)                   05 02100
006530 000000 A 2316 DSB11    DATA    0             ASSIGNABILITY CODE                         05 02101
006531 000000 A 2317 DSB26    DATA    0             PARTITION STACK POINTER                    05 02102
                2318 *                                                                         05 02103
                2319 *        * * ERROR MESSAGES * *                                           05 02104
                2320 *                                                                         05 02105
006532 012647 A 2321 DSB106   LDA     ER45          UNDEFINED EXTERNAL                         05 02106
006533 001006 A 2322          DATA    01006                                                    05 02107
006534 012635 A 2323 DSB6     LDA     ER30          NUCLEUS TOO LARGE                          05 02108
006535 001006 A 2324          DATA    01006                                                    05 02109
006536 012632 A 2325 DSB104   LDA     ER24          STACK OVERFLOW                             05 02110
006537 001006 A 2326          DATA    01006                                                    05 02111
006540 012650 A 2327 DSB105   LDA     ER46          ASSIGNABILITY CODE CONFLICT                05 02112
006541 002000 A 2328          CALL    SG4PRO                                                   05 02113
006542 013617 A
006543 001000 A 2329          JMP     RELOAD                                                   05 02114
006544 015031 A
                2330          EJEC                                                             05 02115
                2331 *                                                                         05 02116
                2332 *        SG4LUT                                                           05 02117
                2333 *                                                                         05 02118
                2334 *        PURPOSE:  TO GENERATE THE LOGICAL UNIT TABLES                    05 02119
                2335 *                                                                         05 02120
                2336 *        CALLING SEQUENCE:  JMP   SG4LUT                                  05 02121
                2337 *                                                                         05 02122
                2338 *        RETURN PARAMETERS:  NONE                                         05 02123
                2339 *                                                                         05 02124
                2340 *                                                                         05 02125
006545          2341 SG4LUT   BSS     0             * * ENTRY POINT * *                        05 02126
006545 017000 I 2342          LDA     LLC                                                      05 02127
006546 005002 A 2343          TZB                                                              05 02128
006547 067000 I 2344          STB     VDATA         SET DATA REGISTER TO CLEAR VIR. MEMORY     05 02129
006550 022724 A 2345          LDB     SGLUN1        INITIALIZE COUNTER TO CLEAR LUT1           05 02130
006551 057000 I 2346 LUT1     STA     MA            SET VIR. MEMORY ADDR. REGISTER FOR CLEAR   05 02131
006552 001020 A 2347          JBZ     LUT2          IF ENTIRE BLOCK CLEARED                    05 02132
006553 006562 A
006554 006505 A 2348          JSR     VMWCT,X         OTHERWISE, CLEAR ANOTHER CELL            05 02133
006555 013215 A
006556 005322 A 2349          DBR                                                              05 02134
006557 005311 A 2350          DAR                                                              05 02135
006560 001000 A 2351          JMP     LUT1          CONTINUE                                   05 02136
006561 006551 A
006562 054166 A 2352 LUT2     STA     LUTA+3          SAVE ADDRESS OF START OF LUT1            05 02137
006563 052727 A 2353          STA     SGTMP1          AND POINTER INTO IT                      05 02138
006564 030000 L 2354          LDX     =$GSCB6                                                  05 02139
006565 002000 A 2355          CALL    SG4ENT        MAKE LOADER TABLE ENTRY FOR START OF LUT1  05 02140
006566 013544 A
006567 006746 A 2356          DATA    LUTA                                                     05 02141
006570 012724 A 2357          LDA     SGLUN1                                                   05 02142
006571 057000 I 2358          STA     VDATA                                                    05 02143
006572 006505 A 2359          JSR     VMWCT,X       STORE SIZE OF LUT1 IN FIRST LOCATION       05 02144
006573 013215 A
006574 017000 I 2360          LDA     MA                                                       05 02145
006575 005311 A 2361          DAR                   BUMP (MA) TO NEXT AVAILABLE CELL           05 02146
                2362 *                                                                         05 02147
006576 005002 A 2363          TZB                   GO THRU VIR. MEMORY CLEAR PROCESS FOR LUT2 05 02148
006577 067000 I 2364          STB     VDATA                                                    05 02149
006600 022725 A 2365          LDB     SGLUN2                                                   05 02150
006601 057000 I 2366 LUT3     STA     MA                                                       05 02151
006602 001020 A 2367          JBZ     LUT4                                                     05 02152
006603 006612 A
006604 006505 A 2368          JSR     VMWCT,X                                                  05 02153
006605 013215 A
006606 005322 A 2369          DBR                                                              05 02154
006607 005311 A 2370          DAR                                                              05 02155
006610 001000 A 2371          JMP     LUT3                                                     05 02156
006611 006601 A
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006612 054142 A 2372 LUT4   STA     LUTB+3      SAVE ADDRESS OF START OF LUT2                05 02157
006613 140000 L 2373        SUB     =100          AND...                                     05 02158
006614 052730 A 2374        STA     SGTMP2        POINTER INTO IT                            05 02159
006615 030000 L 2375        LDX     =SGSCB6                                                  05 02160
006616 002000 A 2376        CALL    SG4ENT      MAKE LOADER TABLE ENTRY FOR START OF LUT2    05 02161
006617 013544 A
006620 006752 A 2377        DATA    LUTB                                                     05 02162
006621 012725 A 2378        LDA     SGLUN2                                                   05 02163
006622 057000 I 2379        STA     VDATA                                                    05 02164
006623 006505 A 2380        JSR     VMWCT,X     STORE SIZE OF LUT2 IN FIRST LOCATION         05 02165
006624 013215 A
006625 017000 I 2381        LDA     MA                                                       05 02166
006626 005311 A 2382        DAR                 BUMP (MA) TO NEXT AVAILABLE CELL             05 02167
                2383 *                                                                       05 02168
006627 005002 A 2384        TZE                 GO THRU VIR. MEMORY CLEAR PROCESS FOR LUT3   05 02169
006630 057000 I 2385        STB     VDATA                                                    05 02170
006631 022726 A 2386        LDB     SGLUN3                                                   05 02171
006632 057000 I 2387 LUT5   STA     MA                                                       05 02172
006633 001020 A 2388        JBZ     LUT5                                                     05 02173
006634 006643 A
006635 006505 A 2389        JSR     VMWCT,X                                                  05 02174
006636 013215 A
006637 005322 A 2390        DBR                                                              05 02175
006640 005311 A 2391        DAR                                                              05 02176
006641 001000 A 2392        JMP     LUT5                                                     05 02177
006642 006632 A
006643 054115 A 2393 LUT6   STA     LUTC+3      SAVE ADDRESS OF START OF LUT3                05 02178
006644 140000 L 2394        SUB     =179          AND...                                     05 02179
006645 052731 A 2395        STA     SGTMP3        POINTER INTO IT                            05 02180
006646 030000 L 2396        LDX     =SGSCB6                                                  05 02181
006647 002000 A 2397        CALL    SG4ENT      MAKE LOADER TABLE ENTRY FOR START OF LUT3    05 02182
006650 013544 A
006651 006756 A 2398        DATA    LUTC                                                     05 02183
006652 012726 A 2399        LDA     SGLUN3                                                   05 02184
006653 057000 I 2400        STA     VDATA                                                    05 02185
006654 006505 A 2401        JSR     VMWCT,X     STORE SIZE OF LUT3 IN FIRST LOCATION         05 02186
006655 013215 A
006656 017000 I 2402        LDA     MA                                                       05 02187
006657 005311 A 2403        DAR                 BUMP (MA) TO NEXT AVAILABLE CELL             05 02188
                2404 *                                                                       05 02189
006660 057000 I 2405        STA     LLC         AND RESTORE LOADING LOCATION COUNTER         05 02190
006661 142540 A 2406        SUB     BSS                                                      05 02191
006662 001004 A 2407        JAN     LUT11       IF SYSTEM MEMORY SIZE ERROR                  05 02192
006663 006741 A
                2408 *                                                                       05 02193
006664 010503 A 2409        LDA     SG3CB1      INITIALIZE POINTER TO ASSIGN STACK           05 02194
006665 005014 A 2410 LUT7   TAX                                                              05 02195
006666 074073 A 2411        STX     LUTD        SAVE POINTER                                 05 02196
006667 140504 A 2412        SUB     SG3CB1+1                                                 05 02197
006670 001002 A 2413        JAP     SG4LOG      IF END OF ASSIGN STACK REACHED               05 02198
006671 006763 A
006672 015003 A 2414        LDA     3,X                                                      05 02199
006673 152571 A 2415        ANA     RPW         GET LOGICAL UNIT NUMBER                      05 02200
006674 054013 A 2416        STA     LUT12         AND SAVE IT                                05 02201
006675 022727 A 2417        LDB     SGTMP1        GET LUT1 RELATIVE ADDR.                    05 02202
006676 140000 L 2418        SUB     =101                                                     05 02203
006677 001004 A 2419        JAN     LUT8          IF LUT1 LOGICAL UNIT                       05 02204
006700 006706 A
006701 022730 A 2420        LDB     SGTMP2        GET LUT2 RELATIVE ADDR.                    05 02205
006702 140000 L 2421        SUB     =77                                                      05 02206
006703 001004 A 2422        JAN     LUT8          IF LUT2 LOGICAL UNIT                       05 02207
006704 006706 A
006705 022731 A 2423        LDB     SGTMP3        GET LUT3 RELATIVE ADDR.                    05 02208
006706 005021 A 2424 LUT8   TBA                 FORM ADDRESS TO PROPER LUT CELL              05 02209
006707 006120 A 2425        ADDI    0             AND...                                     05 02210
006710 000000 A
006710          2426 LUT12  BES     0                                                        05 02211
006711 110000 L 2427        DRA     =0.00000      MAKE IT A STRING ADDRESS                   05 02212
006712 052505 A 2428        STA     TBUF1+3       FOR DATA PATCH EXTERNAL ITEM               05 02213
                2429 *                                                                       05 02214
006713 015000 A 2430 LUT9   LDA     0,X         MOVE PHYSICAL UNIT NAME TO 'TBUF1'           05 02215
006714 005012 A 2431        TAB                                                              05 02216
006715 130000 L 2432        CMA     ='DU'                                                    05 02217
006716 001010 A 2433        JAZ     LUT10       IGNORE IF DUMMY UNIT                         05 02218
006717 006735 A
006720 010000 L 2434        LDA     =' #'                                                    05 02219
006721 004450 A 2435        LLRL    8                                                        05 02220
006722 052502 A 2436        STA     TBUF1                                                    05 02221
006723 010000 L 2437        LDA     ='  '                                                    05 02222
006724 004450 A 2438        LLRL    8                                                        05 02223
006725 025001 A 2439        LDB     1,X                                                      05 02224
006726 004450 A 2440        LLRL    8                                                        05 02225
006727 052503 A 2441        STA     TBUF1+1                                                  05 02226
006730 062504 A 2442        STB     TBUF1+2                                                  05 02227
006731 030000 L 2443        LDX     =SGSCB7                                                  05 02228
006732 002000 A 2444        CALL    SG4EXT      PUT EXTERNAL IN DATA PATCH STACK             05 02229
006733 013440 A
006734 002502 A 2445        DATA    TBUF1                                                    05 02230
                2446 *                                                                       05 02231
006735 014024 A 2447 LUT10  LDA     LUTD        BUMP STACK POINTER                           05 02232
006736 120505 A 2448        ADD     SGSCB1+2      TO NEXT ENTRY                              05 02233
006737 001000 A 2449        JMP     LUT7        CONTINUE                                     05 02234
006740 006665 A
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                    2450 *                                                                                  05 02235
                    2451 *                                                                                  05 02236
006741 012635 A     2452 LUT11  LDA     ER30        POST "SYSTEM MEMORY SIZE ERROR" MESSAGE                 05 02237
006742 002000 A     2453        CALL    SG4PRO                                                              05 02238
006743 013617 A
006744 001000 A     2454        JMP     RELOAD      GO RELOAD SGEN                                          05 02239
006745 015031 A
                    2455 *                                                                                  05 02240
                    2456 *                                                                                  05 02241
                    2457 *                                                                                  05 02242
006746 153244 A     2458 LUTA   DATA    'V$LUT1'    LOADER TABLE ITEM: START OF LUT1                        05 02243
006747 146325 A
006750 152261 A
006751 000000 A     2459        DATA    0                                                                   05 02244
                    2460 *                                                                                  05 02245
006752 153244 A     2461 LUTB   DATA    'V$LUT2'    LOADER TABLE ITEM: START OF LUT2                        05 02246
006753 146325 A
006754 152262 A
006755 000000 A     2462        DATA    0                                                                   05 02247
                    2463 *                                                                                  05 02248
006756 153244 A     2464 LUTC   DATA    'V$LUT3'    LOADER TABLE ITEM: START OF LUT3                        05 02249
006757 146325 A
006760 152263 A
006761 000000 A     2465        DATA    0                                                                   05 02250
                    2466 *                                                                                  05 02251
006762 000000 A     2467 LUTD   DATA    0           STACK INDEX                                             05 02252
                    2468        EJEC                                                                        05 02253
                    2469 *                                                                                  05 02254
                    2470 *      SG4LOG                                                                      05 02255
                    2471 *                                                                                  05 02256
                    2472 *          PURPOSE:  TO BUILD THE LOGICAL UNIT NAME TABLE                          05 02257
                    2473 *                                                                                  05 02258
                    2474 *          CALLING SEQUENCE:  JMP   SG4LOG                                         05 02259
                    2475 *                                                                                  05 02260
                    2476 *          RETURN PARAMETERS:  NONE                                                05 02261
                    2477 *                                                                                  05 02262
                    2478 *                                                                                  05 02263
006763              2479 SG4LOG BSS     0           *  * ENTRY POINT *  *                                   05 02264
006763 005001 A     2480        TZA                                                                         05 02265
006764 057000 I     2481        STA     VDATA       SET UP LAST WORD OF LOG. UNIT NAME TABLE                05 02266
006765 017000 I     2482        LDA     LLC                                                                 05 02267
006766 057000 I     2483        STA     MA          INITIALIZE VIR. MEMORY ADDR. REGISTER                   05 02268
006767 006505 A     2484        JSR     VMWCT,X     WRITE OUT LAST WORD                                     05 02269
006770 013215 A
006771 005311 A     2485        DAR                   AND BUMP ADDR. REGISTER FOR NEXT WORD                 05 02270
006772 057000 I     2486        STA     MA                                                                  05 02271
                    2487 *                                                                                  05 02272
006773 010503 A     2488        LDA     SGSCB1      INITIALIZE ASSIGN STACK POINTER                         05 02273
006774 005012 A     2489 LOG1   TAB                                                                         05 02274
006775 140504 A     2490        SUB     SGSCB1+1                                                            05 02275
006776 001002 A     2491        JAP     LOG3        IF END OF STACK SCAN                                    05 02276
006777 007030 A
                    2492 *                                                                                  05 02277
007000 016002 A     2493        LDA     2,B         GET LOGICAL UNIT NAME FROM STACK ITEM                   05 02278
007001 130000 L     2494        ERA     =' '                                                                05 02279
007002 001010 A     2495        JAZ     LOG4        IF NO NAME, GET NEXT STACK ITEM                         05 02280
007003 007024 A
                    2496 *                                                                                  05 02281
007004 016003 A     2497        LDA     3,B         GET LOGICAL UNIT NUMBER                                 05 02282
007005 152571 A     2498        ANA     RHW           AND PUT IN TABLE                                      05 02283
007006 057000 I     2499        STA     VDATA                                                               05 02284
007007 006505 A     2500        JSR     VMWCT,X                                                             05 02285
007010 013215 A
                    2501 *                                                                                  05 02286
007011 017000 I     2502        LDA     MA                                                                  05 02287
007012 005311 A     2503        DAR                                                                         05 02288
007013 057000 I     2504        STA     MA          DECR ADDR REGISTER TO NEXT TABLE LOCATION               05 02289
007014 016002 A     2505        LDA     2,B           AND PUT CORRESPONDING NAME                            05 02290
007015 057000 I     2506        STA     VDATA         IN TABLE                                              05 02291
007016 006505 A     2507        JSR     VMWCT,X                                                             05 02292
007017 013215 A
                    2508 *                                                                                  05 02293
007020 017000 I     2509        LDA     MA                                                                  05 02294
007021 054031 A     2510        STA     LOG2+3      SAVE START-OF-TABLE ADDR FOR LOADER TABLE               05 02295
007022 005311 A     2511        DAR                                                                         05 02296
007023 057000 I     2512        STA     MA          DECR ADDR REGISTER TO NEXT TABLE LOCATION               05 02297
007024 005021 A     2513 LOG4   TBA                                                                         05 02298
007025 120505 A     2514        ADD     SGSCB1+2    ADJUST STACK POINTER TO NEXT ITEM                       05 02299
007026 001000 A     2515        JMP     LOG1          AND CONTINUE                                          05 02300
007027 006774 A
                    2516 *                                                                                  05 02301
007030 017000 I     2517 LOG3   LDA     MA                                                                  05 02302
007031 057000 I     2518        STA     LLC         RESTORE LOADING LOCATION COUNTER                        05 02303
007032 142540 A     2519        SUB     BS9                                                                 05 02304
007033 001004 A     2520        JAN     LOG5        IF SYSTEM MEMORY SIZE ERROR                             05 02305
007034 007043 A
                    2521 *                                                                                  05 02306
007035 030000 L     2522        LDX     =SGSCB6                                                             05 02307
007036 002000 A     2523        CALL    SG4ENT      MAKE START-OF-TABLE ENTRY IN LOADER TABLE               05 02308
007037 013544 A
007040 007050 A     2524        DATA    LOG2                                                                05 02309
007041 001000 A     2525        JMP     SGVTAM      * * ROUTINE EXIT * *                                D.105 02310
007042 007054 A
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                    2526 *                                                                                  05 02311
                    2527 *                                                                                  05 02312
007043 012635 A     2528 LOG5   LDA     ER30        POST "SYSTEM MEMORY SIZE ERROR" MESSAGE                 05 02313
007044 002000 A     2529        CALL    SG4PRO                                                              05 02314
007045 013617 A
007046 001000 A     2530        JMP     RELOAD      GO RELOAD SGEN                                          05 02315
007047 015031 A
                    2531 *                                                                                  05 02316
                    2532 *                                                                                  05 02317
007050 153244 A     2533 LOG2   DATA    'V$LUNT'    START-OF-TABLE ENTRY                                    05 02318
007051 146325 A
007052 147324 A
007053 000000 A     2534        DATA    0             FOR LOADER TABLE STACK                                05 02319
                    2535        EJEC                                                                    D.105 02320
                    2536 *                                                                              D.105 02321
                    2537 *      SGVTAM                                                                  D.105 02322
                    2538 *                                                                              D.105 02323
                    2539 *              PURPOSE: TO PROCESS VTAM MODULES                                D.105 02324
                    2540 *                                                                              D.105 02325
007054 005001 A     2541 SGVTAM TZA                                                                     D.105 02326
007055 057000 I     2542        STA     VDATA       CLEAR MUX COUNTER                                   D.105 02327
007056 032575 A     2543        LDX     SEVEN                                                           D.105 02328
007057 006055 A     2544 SGVTL1 STAE    SGVTMT,X    CLEAR MUX TABLE                                     D.105 02329
007060 007661 A
007061 005344 A     2545        DXR                                                                     D.105 02330
007062 001046 A     2546        JXNZ    SGVTL1                                                          D.105 02331
007063 007057 A
007064 030500 A     2547        LDX     SGSCB0                                                          D.105 02332
                    2548 * ALLOCATE MUX CONTROLLER TABLE TABLE                                          D.105 02333
                    2549 *                                                                              D.105 02334
007065 015000 A     2550 SGVTL2 LDA     0,X                                                             D.105 02335
007066 006140 A     2551        SBS     'MX'                                                            D.105 02336
007067 146730 A
007070 001016 A     2552        JANZ    SGVTA       MUX ?                                               D.105 02337
007071 007102 A
007072 047000 I     2553        INR     VDATA       YES. BUMP COUNTER                                   D.105 02338
007073 015001 A     2554        LDA     1,X         GET MUX NUMBER/TYPE                                 D.105 02339
007074 005012 A     2555        TAB                                                                     D.105 02340
007075 004350 A     2556        LSRA    8                                                               D.105 02341
007076 152575 A     2557        ANA     SEVEN       GET CONTROLLER NUMBER                               D.105 02342
007077 004460 A     2558        LLRL    16          SWAP REGS                                           D.105 02343
007100 006056 A     2559        STAE    SGVTMT,B    STORE IN TABLE                                      D.105 02344
007101 007661 A
007102 005041 A     2560 SGVTA  TXA                                                                     D.105 02345
007103 120502 A     2561        ADD     SGSCB0+2    BUMP STACK POINTER                                  D.105 02346
007104 005014 A     2562        TAX                                                                     D.105 02347
007105 140501 A     2563        SUB     SGSCB0+1                                                        D.105 02348
007106 001016 A     2564        JANZ    SGVTL2      LOOP TILL DONE                                      D.105 02349
007107 007065 A
007110 017000 I     2565        LDA     VDATA                                                           D.105 02350
007111 001010 A     2566        JAZ     SG4PSC      EXIT IF NO MUX                                      D.105 02351
007112 010025 A
007113 017000 I     2567        LDA     LLC                                                             D.105 02352
007114 147000 I     2568        SUB     VDATA                                                           D.105 02353
007115 057000 I     2569        STA     MA          GET TABLE BASE ADDRESS                              D.105 02354
007116 057000 I     2570        STA     LLC                                                             D.105 02355
007117 054704 A     2571        STA     SGVT22+3                                                        D.105 02356
007120 006505 A     2572        ISR     =MNCT,X     WRITE CONTROLLER TABLE COUNT IN CC$MET              D.105 02357
007121 013215 A
007122 030000 L     2573        LDX     =SGSCB6                                                         D.105 02358
007123 002000 A     2574        CALL    SG4ENT      DEFINE 'CC$MET'                                     D.105 02359
007124 013544 A
007125 010021 A     2575        PZE     SGVT22                                                          D.105 02360
007126 005004 A     2576        TXX                                                                     D.105 02361
007127 006015 A     2577 SGVTL3 LDAE    SGVTMT,X                                                        D.105 02362
007130 007661 A
007131 001010 A     2578        JAZ     SGVTX3      SCAN TABLE                                          D.105 02363
007132 007145 A
007133 054543 A     2579        STA     SGVTN1+2    SAVE NUMBER/TYPE                                    D.105 02364
007134 047000 I     2580        INR     MA                                                              D.105 02365
007135 017000 I     2581        LDA     MA          GET EXTERNAL LINK ADDRESS                           D.105 02366
007136 054541 A     2582        STA     SGVTN1+3                                                        D.105 02367
007137 074536 A     2583        STX     SGVTT       SAVE X                                              D.105 02368
007140 030000 L     2584        LDX     =SGSCB6                                                         D.105 02369
007141 002000 A     2585        CALL    SG4EXT      ENTER IN EXTERNAL TABLE                             D.105 02370
007142 013440 A
007143 007675 A     2586        DATA    SGVTN1                                                          D.105 02371
007144 034526 A     2587        LDX     SGVTT       RESTORE X                                           D.105 02372
007145 005143 A     2588 SGVTX3 INCR    3,S                                                             D.105 02373
007146 142532 A     2589        SUB     EIGHT                                                           D.105 02374
007147 001004 A     2590        JAN     SGVTL3      TEST/LOOP                                           D.105 02375
007150 007127 A
                    2591 * ALLOCATE CIRCULAR INTERRUPT BUFFER                                           D.105 02376
                    2592 *                                                                              D.105 02377
007151 030000 L     2593        LDX     =SGSCB6                                                         D.105 02378
007152 024526 A     2594        LDB     SGVTN2                                                          D.105 02379
007153 005301 A     2595        DECR    1                                                               D.105 02380
007154 002000 A     2596        CALL    SGSRE       SEARCH FOR 'CBSIZE'                                 D.105 02381
007155 014744 A
007156 000000 A     2597        DATA    0                                                               D.105 02382
007157 001002 A     2598        JAP     *+2         DEFINED ?                                           D.105 02383
007160 007162 A
007161 012600 A     2599        LDA     =15         NO. USE 15 AS DEFAULT VALUE                         D.105 02384
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007162 054474 A 2600          STA     SGVTCB          SAVE SIZE OF CIRCULAR BUFFER                    D.105 02385
007163 017000 I 2601          LDA     LLC                                                             D.105 02386
007164 144472 A 2602          SUB     SGVTCB                                                          D.105 02387
007165 144471 A 2603          SUB     SGVTCB          ALLOCATE BUFFER OF 2*CBSIZE WORDS               D.105 02388
007166 142573 A 2604          SUB     FIVE            ALLOCATE 5 WORDS FOR BUFFER CONTROL             D.105 02389
007167 057000 I 2605          STA     MA                                                              D.105 02390
007170 057000 I 2606          STA     LLC                                                             D.105 02391
007171 054516 A 2607          STA     SGVTN3+3                                                        D.105 02392
007172 005111 A 2608          IAR                                                                     D.105 02393
007173 054520 A 2609          STA     SGVTN4+3                                                        D.105 02394
007174 005111 A 2610          IAR                                                                     D.105 02395
007175 054522 A 2611          STA     SGVTN5+3                                                        D.105 02396
007176 005111 A 2612          IAR                                                                     D.105 02397
007177 054524 A 2613          STA     SGVTN6+3                                                        D.105 02398
007200 005111 A 2614          IAR                                                                     D.105 02399
007201 054526 A 2615          STA     SGVTN7+3                                                        D.105 02400
007202 005101 A 2616          INCR    1                                                               D.105 02401
007203 057000 I 2617          STA     VDATA                                                           D.105 02402
007204 006505 A 2618          JSR     VMWCT,X         PUT 1 IN CC$FLG                                 D.105 02403
007205 013215 A
007206 030000 L 2619          LDX     =SGSCB6                                                         D.105 02404
007207 002000 A 2620          CALL    SG4ENT          ENTER 'CC$FLG' IN LOADER TABLE                  D.105 02405
007210 013544 A
007211 007705 A 2621          PZE     SGVTN3                                                          D.105 02406
007212 017000 I 2622          LDA     MA                                                              D.105 02407
007213 122573 A 2623          ADD     FIVE                                                            D.105 02408
007214 057000 I 2624          STA     VDATA                                                           D.105 02409
007215 054455 A 2625          STA     SGVTT           SAVE BUFFER ADDRESS                             D.105 02410
007216 047000 I 2626          INR     MA              BUMP LOC COUNTER                                D.105 02411
007217 006505 A 2627          JSR     VMWCT,X         WRITE BUFFER ADDR IN CC$FIL                     D.105 02412
007220 013215 A
007221 030000 L 2628          LDX     =SGSCB6                                                         D.105 02413
007222 002000 A 2629          CALL    SG4ENT          DEFINE 'CC$FIL'                                 D.105 02414
007223 013544 A
007224 007711 A 2630          PZE     SGVTN4                                                          D.105 02415
007225 047000 I 2631          INR     MA                                                              D.105 02416
007226 014444 A 2632          LDA     SGVTT                                                           D.105 02417
007227 057000 I 2633          STA     VDATA           RESTORE VDATA                                   D.105 02418
007230 006505 A 2634          JSR     VMWCT,X         WRITE BUFFER ADDRESS IN CC$EMT                  D.105 02419
007231 013215 A
007232 030000 L 2635          LDX     =SGSCB6                                                         D.105 02420
007233 002000 A 2636          CALL    SG4ENT          DEFINE 'CC$EMT'                                 D.105 02421
007234 013544 A
007235 007715 A 2637          PZE     SGVTN5                                                          D.105 02422
007236 047000 I 2638          INR     MA                                                              D.105 02423
007237 014433 A 2639          LDA     SGVTT                                                           D.105 02424
007240 057000 I 2640          STA     VDATA           RESTORE VDATA                                   D.105 02425
007241 006505 A 2641          JSR     VMWCT,X         WRITE BUFFER ADDRESS IN CC$STR                  D.105 02426
007242 013215 A
007243 030000 L 2642          LDX     =SGSCB6                                                         D.105 02427
007244 002000 A 2643          CALL    SG4ENT          DEFINE 'CC$STR'                                 D.105 02428
007245 013544 A
007246 007721 A 2644          PZE     SGVTN6                                                          D.105 02429
007247 014423 A 2645          LDA     SGVTT                                                           D.105 02430
007250 124406 A 2646          ADD     SGVTCB                                                          D.105 02431
007251 124405 A 2647          ADD     SGVTCB                                                          D.105 02432
007252 005311 A 2648          DAR                     GET LAST ADDRESS OF BUFFER                      D.105 02433
007253 057000 I 2649          STA     VDATA                                                           D.105 02434
007254 047000 I 2650          INR     MA                                                              D.105 02435
007255 006505 A 2651          JSR     VMWCT,X         WRITE LAST BUFFER ADDR IN CC$END                D.105 02436
007256 013215 A
007257 030000 L 2652          LDX     =SGSCB6                                                         D.105 02437
007260 002000 A 2653          CALL    SG4ENT          DEFINE 'CC$END'                                 D.105 02438
007261 013544 A
007262 007725 A 2654          PZE     SGVTN7                                                          D.105 02439
               2655 * ALLOCATE STACK AREA                                                             D.105 02440
               2656 *                                                                                 D.105 02441
007263 030000 L 2657          LDX     =SGSCB6                                                         D.105 02442
007264 024444 A 2658          LDB     SGVTN8                                                          D.105 02443
007265 005301 A 2659          DECR    1                                                               D.105 02444
007266 002000 A 2660          CALL    SGSAE           SEARCH FOR 'VTSTKZ'                             D.105 02445
007267 014744 A
007270 000000 A 2661          DATA    0                                                               D.105 02446
007271 001002 A 2662          JAP     *+4             FIND ?                                          D.105 02447
007272 007275 A
007273 006010 A 2663          LDAI    50              NO. USE 50 AS DEFAULT VALUE                     D.105 02448
007274 000062 A
007275 054374 A 2664          STA     SGVTST          SAVE STACK SIZE                                 D.105 02449
007276 017000 I 2665          LDA     LLC                                                             D.105 02450
007277 144372 A 2666          SUB.    SGVTST          GET STACK ADDRESS                               D.105 02451
007300 057000 I 2667          STA     VDATA                                                           D.105 02452
007301 142530 A 2668          SUB     TWO             ALLOW TWO WORDS OF STACK CONTROL                D.105 02453
007302 057000 I 2669          STA     MA                                                              D.105 02454
007303 057000 I 2670          STA     LLC                                                             D.105 02455
007304 054433 A 2671          STA     SGVTN9+3                                                        D.105 02456
007305 005111 A 2672          IAR                                                                     D.105 02457
007306 054435 A 2673          STA     SGVT10+3                                                        D.105 02458
007307 006505 A 2674          JSR     VMWCT,X         LOAD VTVOLA                                     D.105 02459
007310 013215 A
007311 047000 I 2675          INR     MA                                                              D.105 02460
007312 006505 A 2676          JSR     VMWCT,X         LOAD VTSTAK                                     D.105 02461
007313 013215 A
007314 030000 L 2677          LDX     =SGSCB6                                                         D.105 02462
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007315 002030 A 2678          CALL    SG4ENT          ENTER 'VTVOLA' IN LOADER TABLE          D.105 02463
007316 013544 A
007317 007735 A 2679          PZE     SGVTN9                                                  D.105 02464
007320 030000 L 2680          LDX     =SGSCB6                                                 D.105 02465
007321 002000 A 2681          CALL    SG4ENT          ENTER 'VTSTAK' IN LOADER TABLE          D.105 02466
007322 013544 A
007323 007741 A 2682          PZE     SGVT10                                                  D.105 02467
                    2683 * ALLOCATE LOGICAL LINE TABLE                                        D.105 02468
                    2684 *                                                                    D.105 02469
007324 030000 L 2685          LDX     =SGSCB6                                                 D.105 02470
007325 024417 A 2686          LDB     SGVT11                                                  D.105 02471
007326 005301 A 2687          DECR    1                                                       D.105 02472
007327 002000 A 2688          CALL    SGSAE           SEARCH FOR 'NUMLL'                      D.105 02473
007330 014744 A
007331 000000 A 2689          DATA    0                                                       D.105 02474
007332 001002 A 2690          JAP     *+4             DEFINED ?                               D.105 02475
007333 007336 A
007334 006010 A 2691          LDAI    20              NO. USE 20 AS DEFAULT VALUE             D.105 02476
007335 000024 A
007336 054332 A 2692          STA     SGVTNL          SAVE LOGICAL LINE COUNT                 D.105 02477
007337 005002 A 2693          TZB                                                             D.105 02478
007340 004541 A 2694          LLSR    1                                                       D.105 02479
007341 001020 A 2695          JBZ     *+3                                                     D.105 02480
007342 007344 A
007343 005111 A 2696          IAR                                                             D.105 02481
007344 005211 A 2697          CPA                                                             D.105 02482
007345 005111 A 2698          IAR             GET -(WORD COUNT)                               D.105 02483
007346 152566 A 2699          ANA     BR15                                                    D.105 02484
007347 054307 A 2700          STA     SGVTCB                                                  D.105 02485
007350 005301 A 2701          DECR    1                                                       D.105 02486
007351 057000 I 2702          STA     VDATA                                                   D.105 02487
007352 017000 I 2703          LDA     LLC                                                     D.105 02488
007353 005311 A 2704 SGVTL4   DAR                                                             D.105 02489
007354 057000 I 2705          STA     MA                                                      D.105 02490
007355 006505 A 2706          JSR     VMWCT,X         FILL TABLE WITH BITS                    D.105 02491
007356 013215 A
007357 017000 I 2707          LDA     MA                                                      D.105 02492
007360 007400 A 2708          ROF                                                             D.105 02493
007361 044275 A 2709          INR     SGVTCB          BUMP LOOP COUNTER                       D.105 02494
007362 001007 A 2710          JOFN    SGVTL4          LOOP TILL DONE                          D.105 02495
007363 007353 A
007364 005311 A 2711          DAR                                                             D.105 02496
007365 057000 I 2712          STA     MA                                                      D.105 02497
007366 057000 I 2713          STA     LLC                                                     D.105 02498
007367 054364 A 2714          STA     SGVT12+3                                                D.105 02499
007370 014300 A 2715          LDA     SGVTNL                                                  D.105 02500
007371 057000 I 2716          STA     VDATA                                                   D.105 02501
007372 006505 A 2717          JSR     VMWCT,X         WRITE LINE COUNT IN C52LLT              D.105 02502
007373 013215 A
007374 030000 L 2718          LDX     =SGSCB6                                                 D.105 02503
007375 002000 A 2719          CALL    SG4ENT          DEFINE 'C52LLT'                         D.105 02504
007376 013544 A
007377 007751 A 2720          PZE     SGVT12                                                  D.105 02505
                    2721 * ALLOCATE PHYSICAL LINE TABLES                                      D.105 02506
                    2722 *                                                                    D.105 02507
007400 005004 A 2723          TZX                                                             D.105 02508
007401 006015 A 2724 SGVTL7   LDAE    SGVTMT,X                                                D.105 02509
007402 007661 A
007403 001010 A 2725          JAZ     SGVTX7          SCAN MUX TABLE                          D.105 02510
007404 007452 P
007405 074256 A 2726          STX     SGVTT+1         SAVE X                                  D.105 02511
007406 004350 A 2727          LSRA    2                                                       D.105 02512
007407 152575 A 2728          ANA     =B'1111'                                                D.105 02513
007410 054262 A 2729          STA     SGVTT           SAVE MUX NUMBER M                       D.105 02514
007411 014344 A 2730          LDA     SGVT13+1                                                D.105 02515
007412 006150 A 2731          ANAI    0177770                                                 D.105 02516
007413 177770 A
007414 114256 A 2732          ORA     SGVTT           CONSTRUCT 'NUMENM' IN LOADER CODE       D.105 02517
007415 054340 A 2733          STA     SGVT13+1                                                D.105 02518
007416 014344 A 2734          LDA     SGVT14+2                                                D.105 02519
007417 006150 A 2735          ANAI    0177770                                                 D.105 02520
007420 177770 A
007421 114251 A 2736          ORA     SGVTT                                                   D.105 02521
007422 054340 A 2737          STA     SGVT14+2                                                D.105 02522
007423 030000 L 2738          LDX     =SGSCB6                                                 D.105 02523
007424 024330 A 2739          LDB     SGVT13                                                  D.105 02524
007425 005301 A 2740          DECR    1                                                       D.105 02525
007426 002000 A 2741          CALL    SGSAE           SEARCH FOR 'NUMENM'                     D.105 02526
007427 014744 A
007430 000000 A 2742          DATA    0                                                       D.105 02527
007431 001002 A 2743          JAP     *+3             DEFINED ?                               D.105 02528
007432 007434 A
007433 012535 A 2744          LDA     =D'64           NO. USE 64 AS DEFAULT VALUE             D.105 02529
007434 057000 I 2745          STA     VDATA           SAVE ENTRY COUNT                        D.105 02530
007435 017000 I 2746          LDA     LLC                                                     D.105 02531
007436 147000 I 2747          SUB     VDATA                                                   D.105 02532
007437 142530 A 2748          SUB     TWO             GET TABLE BASE ADDRESS                  D.105 02533
007440 054323 A 2749          STA     SGVT14+3                                                D.105 02534
007441 057000 I 2750          STA     LLC                                                     D.105 02535
007442 057000 I 2751          STA     MA                                                      D.105 02536
007443 006505 A 2752          JSR     VMWCT,X         WRITE ENTRY COUNT IN C52PLM             D.105 02537
007444 013215 A
007445 030000 L 2753          LDX     =SGSCB6                                                 D.105 02538
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007446 002000 A 2754          CALL    SG4ENT          DEFINE 'C52PLM'                          D.105 02539
007447 013544 A
007450 007761 A 2755          PZE     SGVT14                                                   D.105 02540
007451 034222 A 2756          LDX     SGVTT+1         RESTORE X                                D.105 02541
007452 005145 A 2757 SGVTX7   INCR    045             BUMP MUX TABLE POINTER                   D.105 02542
007453 142532 A 2758          SUB     EIGHT                                                    D.105 02543
007454 001004 A 2759          JAN     SGVTL7          LOOP TILL DONE                           D.105 02544
007455 007401 A
               2760 * ALLOCATE BUFFER CHAINING TABLES                                         D.105 02545
               2761 *                                                                         D.105 02546
007456 005004 A 2762          TZX                                                              D.105 02547
007457 006015 A 2763 SGVTL6   LDAE    SGVTMT,X                                                 D.105 02548
007460 007661 A
007461 001010 A 2764          JAZ     SGVTX6          SCAN MUX TABLE                           D.105 02549
007462 007533 A
007463 074210 A 2765          STX     SGVTT+1         SAVE X                                   D.105 02550
007464 004350 A 2766          LSRA    8                                                        D.105 02551
007465 152575 A 2767          ANA     SEVEN                                                    D.105 02552
007466 054204 A 2768          STA     SGVTT           SAVE MUX NUMBER M                        D.105 02553
007467 014276 A 2769          LDA     SGVT15+1                                                 D.105 02554
007470 006150 A 2770          ANAI    0177770                                                  D.105 02555
007471 177770 A
007472 114200 A 2771          ORA     SGVTT           CONSTRUCT 'BCTNTM' IN LOADER CODE        D.105 02556
007473 054272 A 2772          STA     SGVT15+1                                                 D.105 02557
007474 014276 A 2773          LDA     SGVT16+2                                                 D.105 02558
007475 006150 A 2774          ANAI    0174377                                                  D.105 02559
007476 174377 A
007477 054273 A 2775          STA     SGVT16+2                                                 D.105 02560
007500 014172 A 2776          LDA     SGVTT                                                    D.105 02561
007501 004250 A 2777          LRLA    8                                                        D.105 02562
007502 114270 A 2778          ORA     SGVT16+2        CONSTRUCT 'BCTXMA'                       D.105 02563
007503 054267 A 2779          STA     SGVT16+2                                                 D.105 02564
007504 030000 L 2780          LDX     =SGSCB6                                                  D.105 02565
007505 024257 A 2781          LDB     SGVT15                                                   D.105 02566
007506 005301 A 2782          DECR    1                                                        D.105 02567
007507 002000 A 2783          CALL    SGSAE           SEARCH FOR 'BCTNTM'                      D.105 02568
007510 014744 A
007511 000000 A 2784          DATA    0                                                        D.105 02569
007512 001002 A 2785          JAP     *+3             DEFINED ?                                D.105 02570
007513 007515 A
007514 012535 A 2786          LDA     KD64            NO. USE 64 AS DEFAULT VALUE              D.105 02571
007515 057000 I 2787          STA     VDATA           SAVE ENTRY COUNT                         D.105 02572
007516 017080 I 2788          LDA     LLC                                                      D.105 02573
007517 147000 I 2789          SUB     VDATA                                                    D.105 02574
007520 142530 A 2790          SUB     TWO             GET TABLE BASE ADDRESS                   D.105 02575
007521 054252 A 2791          STA     SGVT16+3                                                 D.105 02576
007522 057000 I 2792          STA     LLC                                                      D.105 02577
007523 057000 I 2793          STA     MA                                                       D.105 02578
007524 006505 A 2794          JSR     VMWCT,X         WRITE ENTRY COUNT IN BCTXMA              D.105 02579
007525 013215 A
007526 030000 L 2795          LDX     =SGSCB6                                                  D.105 02580
007527 002000 A 2796          CALL    SG4ENT          DEFINE 'BCTXMA'                          D.105 02581
007530 013544 A
007531 007771 A 2797          PZE     SGVT16                                                   D.105 02582
007532 034141 A 2798          LDX     SGVTT+1         RESTORE X                                D.105 02583
007533 005145 A 2799 SGVTX6   INCR    045             BUMP MUX TABLE POINTER                   D.105 02584
007534 142532 A 2800          SUB     EIGHT                                                    D.105 02585
007535 001004 A 2801          JAN     SGVTL6          LOOP TILL DONE                           D.105 02586
007536 007457 A
               2802 * ALLOCATE DYNAMIC MEMORY SPACE                                           D.105 02587
               2803 *                                                                         D.105 02588
007537 030000 L 2804          LDX     =SGSCB6                                                  D.105 02589
007540 024234 A 2805          LDB     SGVT17                                                   D.105 02590
007541 005301 A 2806          DECR    1                                                        D.105 02591
007542 002000 A 2807          CALL    SGSAE           SEARCH FOR 'NULEL'                       D.105 02592
007543 014744 A
007544 000000 A 2808          DATA    0                                                        D.105 02593
007545 001002 A 2809          JAP     *+3             DEFINED ?                                D.105 02594
007546 007550 A
007547 012534 A 2810          LDA     KD32            NO. USE 32 AS DEFAULT VALUE              D.105 02595
007550 054122 A 2811          STA     SGVTT           SAVE NULEL                               D.105 02596
007551 030000 L 2812          LDX     =SGSCB6                                                  D.105 02597
007552 024226 A 2813          LDB     SGVT18                                                   D.105 02598
007553 005301 A 2814          DECR    1                                                        D.105 02599
007554 002000 A 2815          CALL    SGSAE           SEARCH FOR 'NUTEL'                       D.105 02600
007555 014744 A
007556 000000 A 2816          DATA    0                                                        D.105 02601
007557 001002 A 2817          JAP     *+3             DEFINED ?                                D.105 02602
007560 007562 A
007561 012577 A 2818          LDA     TEN             NO. USE 10 AS DEFAULT VALUE              D.105 02603
007562 004241 A 2819          LRLA    1               2*NUTEL                                  D.105 02604
007563 124107 A 2820          ADD     SGVTT                                                    D.105 02605
007564 054106 A 2821          STA     SGVTT           SAVE (NULEL + 2*NUTEL)                   D.105 02606
007565 005001 A 2822          TZA                                                              D.105 02607
007566 057000 I 2823          STA     VDATA                                                    D.105 02608
007567 017000 I 2824 SGVTL5   LDA     MA                                                       D.105 02609
007570 144067 A 2825          SUB     SGVTK1          DROP MA BY 17                            D.105 02610
007571 057000 I 2826          STA     MA                                                       D.105 02611
007572 006505 A 2827          JSR     VMWCT,X         WRITE POINTER                            D.105 02612
007573 013215 A
007574 017000 I 2828          LDA     MA                                                       D.105 02613
007575 057000 I 2829          STA     VDATA           UPDATE POINTER                           D.105 02614
007576 014074 A 2830          LDA     SGVTT                                                    D.105 02615
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007577 005311 A 2831          DAR                    DROP LOOP COUNT                    D.105 02616
007600 054072 A 2832          STA     SGVTT                                             D.105 02617
007601 001016 A 2833          JANZ    SGVTL5                                            D.105 02618
007602 007567 A
007603 057000 I 2834          STA     VDATA                                             D.105 02619
007604 017000 I 2835          LDA     MA                                                D.105 02620
007605 005311 A 2836          DAR                                                       D.105 02621
007606 057000 I 2837          STA     MA                                                D.105 02622
007607 006505 A 2838          JSR     VMWCT,X        WRITE ZERO                         D.105 02623
007610 013215 A
007611 017000 I 2839          LDA     MA                                                D.105 02624
007612 005311 A 2840          DAR                                                       D.105 02625
007613 057000 I 2841          STA     MA                                                D.105 02626
007614 122530 A 2842          ADD     TWO                                               D.105 02627
007615 057000 I 2843          STA     VDATA                                             D.105 02628
007616 006505 A 2844          JSR     VMWCT,X        WRITE HEADER POINTER               D.105 02629
007617 013215 A
007620 017000 I 2845          LDA     MA                                                D.105 02630
007621 005311 A 2846          DAR                                                       D.105 02631
007622 057000 I 2847          STA     MA                                                D.105 02632
007623 057000 I 2848          STA     LLC                                               D.105 02633
007624 054163 A 2849          STA     SGVT19+3                                          D.105 02634
007625 014032 A 2850          LDA     SGVTK1                                            D.105 02635
007626 057000 I 2851          STA     VDATA                                             D.105 02636
007627 006505 A 2852          JSR     VMWCT,X        WRITE 17 AS BLOCK SIZE             D.105 02637
007630 013215 A
007631 030000 L 2853          LDX     =SGSCB6                                           D.105 02638
007632 002000 A 2854          CALL    SG4ENT         DEFINE 'VT$MP1'                    D.105 02639
007633 013544 A
007634 010005 A 2855          PZE     SGVT19                                            D.105 02640
               2856 * ALLOCATE CHAIN HEADERS                                            D.105 02641
               2857 *                                                                   D.105 02642
007635 017000 I 2858          LDA     LLC                                               D.105 02643
007636 005311 A 2859          DAR                                                       D.105 02644
007637 054154 A 2860          STA     SGVT20+3                                          D.105 02645
007640 030000 L 2861          LDX     =SGSCB6                                           D.105 02646
007641 002000 A 2862          CALL    SG4ENT         ENTER 'CC$DCM'                     D.105 02647
007642 013544 A
007643 010011 A 2863          PZE     SGVT20                                            D.105 02648
007644 017000 I 2864          LDA     LLC                                               D.105 02649
007645 142530 A 2865          SUB     TWO                                               D.105 02650
007646 054151 A 2866          STA     SGVT21+3                                          D.105 02651
007647 005311 A 2867          DAR                                                       D.105 02652
007650 057000 I 2868          STA     LLC                                               D.105 02653
007651 030000 L 2869          LDX     =SGSCB6                                           D.105 02654
007652 002000 A 2870          CALL    SG4ENT         ENTER 'CC$LSD'                     D.105 02655
007653 013544 A
007654 010015 A 2871          PZE     SGVT21                                            D.105 02656
007655 001000 A 2872          JMP     SG4PSC         EXIT                               D.105 02657
007656 010025 A
007657 000000 A 2873 SGVTCB   DATA    0              SIZE OF CIRCULAR BUFFER            D.105 02658
007660 000021 A 2874 SGVTK1   DATA    17                                                D.105 02659
007661 000000 A 2875 SGVTMT   DATA    0,0,0,0,0,0,0,0      MUX TABLE                    D.105 02660
007662 000000 A
007663 000000 A
007664 000000 A
007665 000000 A
007666 000000 A
007667 000000 A
007670 000000 A
007671 000000 A 2876 SGVTNL   DATA    0              LOGICAL LINE COUNT                 D.105 02661
007672 000000 A 2877 SGVTST   DATA    0              STACK SIZE                         D.105 02662
007673 000000 A 2878 SGVTT    DATA    0,0            TEMP STORE                         D.105 02663
007674 000000 A
007675 141724 A 2879 SGVTN1   DATA    'CTMX..',0                                        D.105 02664
007676 146730 A
007677 127256 A
007700 000000 A
007701 007700 A 2880 SGVTN2   PZE     *-1                                               D.105 02665
007702 117245 A 2881          DATA    0117245        'CBSIZE' IN LOADER CODE            D.105 02666
007703 161316 A 2882          DATA    0161316                                           D.105 02667
007704 000010 A 2883          DATA    010                                               D.105 02668
007705 141703 A 2884 SGVTN3   DATA    'CC$FLG',0                                        D.105 02669
007706 122306 A
007707 146397 A
007710 000000 A
007711 141703 A 2885 SGVTN4   DATA    'CC$FIL',0                                        D.105 02670
007712 122306 A
007713 144714 A
007714 000000 A
007715 141703 A 2886 SGVTN5   DATA    'CC$EMT',0                                        D.105 02671
007716 122305 A
007717 146724 A
007720 000000 A
007721 141703 A 2887 SGVTN6   DATA    'CC$STR',0                                        D.105 02672
007722 122323 A
007723 152322 A
007724 000000 A
007725 141703 A 2888 SGVTN7   DATA    'CC$END',0                                        D.105 02673
007726 122305 A
007727 147304 A
007730 000000 A
007731 007730 A 2889 SGVTN8   PZE     *-1                                               D.105 02674
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007732 045372 A 2890          DATA    045372        'VTSTKZ' IN LOADER CODE                    D.105 02675
007733 132317 A 2891          DATA    0132317                                                  D.105 02676
007734 000015 A 2892          DATA    015                                                      D.105 02677
007735 153324 A 2893 SGVTM9   DATA    'VTVOLA',0                                               D.105 02678
007736 153317 A
007737 146301 A
007740 000000 A
007741 153324 A 2894 SGVT10   DATA    'VTSTAK',0                                               D.105 02679
007742 151724 A
007743 140713 A
007744 000000 A
007745 007744 A 2895 SGVT11   PZE     *-1                                                      D.105 02680
007746 155454 A 2896          DATA    0155454       'NUMLL' IN LOADER CODE                     D.105 02681
007747 027326 A 2897          DATA    027326                                                   D.105 02682
007750 000000 A 2898          DATA    0                                                        D.105 02683
007751 141665 A 2899 SGVT12   DATA    'C52LLT',0                                               D.105 02684
007752 131314 A
007753 146324 A
007754 000000 A
007755 007754 A 2900 SGVT13   PZE     *-1                                                      D.105 02685
007756 055620 A 2901          DATA    055620        'NUMENM' IN LOADER CODE                    D.105 02686
007757 132666 A 2902          DATA    0132666                                                  D.105 02687
007760 000013 A 2903          DATA    013                                                      D.105 02688
007761 141665 A 2904 SGVT14   DATA    'C52PLO',0                                               D.105 02689
007762 131320 A
007763 146260 A
007764 000000 A
007765 007764 A 2905 SGVT15   PZE     *-1                                                      D.105 02690
007766 166420 A 2906          DATA    0166420       'BCTNTM' IN LOADER CODE                    D.105 02691
007767 121722 A 2907          DATA    0121722                                                  D.105 02692
007770 000010 A 2908          DATA    010                                                      D.105 02693
007771 141303 A 2909 SGVT16   DATA    'BCTX0A',0                                               D.105 02694
007772 152330 A
007773 130301 A
007774 000000 A
007775 007774 A 2910 SGVT17   PZE     *-1                                                      D.105 02695
007776 144554 A 2911          DATA    0144554       'NULEL' IN LOADER CODE                     D.105 02696
007777 027326 A 2912          DATA    027326                                                   D.105 02697
010000 000000 A 2913          DATA    0                                                        D.105 02698
010001 010000 A 2914 SGVT18   PZE     *-1                                                      D.105 02699
010002 044554 A 2915          DATA    044554        'NUTEL' IN LOADER CODE                     D.105 02700
010003 027327 A 2916          DATA    027327                                                   D.105 02701
010004 000000 A 2917          DATA    0                                                        D.105 02702
010005 153324 A 2918 SGVT19   DATA    'VT$MP1',0                                               D.105 02703
010006 122315 A
010007 150261 A
010010 000000 A
010011 141703 A 2919 SGVT20   DATA    'CC$DCM',0                                               D.105 02704
010012 122317 A
010013 141715 A
010014 000000 A
010015 141703 A 2920 SGVT21   DATA    'CC$LSD',0                                               D.105 02705
010016 122314 A
010017 151704 A
010020 000000 A
010021 141703 A 2921 SGVT22   DATA    'CC$MET',0                                               D.105 02706
010022 122315 A
010023 142724 A
010024 000000 A
                2922          EJEC                                                             05 02707
                2923 *                                                                         05 02708
                2924 *        SG4PSC                                                           05 02709
                2925 *                                                                         05 02710
                2926 *              PURPOSE:  TO READ PST/BAD TRACK TABLES FROM RMD,           05 02711
                2927 *                        ALLOCATE MEMORY SPACE IN NUCLEUS, AND            05 02712
                2928 *                        STORE AND LINK TABLES.                           05 02713
                2929 *                                                                         05 02714
                2930 *              CALLING SEQUENCE:  JMP  SG4PSC                             05 02715
                2931 *                                                                         05 02716
                2932 *              RETURN PARAMETERS:  NONE                                   05 02717
                2933 *                                                                         05 02718
                2934 *                                                                         05 02719
010025          2935 SG4PSC   BSS     0             *  * ENTRY POINT *  *                      05 02720
010025 017000 I 2936          LDA     LLC                                                      05 02721
010026 057000 I 2937          STA     MA            SET UP VIRTUAL MEMORY ADDR. REGISTER       05 02722
010027 006010 A 2938          LDAI    '!P'                                                     05 02723
010030 120720 A
010031 054272 A 2939          STA     PSC5          FIRST I CHAR OF ALL LDR TBL ITEMS CREATED  05 02724
                2940 *                                BY THIS ROUTINE                          05 02725
010032 010500 A 2941          LDA     SGSCB0        SET UP SCAN OF EQUIP STACK                 05 02726
010033 005014 A 2942 PSC4     TAX                     (FOR RMD ENTRIES)                        05 02727
010034 074266 A 2943          STX     PSC1                                                     05 02728
010035 140501 A 2944          SUB     SGSCB0+1                                                 05 02729
010036 001016 A 2945          JANZ    PSC2          IF MORE ENTRIES TO CHECK                   05 02730
010037 010047 A
                2946 *                                                                         05 02731
010040 017000 I 2947          LDA     MA                                                       05 02732
010041 057000 I 2948          STA     LLC           RESTORE LOCATION COUNTER                   05 02733
010042 142540 A 2949          SUB     BS9                                                      05 02734
010043 001004 A 2950          JAN     PSC16         ERROR, IF NUCLEUS TOO LARGE                05 02735
010044 010271 A
                2951          IFT     VORTEX-2                                         V2      05 02736
                2952          GOTO    1                                                V2      05 02737
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                    2953           CALL    IOCS            GET DEVICE TYPE OF LUN 4(LIB)                V2 05 02738
                    2954           DATA    LIB                                                          V2 05 02739
                    2955           DATA    *+4,*+3,*+2,*-6                                              V2 05 02740
                    2956           LDA     2,X                                                          V2 05 02741
                    2957           ERA     ='D '                                                        V2 05 02742
                    2958           LSRA    8                                                            V2 05 02743
                    2959           JANZ    SG4CLK          EXIT IF LIB NOT RMD                          V2 05 02744
                    2960 PSCL1     CALL    IOCS            READ RECORD FROM LIB UNIT                    V2 05 02745
                    2961           DATA    RALF+LIB                                                     V2 05 02746
                    2962           DATA    60,SGIBUF                                                    V2 05 02747
                    2963           CALL    IOCS            STAT                                         V2 05 02748
                    2964           DATA    LIB                                                          V2 05 02749
                    2965           DATA    *+4,*+3,*+2,*-6                                              V2 05 02750
                    2966           LDA     SGIBUF                                                       V2 05 02751
                    2967           ERAI    'CT'                                                         V2 05 02752
                    2968           JANZ    PSCL1           TEST 1ST WORD                                V2 05 02753
                    2969           LDA     SGIBUF+2                                                     V2 05 02754
                    2970           ERAI    '21'                                                            05 02755
                    2971           JANZ    PSCL1           LOOP TILL 'CTL,' RECORD FOUND                V2 05 02756
                    2972           JMP     SG4CLK                                                       V2 05 02757
                    2973 1         CONT                                                                 V2 05 02758
                    2974           IFF     VORTEX-1                                                     V2 05 02759
010045 001000 A     2975           JMP     SG4USA          *  * EXIT *  *                                  05 02760
010046 010331 A
                    2976 *                                                                                  05 02761
010047 015000 A     2977 PSC2      LDA     0,X                                                             05 02762
010050 054254 A     2978           STA     PSC5+1                                                          05 02763
010051 130000 L     2979           ERA     ='D '                                                           05 02764
010052 152570 A     2980           ANA     LHW                                                             05 02765
010053 001016 A     2981           JANZ    PSC3            CONTINUE SCAN IF ITEM NOT RMD                   05 02766
010054 010257 A
                    2982 *                                                                                  05 02767
010055 005001 A     2983           TZA                                                                     05 02768
010056 054250 A     2984           STA     PSC5+3          CLEAR PST BASE ADDRESS FOR LDR TABLE            05 02769
010057 025001 A     2985           LDB     1,X                                                             05 02770
010060 015002 A     2986           LDA     2,X                                                             05 02771
010061 004350 A     2987           LSRA    8                                                               05 02772
010062 120000 L     2988           ADD     =0260                                                           05 02773
010063 004450 A     2989           LLRL    8                                                               05 02774
010064 054243 A     2990           STA     PSC19           SAVE UNIT/MODEL OF HIGHEST PHYS. UNIT           05 02775
010065 152571 A     2991           ANA     RHW                                                             05 02776
010066 120000 L     2992           ADD     =0132400                                                        05 02777
010067 054236 A     2993           STA     PSC5+2          SAVE UNIT/MODEL OF HI POSSIBLE PHYS UNIT        05 02778
                    2994 *                                                                                  05 02779
010070 014235 A     2995 PSC17     LDA     PSC5+2                                                          05 02780
010071 142537 A     2996           SUB     BS8                                                             05 02781
010072 054233 A     2997           STA     PSC5+2                                                          05 02782
010073 144234 A     2998           SUB     PSC19                                                           05 02783
010074 001002 A     2999           JAP     PSC18           IF UNIT NOT IN SYSTEM, SET UP DUMMY LINK        05 02784
010075 010246 A
                    3000 *                                                                                  05 02785
010076 022574 A     3001           LDB     SIX             SCAN SGEN ID (UNITS 7-25) FOR REF. RMD          05 02786
010077 064003 A     3002           STB     PSC6                                                            05 02787
010100 044002 A     3003 PSC14     INR     PSC6                                                            05 02788
010101 002000 A     3004           CALL    IOCS                                                            05 02789
010102 004477 E
010103 000000 A     3005 PSC6      DATA    0                                                               05 02790
010104 010110 A     3006           DATA    *+4,*+3,*+2,*-6                                                 05 02791
010105 010110 A
010106 010110 A
010107 010101 A
010110 015002 A     3007           LDA     2,X                                                             05 02792
010111 134213 A     3008           ERA     PSC5+1                                                          05 02793
010112 001016 A     3009           JANZ    PSC7            IF NO MATCH, CONTINUE SCAN                      05 02794
010113 010263 A
010114 015003 A     3010           LDA     3,X                                                             05 02795
010115 134210 A     3011           ERA     PSC5+2                                                          05 02796
010116 001016 A     3012           JANZ    PSC7            IF NO MATCH, CONTINUE SCAN                      05 02797
010117 010263 A
                    3013 *                                                                                  05 02798
010120 017000 I     3014 PSC13     LDA     PSC6            SET UP REWIND COMMANDS                          05 02799
010121 054007 A     3015           STA     PSC8                                                            05 02800
010122 112541 A     3016           ORA     BS10                                                            05 02801
010123 054002 A     3017           STA     PSC9                                                            05 02802
                    3018 *                                                                                  05 02803
010124 002000 A     3019           CALL    IOCS            REWIND REFERENCED UNIT                          05 02804
010125 010102 E
010126 002000 A     3020 PSC9      DATA    REW                                                             05 02805
010127 002000 A     3021           CALL    IOCS                                                            05 02806
010130 010125 E
010131 000000 A     3022 PSC8      DATA    0                                                               05 02807
010132 010276 A     3023           DATA    PSC10,PSC10,*+2,*-6                                             05 02808
010133 010276 A
010134 010136 A
010135 010127 A
                    3024 *                                                                                  05 02809
010136 017000 I     3025           LDA     PSC6            SET UP READ-BINARY COMMANDS                     05 02810
010137 054011 A     3026           STA     PSC11                                                           05 02811
010140 110000 L     3027           ORA     =040400                                                         05 02812
010141 054002 A     3028           STA     PSC12                                                           05 02813
                    3029 *                                                                                  05 02814
010142 002000 A     3030           CALL    IOCS            READ PST/BAD TRACK TABLE FROM REF. UNIT         05 02815
010143 010130 E
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010144 040400 A 3031 PSC12  DATA    RBIN,600,SGIBUF                                  E2505   05 02816
010145 001130 A
010146 000664 A
010147 002000 A 3032        CALL    IOCS                                                     05 02817
010150 010143 E
010151 000000 A 3033 PSC11  DATA    0                                                        05 02818
010152 010276 A 3034        DATA    PSC10,PSC10,PSC10,*-6                                    05 02819
010153 010276 A
010154 010276 A
010155 010147 A
               3035 *                                                                        05 02820
010156 005001 A 3036        TZA                                                        D.105 02821
010157 022717 A 3037        LDB     SGEDR6                                             D.105 02822
010160 005122 A 3038        IBR             GET MAX PRT COUNT                          D.105 02823
010161 162572 A 3039        MUL     THREE   GET PST SIZE                              D.105 02824
010162 064120 A 3040        STB     PSCT    SAVE                                       D.105 02825
010163 010665 A 3041        LDA     SGIBUF+1 GET WORD 1 FROM RND RECORD                D.105 02826
010164 001010 A 3042        JAZ     PSC11B  ZERO ?                                     D.105 02827
010165 010171 A
010166 144114 A 3043        SUB     PSCT    NO                                         D.105 02828
010167 001004 A 3044        JAN     PSC11C  TOO BIG ?                                  D.105 02829
010170 010173 A
010171 014111 A 3045 PSC11B LDA     PSC1    PACK MADE W/RAZI: WORD 1 BAD               D.105 02830
010172 050665 A 3046        STA     SGIBUF+1 SET TO MAX                                D.105 02831
               010173 A 3047 PSC11C EQU     *                                          D.105 02832
010173 010000 L 3048        LDA     =SGIBUF                                                  05 02833
010174 006120 A 3049        ADDI    64      BAD TRK STARTS AT WORD 64                        05 02834
010175 000100 A
010176 020664 A 3050        LDB     SGIBUF  1ST WD = NO. OF WDS IN BT TABLE    -35           05 02835
010177 004150 A 3051        LSRB    8         BITS 15-8                        -35           05 02836
010200 001026 A 3052        JBNZ    *+5     BAD TRACKS EXIST.                  -35           05 02837
010201 010205 A
010202 005001 A 3053        TZA             NO BAD TRACKS. SET ADDRESS = 0     -35           05 02838
010203 001000 A 3054        JMP     PSC11A                                     -35           05 02839
010204 010223 A
010205 054011 A 3055        STA     PSC31   SAVE BTT ADDR.                     E2505         05 02840
010206 015003 A 3056        LDA     3,X     X POINTS TO CONTRL. TBL, FROM STAT E2505          05 02841
010207 152571 A 3057        ANA     RHW                                        E2505         05 02842
010210 006140 A 3058        SUBI    0304    CHECK FOR MODEL 'D'                E2505         05 02843
010211 000304 A
010212 001016 A 3059        JANZ    *+4     NO, B-REG HAS BTT SIZE             E2505         05 02844
010213 010216 A
010214 006020 A 3060        LDBI    508     MODEL 'D' HAS 508 WORDS IN BTT     E2505         05 02845
010215 000774 A
010216 006010 A 3061        LDAI    0       RESTORE BTT ADDR. TO A-REG         E2505         05 02846
010217 000000 A
010217          3062 PSC31  BES     0                                          E2505         05 02847
010220 002000 A 3063        CALL    PSC20   STORE BAD TRACK TABLE IN NUCLEUS                 05 02848
010221 010304 A
010222 005111 A 3064        IAR                                                              05 02849
               010223 A 3065 PSC11A EQU     *                                  -35           05 02850
010223 054103 A 3066        STA     PSC21   SAVE ADDR OF BAD TRACK TABLE                     05 02851
               3067 *                                                                        05 02852
010224 030000 L 3068        LDX     =SGIBUF COMPUTE DIFFERENCE BETWEEN ACTUAL                05 02853
010225 005001 A 3069        TZA               PST SIZE AND MAX. ALLOWABLE SIZE               05 02854
010226 145001 A 3070        SUB     1,X       *                                            05 02855
010227 022717 A 3071        LDB     SGEDR6    *                                            05 02856
010230 005122 A 3072        IBR               *                                            05 02857
010231 162572 A 3073        MUL     THREE     *                                            05 02858
010232 005221 A 3074        COMP    021       *                                            05 02859
010233 005111 A 3075        IAR               *                                            05 02860
010234 127000 I 3076        ADD     MA        AND ALLOW SPACE FOR MAX. SIZE                05 02861
010235 057000 I 3077        STA     MA                                                     05 02862
               3078 *                                                                        05 02863
010236 025001 A 3079        LDB     1,X     (BR)=NUM OF WORDS IN PST                         05 02864
010237 014067 A 3080        LDA     PSC21                                                    05 02865
010240 055001 A 3081        STA     1,X     STORE BAD TR TBL ADDR (OR ZERO) IN PST           05 02866
010241 010000 L 3082        LDA     =SGIBUF                                                  05 02867
010242 002000 A 3083        CALL    PSC20   STORE PST IN NUCLEUS                             05 02868
010243 010304 A
010244 122530 A 3084        ADD     TWO                                                      05 02869
010245 054061 A 3085        STA     PSC5+3  SAVE PST BASE ADDR FOR LDR TABLE                 05 02870
               3086 *                                                                        05 02871
010246 030000 L 3087 PSC18  LDX     =SGSCB6                                                  05 02872
010247 002000 A 3088        CALL    SG4ENT  MAKE LOADER TABLE ENTRY                          05 02873
010250 013544 A
010251 010324 A 3089        DATA    PSC5                                                     05 02874
010252 014053 A 3090        LDA     PSC5+2                                                   05 02875
010253 130000 L 3091        ERA     ='0  '                                                   05 02876
010254 152570 A 3092        ANA     LHW                                                      05 02877
010255 001016 A 3093        JANZ    PSC17   IF MORE UNITS ON CONTROLLER                      05 02878
010256 010070 A
               3094 *                                                                        05 02879
010257 014043 A 3095 PSC3   LDA     PSC1                                                     05 02880
010260 120502 A 3096        ADD     SGSCB0+2  BUMP EQUIP STACK POINTER              V2       05 02881
010261 001000 A 3097        JMP     PSC4      AND GET NEXT ITEM                              05 02882
010262 010033 A
               3098 *                                                                        05 02883
010263 017000 I 3099 PSC7   LDA     PSC6    LOOP CHECK SGEN-LOG-UNIT SCAN                    05 02884
010264 140000 L 3100        SUB     =025                                                     05 02885
010265 001004 A 3101        JAN     PSC14   IF MORE UNITS TO CHECK                           05 02886
010266 010100 A
               3102 *                                                                        05 02887
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                 3103 *                * * ERROR MESSAGES * *                                    05 02888
                 3104 *                                                                          05 02889
010267 012626 A 3105         LDA     ER20          POST "DRIVER NOT LOADED ERROR" MESSAGE         05 02890
010270 001006 A 3106         DATA    01006                                                        05 02891
010271 012635 A 3107 PSC16   LDA     ER30          POST "NUCLEUS TOO BIG ERROR" MESSAGE           05 02892
010272 002000 A 3108         CALL    SG4PRO                                                       05 02893
010273 013617 A
010274 001000 A 3109         JMP     RELOAD        RELOAD DIRECTIVE PROCESSOR                     05 02894
010275 015031 A
                 3110 *                                                                          05 02895
010276 012606 A 3111 PSC10   LDA     ER00          POST "IO READ ERROR" MESSAGE                   05 02896
010277 002000 A 3112         CALL    SG4PRO                                                       05 02897
010300 013617 A
010301 001000 A 3113         JMP     PSC13         TRY AGAIN                                      05 02898
010302 010120 A
010303 000000 A 3114 PSCT    DATA    0             TEMP                                       D.105 02899
                 3115         EJEC                                                               05 02900
                 3116 *                                                                          05 02901
                 3117 *       PSC20                                                              05 02902
                 3118 *                                                                          05 02903
                 3119 *               PURPOSE:  TO STORE REPETITIVELY TO VIRTUAL MEMORY          05 02904
                 3120 *                                                                          05 02905
                 3121 *               CALLING SEQUENCE:  (AR)= BASE ADDR. OF DATA BLOCK          05 02906
                 3122 *                                  (BR)= NUMBER OF WORDS                   05 02907
                 3123 *                                  CALL  PSC20                             05 02908
                 3124 *                                                                          05 02909
                 3125 *               RETURN PARAMETERS:  (AR)= (MA)= NEXT AVAILABLE CELL        05 02910
                 3126 *                                                                          05 02911
                 3127 *                                                                          05 02912
010304 000000 A 3128 PSC20   ENTR                  * * ENTRY POINT * *                            05 02913
010305 054003 A 3129         STA     PSC22         SAVE BASE ADDR.                                05 02914
010306 017000 I 3130         LD..    MA                                                           05 02915
010307 005322 A 3131 PSC15   DBR                                                                  05 02916
010310 006036 A 3132         LDXE    SGIBUF,B      GET NEXT WORD                                  05 02917
010311 000664 A
010311           3133 PSC22   BES     0                                                           05 02918
010312 077000 I 3134         STX     VDATA         PUT WORD IN VIRTUAL MEMORY BUFFER              05 02919
010313 006505 A 3135         JSR     VMWCT,X       STORE WORD IN VIRTUAL MEMORY                   05 02920
010314 013215 A
010315 005311 A 3136         DAR                                                                  05 02921
010316 057000 I 3137         STA     MA            DECR MEMORY ADDR BUFFER                        05 02922
010317 001026 A 3138         JBNZ    PSC15         IF MORE TO STORE                               05 02923
010320 010307 A
010321 001000 A 3139         JMP*    PSC20         * * RETURN * *                                 05 02924
010322 110304 A
                 3140 *                                                                          05 02925
                 3141 *               * * DATA CELLS * *                                         05 02926
                 3142 *                                                                          05 02927
010323 000000 A 3143 PSC1    DATA    0             EQUIP STACK POINTER                            05 02928
010324           3144 PSC5    BSS     3             PST BASE ADDR ENTRY FOR LOADER TABLE           05 02929
010327 000000 A 3145 PSC21   DATA    0             ADDR OF BAD TRACK TABLE (0 IF NO TABLE)        05 02930
010330 000000 A 3146 PSC19   DATA    0             TEMPORARY CELL FOR UNIT/MODEL NAME             05 02931
                 3147         IFF     VORTEX-2                                               V2  05 02932
                 3148         GOTO    1                                                      V2  05 02933
                 3149         EJEC                                                               05 02934
                 3150 *                                                                          05 02935
                 3151 *       SG4USA                                                             05 02936
                 3152 *                                                                          05 02937
                 3153 *               PURPOSE:  ALLOCATE SPACE FOR DYNAMIC TIDB FORMATION        05 02938
                 3154 *                                                                          05 02939
                 3155 *               CALLING SEQUENCE:  JMP   SG4USA                            05 02940
                 3156 *                                                                          05 02941
                 3157 *               RETURN PARAMETERS:  NONE                                   05 02942
                 3158 *                                                                          05 02943
                 3159 *                                                                          05 02944
010331           3160 SG4USA  BSS     0             * * ENTRY POINT * *                            05 02945
010331 012712 A 3161         LDA     SGEDR1                                                       05 02946
010332 054062 A 3162         STA     USA1          SAVE EMPTY TIDB NUMBER                         05 02947
010333 027000 I 3163         LDB     LLC           (BR)= VIRTUAL MEMORY ADDRESS POINTER           05 02948
010334 005001 A 3164         TZA                                                                  05 02949
010335 054060 A 3165         STA     USA2          SET UP LAST CHAIN ADDRESS                      05 02950
                 3166 *                                                                          05 02951
010336 014056 A 3167 USA4    LDA     USA1                                                         05 02952
010337 001010 A 3168         JAZ     USA7          IF ALL EMPTY TIDB'S BUILT                      05 02953
010340 010375 A
010341 005311 A 3169         DAR                                                                  05 02954
010342 054052 A 3170         STA     USA1          DECREMENT COUNTER AND SAVE                     05 02955
010343 005001 A 3171         TZA                                                                  05 02956
010344 057000 I 3172         STA     VDATA         SET DATA REGISTER TO CLEAR VIR. MEM.           05 02957
                 3173         IFF     V75                                                  V75********
                 3174         GOTO    2                                                    V75********
010345 012737 A 3175         LDA     SGMRY5                                               V75********
010346 001010 A 3176         JAZ     USA4A         V75 SYSTEM ?                           V75********
010347 010351 A
010350 012577 A 3177         LDA     TEN           YES                                    V75********
       010351 A 3178 USA4A   EQU     *                                                    V75********
                 3179 2       CONT                                                         V75********
010351 120030 L 3180         ADD     =25                                                  V75********
010352 067000 I 3181 USA5    STB     MA            SET UP VIR. MEM. ADDR. REGISTER                05 02959
010353 001010 A 3182         JAZ     USA6          IF 25-WORDS CLEARED AND ALLOCATED              05 02960
010354 010363 A
010355 006505 A 3183         JSR     VMWCT,X       CLEAR ANOTHER WORD                             05 02961
010356 013215 A
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010357 005322 A 3184          DBR                                                          05 02962
010360 005311 A 3185          DAR             BUMP COUNTERS                                05 02963
010361 001000 A 3186          JMP     USA5    CONTINUE                                     05 02964
010362 010352 A
                3187 *                                                                     05 02965
010363 014032 A 3188 USA6     LDA     USA2                                                 05 02966
010364 057000 I 3189          STA     VDATA   SET UP CHAIN ADDRESS FOR FIRST WORD          05 02967
010365 006505 A 3190          JSR     VMWCT,X   AND WRITE IT                               05 02968
010366 013215 A
010367 064026 A 3191          STB     USA2    SAVE NEXT CHAIN ADDRESS                      05 02969
010370 064031 A 3192          STB     USA3+3                                               05 02970
010371 005322 A 3193          DBR                                                          05 02971
010372 067000 I 3194          STB     MA      SAVE NEXT LOC. ADDR.                         05 02972
010373 001000 A 3195          JMP     USA4    GO SEE ABOUT ALLOCATING ANOTHER TIDB         05 02973
010374 010336 A
                3196 *                                                                     05 02974
010375 017000 I 3197 USA7     LDA     MA                                                   05 02975
010376 057000 I 3198          STA     LLC     RESTORE LOADING LOCATION COUNTER             05 02976
010377 142540 A 3199          SUB     BS9                                                  05 02977
010400 001002 A 3200          JAP     USA8    IF ALLOCATION WENT O.K.                      05 02978
010401 010407 A
                3201 *                                                                     05 02979
010402 012635 A 3202          LDA     ER30    POST "SYSTEM MEMORY EXCEEDED" ERROR          05 02980
010403 002000 A 3203          CALL    SG4PRO                                               05 02981
010404 013617 A
010405 001000 A 3204          JMP     RELOAD  GO TO RELOAD SGEN                            05 02982
010406 015031 A
                3205 *                                                                     05 02983
010407 030000 L 3206 USA8     LDX     =SGSCB6                                              05 02984
010410 002000 A 3207          CALL    SG4ENT  PUT START-OF-AREA ADDRESS IN LOADER TABLE    05 02985
010411 013544 A
010412 010417 A 3208          DATA    USA3                                                 05 02986
010413 001000 A 3209          JMP     SG4SAC  EXIT ROUTINE                                 05 02987
010414 010423 A
                3210 *                                                                     05 02988
                3211 *                                                                     05 02989
010415 000000 A 3212 USA1     DATA    0       TIDB COUNTER                                 05 02990
                3213 *                                                                     05 02991
010416 000000 A 3214 USA2     DATA    0       CHAIN ADDRESS REGISTER                       05 02992
                3215 *                                                                     05 02993
010417 153244 A 3216 USA3     DATA    'V$UTB' ENTRY ITEM                                   05 02994
010420 152724 A
010421 141240 A
010422 000000 A 3217          DATA    0                                                    05 02995
                3218 1        CUNT                                              V2       05 02996
                3219          EJEC                                                       05 02997
                3220 *                                                                     05 02998
                3221 *        SG4SAC                                                       05 02999
                3222 *                                                                     05 03000
                3223 *        PURPOSE:  ALLOCATE SPACE FOR STORAGE-AND-REENTRY STACK.      05 03001
                3224 *                                                                     05 03002
                3225 *        CALLING SEQUENCE:  JMP   SG4SAC                              05 03003
                3226 *                                                                     05 03004
                3227 *        RETURN PARAMETERS:  NONE                                     05 03005
                3228 *                                                                     05 03006
                3229 *                                                                     05 03007
010423          3230 SG4SAC   BSS     0       *  * ENTRY POINT *  *                        05 03008
                3231          IFT     VORTEX-2                                  V2       05 03009
                3232          GOTO    1                                         V2       05 03010
                3233          LDA     SGCPED                                    V2       05 03011
                3234          DAR                                               V2       05 03012
                3235 1        CUNT                                              V2       05 03013
                3236          IFF     VORTEX-1                                  V2       05 03014
010423 017000 I 3237          LDA     LLC                                                  05 03015
010424 057000 I 3238          STA     MA      SET UP VIR. MEM. ADDR. REG. FOR ALLOCATION   05 03016
010425 005111 A 3239          IAR                                                          05 03017
010426 054052 A 3240          STA     SAC2    SAVE END-OF-AREA POINTER                     05 03018
010427 030000 L 3241          LDX     =SGSCB6                                              05 03019
010430 002000 A 3242          CALL    SG4ENT  ENTER FIRST STACK PNTR IN LOADER TABLE       05 03020
010431 013544 A
010432 010476 A 3243          DATA    SAC1                                                 05 03021
                3244 *                        ZERO STACK AREA ON VIRTUAL MEMORY            05 03022
010433 005001 A 3245          TZA                                                          05 03023
010434 057000 I 3246          STA     VDATA                                                05 03024
010435 017000 I 3247          LDA     MA                                                   05 03025
010436 022713 A 3248          LDB     SGEDR2                                               05 03026
010437 057000 I 3249 SAC3     STA     MA                                                   05 03027
010440 001020 A 3250          JBZ     SAC4    IF STACK AREA ALLOCATION COMPLETE            05 03028
010441 010450 A
010442 006505 A 3251          JSR     VMWCT,X   WRITE A ZERO TO VIRTUAL MEMORY             05 03029
010443 013215 A
010444 005311 A 3252          DAR                                                          05 03030
010445 005322 A 3253          DBR                                                          05 03031
010446 001000 A 3254          JMP     SAC3    CONTINUE                                     05 03032
010447 010437 A
                3255 *                                                                     05 03033
010450 057000 I 3256 SAC4     STA     LLC     SAVE ADDR OF BEGINNING OF STACK AREA         05 03034
010451 005112 A 3257          INCR    012                                                  05 03035
010452 064032 A 3258          STB     SAC7                                                 05 03036
010453 064035 A 3259          STB     SAC9                                                 05 03037
010454 142540 A 3260          SUB     BS9                                                  05 03038
                3261          IFF     VORTEX-2                                  V2       05 03039
                3262          STA     SGCPED                                    V2       05 03040
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010455 001002 A 3263          JAP     SAC5          IF ALLOCATION O.K.                                  05 03041
010456 010464 A
                3264 *                                                                                  05 03042
010457 012635 A 3265          LDA     ER30          POST "SYSTEM MEMORY EXCEEDED" ERROR                 05 03043
010460 002000 A 3266          CALL    SG4PRO                                                            05 03044
010461 013617 A
010462 001000 A 3267          JMP     RELOAD        GO RELOAD SGEN                                      05 03045
010463 015031 A
                3268 *                                                                                  05 03046
010464 030000 L 3269 SAC5     LDX     =SGSCB6                                                           05 03047
010465 002000 A 3270          CALL    SG4ENT        ENTER SECOND STACK PNTR IN LOADER TABLE              05 03048
010466 013544 A
010467 010502 A 3271          DATA    SAC6                                                              05 03049
                3272 *                                                                                  05 03050
010470 030000 L 3273          LDX     =SGSCB6                                                           05 03051
010471 002000 A 3274          CALL    SG4ENT        ENTER THIRD STACK PNTR IN LOADER TABLE              05 03052
010472 013544 A
010473 010506 A 3275          DATA    SAC8                                                              05 03053
                3276          IFF     VORTEX-2                                                  V2      05 03054
                3277          JMP     SG4TBC                                                    V2      05 03055
                3278          IFF     VORTEX-1                                                  V2      05 03056
010474 001000 A 3279          JMP     SG4CLK        EXIT ROUTINE *  *  *                                05 03057
010475 010512 A
                3280 *                                                                                  05 03058
                3281 *                                                                                  05 03059
010476 153244 A 3282 SAC1     DATA    'V$LRSK'                                                          05 03060
010477 146322 A
010500 151713 A
010501 000000 A 3283 SAC2     DATA    0                                                                 05 03061
010502 153244 A 3284 SAC6     DATA    'V$PTVB'                                                          05 03062
010503 150324 A
010504 153302 A
010505 000000 A 3285 SAC7     DATA    0                                                                 05 03063
010506 153244 A 3286 SAC8 -   DATA    'V$FLRS'                                                          05 03064
010507 143314 A
010510 151323 A
010511 000000 A 3287 SAC9     DATA    0                                                                 05 03065
                3288          EJEC                                                                      05 03066
                3289 *                                                                                  05 03067
                3290 *        SG4CLK                                                                    05 03068
                3291 *                                                                                  05 03069
                3292 *              PURPOSE:  CONVERT REAL-TIME CLOCK PARAMETERS TO SYSTEM              05 03070
                3293 *                        CONSTANTS AND ENTER IN LOADER TABLE.                      05 03071
                3294 *                                                                                  05 03072
                3295 *              CALLING SEQUENCE:  JMP   SG4CKP                                     05 03073
                3296 *                                                                                  05 03074
                3297 *              RETURN PARAMETERS:  NONE                                            05 03075
                3298 *                                                                                  05 03076
                3299 *              NOTE:  RESULTS OF ALL DIVISION HAVE BEEN TRUNCATED.                 05 03077
                3300 *                                                                                  05 03078
                3301 *                                                                                  05 03079
010512          3302 SG4CLK   BSS     0                   *  * ENTRY POINT *  *                       05 03080
010512 005001 A 3303          TZA                                                                       05 03081
010513 022706 A 3304          LDB     SGCLK3                                                            05 03082
010514 172573 A 3305          DIV     FIVE                                                              05 03083
010515 064064 A 3306          STB     CLK3+3        (V$CTMS)= CLOCK RESOLUTION (IN 5MS. INCR.)          05 03084
                3307 *                                                                                  05 03085
010516 005001 A 3308          TZA                                                                       05 03086
010517 006020 A 3309          LDBI    12000                                                             05 03087
010520 027340 A
010521 174060 A 3310          DIV     CLK3+3                                                            05 03088
010522 064047 A 3311          STB     CLK1+3                                                            05 03089
010523 006010 A 3312          LDAI    32767                                                             05 03090
010524 077777 A
010525 144044 A 3313          SUB     CLK1+3                                                            05 03091
010526 005111 A 3314          IAR                                                                       05 03092
010527 054042 A 3315          STA     CLK1+3        (V$1MIN)=32767-(60000/(5*(V$CTMS)))+1               05 03093
                3316 *                                                                                  05 03094
010530 012705 A 3317          LDA     SGCLK2                                                            05 03095
010531 054044 A 3318          STA     CLK2+3        (V$FREE)= FREE RUNNING COUNTER INCREMENT            05 03096
                3319 *                                                                                  05 03097
010532 005001 A 3320          TZA                                                                       05 03098
010533 020000 L 3321          LDB     =1000                                                             05 03099
010534 162706 A 3322          MUL     SGCLK3                                                            05 03100
010535 172704 A 3323          DIV     SGCLK1                                                            05 03101
010536 064047 A 3324          STB     CLK1+3        (V$SCV)= CLOCK SELECTED COUNT VALUE                 05 03102
                3325 *                                                                                  05 03103
010537 012704 A 3326          LDA     SGCLK1                                                            05 03104
010540 054051 A 3327          STA     CLK3+3        (V$CKB)= BASIC CLOCK INTERRUPT RATE                 05 03105
                3328 *                                                                                  05 03106
                3329 *              *  STORE FIVE VALUES IN DATA PATCH STACK                            05 03107
                3330 *                                                                                  05 03108
010541 030000 L 3331          LDX     =SGSCB7                                                           05 03109
010542 002000 A 3332          CALL    SG4ENT                                                            05 03110
010543 013544 A
010544 010567 A 3333          DATA    CLK1                                                              05 03111
010545 030000 L 3334          LDX     =SGSCB7                                                           05 03112
010546 002000 A 3335          CALL    SG4ENT                                                            05 03113
010547 013544 A
010550 010573 A 3336          DATA    CLK2                                                              05 03114
010551 030000 L 3337          LDX     =SGSCB7                                                           05 03115
010552 002000 A 3338          CALL    SG4ENT                                                            05 03116
010553 013544 A
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010554 010577 A 3339          DATA    CLK3                                                    05 03117
010555 030000 L 3340          LDX     =SGSCB7                                                 05 03118
010556 002000 A 3341          CALL    SG4ENT                                                  05 03119
010557 013544 A
010560 010603 A 3342          DATA    CLK4                                                    05 03120
010561 030000 L 3343          LDX     =SGSCB7                                                 05 03121
010562 002000 A 3344          CALL    SG4ENT                                                  05 03122
010563 013544 A
010564 010607 A 3345          DATA    CLK5                                                    05 03123
               3346          IFF     VORTEX-2                                        V2      05 03124
               3347          JMP     SG4VP                                           V2      05 03125
               3348          IFF     VORTEX-1                                        V2      05 03126
010565 001000 A 3349          JMP     SG4TBC      EXIT ROUTINE  *  *  *                       05 03127
010566 010613 A
010567 121644 A 3350 CLK1     DATA    '#$1MIN',0                                              05 03128
010570 130715 A
010571 144716 A
010572 000000 A
               3351 *                                                                        05 03129
010573 121644 A 3352 CLK2     DATA    '#$FREE',0                                              05 03130
010574 143322 A
010575 142705 A
010576 000000 A
               3353 *                                                                        05 03131
010577 121644 A 3354 CLK3     DATA    '#$CTMS',0                                              05 03132
010600 141724 A
010601 146723 A
010602 000000 A
               3355 *                                                                        05 03133
010603 121644 A 3356 CLK4     DATA    '#$SCV',0                                               05 03134
010604 151703 A
010605 153240 A
010606 000000 A
               3357 *                                                                        05 03135
010607 121644 A 3358 CLK5     DATA    '#$CKB',0                                               05 03136
010610 141713 A
010611 141240 A
010612 000000 A
               3359          EJEC                                                    V2      05 03137
               3360          IFT     VORTEX-2                                        V2      05 03138
               3361          GOTO    1                                               V2      05 03139
               3362 *        SG4VP                                                   V2      05 03140
               3363 *                    PURPOSE: ALLOCATE V$PAGE,V$MIMG             V2      05 03141
               3364 *                                                                V2      05 03142
               3365 SG4VP    TZA                                                     V2      05 03143
               3366          STA     VDATA       SET VDATA TO CLEAR V$MIMG           V2      05 03144
               3367          LDA     KD64        INITIALIZE LOOP                     V2      05 03145
               3368 SG4VPL   STA     SG4VPT                                          V2      05 03146
               3369          JAZ     SG4VPX      EXIT AT LOOP END                    V2      05 03147
               3370          LDA     LLC                                             V2      05 03148
               3371          DAR                 DROP LOAD ADDRESS                   V2      05 03149
               3372          STA     LLC                                             V2      05 03150
               3373          STA     MA                                              V2      05 03151
               3374          JSR     VMWCT,X     CLEAR V$MIMG WORD                   V2      05 03152
               3375          LDA     SG4VPT                                          V2      05 03153
               3376          DAR                 DROP LOOP COUNT                     V2      05 03154
               3377          JMP     SG4VPL      AND CONTINUE                        V2      05 03155
               3378 SG4VPX   LDA     LLC                                             V2      05 03156
               3379          STA     SG4VPM+3    STORE BASE ADDRESS IN ENTRY         V2      05 03157
               3380          LDX     =SGSCB6                                         V2      05 03158
               3381          CALL    SG4ENT      ENTER V$MIMG IN LOADER TABLES       V2      05 03159
               3382          DATA    SG4VPM                                          V2      05 03160
               3383          LDA     SGMRY4      GET K MEMORY COUNT                  V2      05 03161
               3384          TZB                                                     V2      05 03162
               3385          LLSR    3           CONVERT TO FLAG WORD COUNT          V2      05 03163
               3386          JBZ     *+3                                             V2      05 03164
               3387          IAR                 BUMP IF NOT EVEN WORD               V2      05 03165
               3388          STA     SG4VPT      SAVE                                V2      05 03166
               3389          LSRB    13          RIGHT JUSTIFY                        D.1    05 03167
               3390          STB     SG4VPT+1                                        V2      05 03168
               3391          LDA     LLC         GET CURRENT LOAD LOC                V2      05 03169
               3392          SUB     SG4VPT      ALLOCATE V$PAGE SPACE               V2      05 03170
               3393          DAR                 +1 FOR COUNT                        V2      05 03171
               3394          STA     SGCPED      UPDATE LOAD LOC                     V2      05 03172
               3395          STA     SG4VPP+3    V$PAGE LOC                          V2      05 03173
               3396          STA     SG4VPB+3    V$BTBM                              V2      05 03174
               3397          LDX     =SGSCB6                                         V2      05 03175
               3398          CALL    SG4ENT      ENTER V$PAGE IN LOADER TABLES       V2      05 03176
               3399          DATA    SG4VPP                                          V2      05 03177
               3400          LDX     =SGSCB6                                         V2      05 03178
               3401          CALL    SG4ENT      ENTER V$BTBM IN LOADER TABLES       V2      05 03179
               3402          DATA    SG4VPB                                          V2      05 03180
               3403          LDA     SGCPED                                          V2      05 03181
               3404          STA     MA          POINT MA AT BASE OF V$PAGE          V2      05 03182
               3405          LDA     SG4VPT                                          V2      05 03183
               3406          STA     VDATA                                           V2      05 03184
               3407          JSR     VMWCT,X     WRITE V$PAGE SIZE TO VIRTUAL MEMORY V2      05 03185
               3408          LDA     MA                                              V2      05 03186
               3409          ADD     FIVE        JUMP OVER 1ST 32K                   V2      05 03187
               3410          STA     MA                                              V2      05 03188
               3411          DECR    1                                               V2      05 03189
               3412          STA     VDATA       SET ALL AVAILABLE .GT. 32K          V2      05 03190
               3413          LDA     SG4VPT                                          V2      05 03191
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                    3414            SUB     FOUR                                                    V2  05 03192
                    3415            JAN     SG4ICR          EXIT IF .LT. 32K                        V2  05 03193
                    3416            TAB                     GET LOOP COUNT IN B                     V2  05 03194
                    3417 SG4VP1     JBZ     SG4VP2          TEST DONE                               V2  05 03195
                    3418            JSR     VMWCT,X         WRITE TO VM                             V2  05 03196
                    3419            INR     MA              BUMP ADDRESS                                05 03197
                    3420            LDA     SG4VPT+1                                                E   05 03198
                    3421            JAZ     *+3             IF EVEN 8K                              E   05 03199
                    3422            DBR                     SET FOR PARTIAL PAGE WORD               E   05 03200
                    3423            DBR                     DECREMENT LOOP COUNT                    V2  05 03201
                    3424            JMP     SG4VP1          CONTINUE                                V2  05 03202
                    3425 SG4VP2     LDAI    0140000                                                 V2  05 03203
                    3426            STA     VDATA           INITIALIZE                              V2  05 03204
                    3427            LDA     SG4VPT+1                                                V2  05 03205
                    3428            JAZ     SG4ICR          EXIT IF DONE                            V2  05 03206
                    3429 SG4VP3     DAR                     DECREMENT LOOP COUNT                    V2  05 03207
                    3430            STA     SG4VPT+1                                                V2  05 03208
                    3431            JAZ     SG4VP4                                                  V2  05 03209
                    3432            LDA     VDATA                                                   V2  05 03210
                    3433            ASRA    2               ENABLE 1K MORE                          V2  05 03211
                    3434            STA     VDATA                                                   V2  05 03212
                    3435            LDA     SG4VPT+1                                                V2  05 03213
                    3436            JMP     SG4VP3          CONTINUE                                V2  05 03214
                    3437 SG4VP4     JSR     VMWCT,X         WRITE OUT LAST PARTIAL WORD OF V$PAGE   V2  05 03215
                    3438            JMP     SG4ICR          RESUME PROCESSING                       V2  05 03216
                    3439 SG4VPB     DATA    'V$PTBM',0                                              V2  05 03217
                    3440 SG4VPP     DATA    'V$PAGE',0                                              V2  05 03218
                    3441 SG4VPM     DATA    'V$MIMG',0                                              V2  05 03219
                    3442 SG4VPT     DATA    0,0             TEMP STORE                              V2  05 03220
                    3443 1          CONT                                                            V2  05 03221
                    3444            EJEC                                                            05 03222
                    3445 *                                                                          05 03223
                    3446 *      SG4TBC                                                              05 03224
                    3447 *                                                                          05 03225
                    3448 *          PURPOSE:  TO CHAIN ADDRESSES OF NUCLEUS-BUILT TIDB'S            05 03226
                    3449 *                    BY PRIORITY.                                          05 03227
                    3450 *                                                                          05 03228
                    3451 *          CALLING SEQUENCE:  JMP   SG4TBC                                 05 03229
                    3452 *                                                                          05 03230
                    3453 *          RETURN PARAMETERS:  NONE                                        05 03231
                    3454 *                                                                          05 03232
                    3455 *                                                                          05 03233
010613              3456 SG4TBC     BSS     0                                                       05 03234
010613 005002 A     3457            TZB                                                             05 03235
010614 067000 I     3458            STB     VDATA           SET UP LAST CHAIN ADDR AS ZERO          05 03236
010615 005102 A     3459            INCR    B                                                       05 03237
010616 064054 A     3460 TBC8       STB     TBC1            INITIALIZE TO LOWEST PRIORITY LEVEL     05 03238
010617 010530 A     3461            LDA     SGSCB8            AND START OF ENTRY NAME STACK         05 03239
010620 005012 A     3462 TBC5       TAB                                                             05 03240
010621 140531 A     3463            SUB     SGSCB8+1                                                05 03241
010622 001002 A     3464            JAP     TBC7            IF END OF STACK REACHED                 05 03242
010623 010653 A
                    3465 *                                                                          05 03243
010624 016004 A     3466            LDA     4,B                                                     05 03244
010625 004344 A     3467            LSRA    4               GET PRIORITY OF CURRENT STACK ITEM      05 03245
010626 144044 A     3468            SUB     TBC1                                                    05 03246
010627 001010 A     3469            JAZ     TBC6            IF EQUAL TO CURRENT PRIORITY            05 03247
010630 010635 A
                    3470 *                                                                          05 03249
010631 005021 A     3471 TBC4       TBA                                                             05 03249
010632 120532 A     3472            ADD     SGSCB8+2        BUMP POINTER TO NEXT STACK ITEM         05 03250
010633 001000 A     3473            JMP     TBC5            CONTINUE SCAN                           05 03251
010634 010620 A
                    3474 *                                                                          05 03252
010635 016000 A     3475 TBC6       LDA     0,B                                                     05 03253
010636 001004 A     3476            JAN     TBC9            ERROR IF TIDB ADDRESS UNDEFINED         05 03254
010637 010666 A
010640 057000 I     3477            STA     MA              SAVE TIDB ADDRESS                       05 03255
010641 006505 A     3478            JSR     VMWCT,X           AND WRITE ADDR OF PREVIOUS TIDB INTO IT 05 03256
010642 013215 A
010643 016004 A     3479            LDA     4,B                                                     05 03257
010644 152600 A     3480            ANA     BM17                                                    05 03258
010645 056004 A     3481            STA     4,B             DESTROY ENTRY                           05 03259
010646 017000 I     3482            LDA     MA                                                      05 03260
010647 057000 I     3483            STA     VDATA           UPDATE CHAIN ADDR                       05 03261
010650 054026 A     3484            STA     TBC1                                                    05 03262
010651 001000 A     3485            JMP     TBC8            CONTINUE                                05 03263
010652 010631 A
                    3486 *                                                                          05 03264
010653 014017 A     3487 TBC7       LDA     TBC1            * END OF STACK REACHED, CHECK PRIORITY  05 03265
010654 005112 A     3488            INCR    B12                                                     05 03266
010655 140000 L     3489            SUB     =B1                                                     05 03267
010656 001016 A     3490            JANZ    TBC8            IF MORE PRIORITIES TO CHAIN             05 03269
010657 010616 A
                    3491 *                                                                          05 03269
010660 030000 L     3492            LDX     =SGSCB6         OTHERWISE,ENTER ADDR OF HIGHEST PRIORITY 05 03270
010661 002000 A     3493            CALL    SG4ENT            TIDB IN TO LOADER TABLE               05 03271
010662 013544 A
010663 010674 A     3494            DATA    TBC9                                                    05 03272
010664 001000 A     3495            JMP     SG4LCF          *  * EXIT ROUTINE *  *                  05 03273
010665 010700 A
                    3496 *                                                                          05 03274
                    3497 *                                                                          05 03275
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010666 012647 A 3498 TBC9   LDA     ER45          POST "UNDEFINED EXTERNAL ERROR" MESSAGE     05 03276
010667 002000 A 3499        CALL    SG4PRO                                                    05 03277
010670 013617 A
010671 001000 A 3500        JMP     RELOAD        GO RELOAD SGEN                              05 03278
010672 015031 A
                3501 *                                                                        05 03279
                3502 *                                                                        05 03280
                3503 *                                                                        05 03281
010673 000000 A 3504 TBC1   DATA    0             PRIORITY LEVEL COUNTER                      05 03282
                3505 *                                                                        05 03283
010674 153244 A 3506 TBC2   DATA    'V$TB  '                                                  05 03284
010675 152302 A
010676 120240 A
010677 000000 A 3507 TBC3   DATA    0             'V$TB' TIDB ADDRESS                         05 03285
                3508        EJEC                                                            05 03286
                3509 *                                                                        05 03287
                3510 *      SG4LCF                                                            05 03288
                3511 *                                                                        05 03289
                3512 *            PURPOSE:  TO GENERATE SPECIAL PARAMETERS FOR "LOW-CORE"      05 03290
                3513 *                                                                        05 03291
                3514 *            CALLING SEQUENCE:  JMP   SG4LCF                             05 03292
                3515 *                                                                        05 03293
                3516 *            RETURN PARAMETERS:  NONE                                    05 03294
                3517 *                                                                        05 03295
                3518 *                                                                        05 03296
010700          3519 SG4LCF BSS     0               *  * ENTRY POINT *  *                     05 03297
                3520 *                                                                        05 03298
                3521 *      SET-UP PIM MODULE VALUES FOR TELETYPES AND CRT'S                  05 03299
                3522 *                                                                        05 03300
010700 030514 A 3523        LDX     SGSCB4          SET POINTER TO INT. MODULE STACK          05 03301
010701 074043 A 3524 LCF24  STX     LCF21           SAVE POINTER                              05 03302
010702 015002 A 3525        LDA     2,X             GET DEVICE MNEUMONIC                      05 03303
010703 054336 A 3526        STA     LCF20+1           AND SAVE IT                             05 03304
010704 140000 L 3527        SUB     ='CT'                                                     05 03305
010705 001010 A 3528        JAZ     LCF22           IF 'CT' DEVICE                            05 03306
010706 010712 A
010707 140000 L 3529        SUB     ='TY'-'CT'                                                05 03307
010710 001016 A 3530        JANZ    LCF23           IF NOT 'CT' OR 'TY', CHECK MORE ITEMS     05 03308
010711 010744 A
010712 015004 A 3531 LCF22  LDA     4,X                                                       05 03309
010713 142530 A 3532        SUB     TWO                                                       05 03310
010714 001016 A 3533        JANZ    LCF23           IF NOT "WRITE" PIM (EVENT WORD=2)         05 03311
010715 010744 A
010716 015003 A 3534        LDA     3,X             SET-UP NAME FOR ENTRY IN DATA PATCH       05 03312
010717 054323 A 3535        STA     LCF20+2                                                   05 03313
010720 010000 L 3536        LDA     ='#I'                                                     05 03314
010721 054317 A 3537        STA     LCF20           SET NAME FOR PIM MODULE NUMBER            05 03315
010722 015000 A 3538        LDA     0,X                                                       05 03316
010723 004343 A 3539        LSRA    3                                                         05 03317
010724 152575 A 3540        ANA     SEVEN                                                     05 03318
010725 054316 A 3541        STA     LCF20+3         SET-UP PIM MODULE VALUE                   05 03319
010726 030000 L 3542        LDX     =SGSCB7                                                   05 03320
010727 002000 A 3543        CALL    SG4ENT          ENTER NAME/VALUE IN DATA PATCH STACK      05 03321
010730 013544 A
010731 011241 A 3544        DATA    LCF20                                                     05 03322
010732 010000 L 3545        LDA     ='#L'                                                     05 03323
010733 054305 A 3546        STA     LCF20           SET NAME FOR PIM LINE NUMBER              05 03324
010734 034010 A 3547        LDX     LCF21                                                     05 03325
010735 015000 A 3548        LDA     0,X                                                       05 03326
010736 152575 A 3549        ANA     SEVEN                                                     05 03327
010737 054304 A 3550        STA     LCF20+3         SET-UP PIM LINE VALUE                     05 03329
010740 030000 L 3551        LDX     =SGSCB7                                                   05 03329
010741 002000 A 3552        CALL    SG4ENT          ENTER NAME/VALUE IN DATA PATCH STACK      05 03330
010742 013544 A
010743 011241 A 3553        DATA    LCF20                                                     05 03331
010744 006010 A 3554 LCF23  LDA!    0               GET STACK POINTER                         05 03332
010745 000000 A
010745          3555 LCF21  BES     0                                                         05 03333
010746 120516 A 3556        ADD     SGSCB4+2        BUMP TO NEXT ENTRY                        05 03334
010747 005014 A 3557        TAX                                                               05 03335
010750 140515 A 3558        SUB     SGSCB4+1                                                  05 03336
010751 001016 A 3559        JANZ    LCF24           IF NOT END OF STACK                       05 03337
010752 010701 A
                3560 *                                                                        05 03338
010753 030000 L 3561        LDX     =SGSCB6                                           E.1 ********
010754 024274 A 3562        LDB     LCF25                                             E.1 ********
010755 005301 A 3563        DECR    1               SET FOR SEARCH ONLY               E.1 ********
010756 002000 A 3564        CALL    SGSAE           SEARCH FOR V$PTSZ                 E.1 ********
010757 014744 A
010760 000000 A 3565        DATA    0                                                 E.1 ********
010761 001004 A 3566        JAN     LCF21A          IF NOT FOUND                      E.1 ********
010762 010775 A
010763 054301 A 3567        STA     LCTMP           SAVE PATCH AREA SIZE              E.1 ********
010764 017000 I 3568        LDA     LLC             CURRENT V$BVN                     E.1 ********
010765 054272 A 3569        STA     LCF26+3                                           E.1 ********
010766 030000 L 3570        LDX     =SGSCB6                                           E.1 ********
010767 002000 A 3571        CALL    SG4ENT          ADD ENTRY FOR V$PEND              E.1 ********
010770 013544 A
010771 011255 A 3572        DATA    LCF26                                             E.1 ********
010772 017000 I 3573        LDA     LLC             CURRENT V$BVN                     E.1 ********
010773 144271 A 3574        SUB     LCTMP           PATCH AREA SIZE                   E.1 ********
010774 057000 I 3575        STA     LLC             UPDATE V$BVN                      E.1 ********
        010775 A 3576 LCF21A EQU    *                                                 E.1 ********
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010775 017000 I 3577          LDA     LLC                                                    05 03339
010776 006150 A 3578          ANAI    0177000     SET TO PAGE BOUNDARY                     E.1 ********
010777 177000 A
011000 005111 A 3579          IAR                 LEAVE ROOM FOR CORE RESIDENT DIRECTORY   E.2********
011001 054007 A 3580          STA     LCF21B+1                                             E.2********
011002 147000 I 3581          SUB     LLC                                                  E.2********
011003 001004 A 3582          JAN     LCF21B      OK, ORIGINAL V$BVN ABOVE NEW V$BVN.      E.2********
011004 011010 A
011005 127000 I 3583          ADD     LLC         RESTORE V$BVN, CANNOT SAVE ROOM          E.2********
011006 001000 A 3584          JMP     LCF21C                                               E.2********
011007 011012 A
011010 006010 A 3585 LCF21B   LDAI    0           NEW V$BVN VALUE                          E.2********
011011 000000 A
       011012 A 3586 LCF21C   EQU     *                                                    E.2********
011012 057000 I 3587          STA     LLC                                                  E.1 ********
011013 050657 A 3588          STA     V$BVN       SET-UP 'V$BVN' ENTRY IN LDR TABLE            05 03340
011014 054247 A 3589          STA     LCF27+3                                              E.1 ********
011015 030000 L 3590          LDX     =SGSCB6                                              E.1 ********
011016 002000 A 3591          CALL    SG4ENT      ADD ENTRY FOR V$PSTR                     E.1 ********
011017 013544 A
011020 011261 A 3592          DATA    LCF27                                                E.1 ********
011021 017000 I 3593          LDA     LLC         CURRENT V$BVN                            E.1 ********
011022 054165 A 3594          STA     LCF13+3       AND SAVE IT IN COMMON DATA AREA            05 03341
011023 005111 A 3595          IAR                                                            05 03342
011024 052700 A 3596          STA     SGCPED      RESET LOCATION COUNTER                     05 03343
       3597 *                                                                               05 03344
011025 012707 A 3598          LDA     SGMRY1                                                 05 03345
011026 054145 A 3599          STA     LCF10+3     SET-UP TOP OF USEABLE CORE (V$TFC.         05 03346
011027 142710 A 3600          SUB     SGMRY2                                                 05 03347
011030 005111 A 3601          IAR                                                      V2    05 03348
011031 054146 A 3602          STA     LCF11+3     SET-UP TOP OF NUCLEUS (V$BFC)              05 03349
011032 012604 A 3603          LDA     BM777                                                  05 03350
011033 054150 A 3604          STA     LCF12+3     SET-UP TOP OF LITERAL POOL (V$LIT)         05 03351
       3605 *                                                                               05 03352
011034 030000 L 3606          LDX     =SGSCB6                                                05 03353
011035 002000 A 3607          CALL    SG4ENT      PUT 'V$TFC' IN LDR TABLE                   05 03354
011036 013544 A
011037 011171 A 3608          DATA    LCF10                                                  05 03355
       3609 *                                                                               05 03356
011040 030000 L 3610          LDX     =SGSCB6                                                05 03357
011041 002000 A 3611          CALL    SG4ENT      PUT 'V$BFC' IN LDR TABLE                   05 03358
011042 013544 A
011043 011175 A 3612          DATA    LCF11                                                  05 03359
       3613 *                                                                               05 03360
011044 030000 L 3614          LDX     =SGSCB6                                                05 03361
011045 002000 A 3615          CALL    SG4ENT      PUT 'V$LIT' IN LDR TABLE                   05 03362
011046 013544 A
011047 011201 A 3616          DATA    LCF12                                                  05 03363
       3617 *                                                                               05 03364
011050 030000 L 3618          LDX     =SGSCB6                                                05 03365
011051 002000 A 3619          CALL    SG4ENT      PUT "V$BVN" IN LOADER TABLE                05 03366
011052 013544 A
011053 011205 A 3620          DATA    LCF13                                                  05 03367
       3621 *                                                                               05 03368
011054 012717 A 3622          LDA     SGEDR6      GET MAX PARTITION VALUE                    05 03369
011055 054162 A 3623          STA     LCF19+3                                                05 03370
011056 030000 L 3624          LDX     =SGSCB7                                                05 03371
011057 002000 A 3625          CALL    SG4ENT      PUT MAX PARTITION VALUE IN DATA PATCH      05 03372
011060 013544 A
011061 011235 A 3626          DATA    LCF19                                                  05 03373
       3627 *                                                                               05 03374
011062 012722 A 3628          LDA     SGEDR9      GET CARD PUNCH TYPE CODE                   05 03375
011063 054150 A 3629          STA     LCF18+3                                                05 03376
       3630          IFF     V75                                                      V75********
       3631          GOTO    1                                                        V75********
011064 012737 A 3632          LDA     SGMRY5                                           V75********
011065 001010 A 3633          JAZ     LCF2A       V75 SYSTEM ?                         V75********
011066 011072 A
011067 014144 A 3634          LDA     LCF18+3     YES                                  V75********
011070 112530 A 3635          ORA     BS1         SET V75 FLAG                         V75********
011071 054142 A 3636          STA     LCF18+3                                          V75********
       011072 A 3637 LCF2A    EQU     *                                                V75********
       3638 1         CONT                                                            V75********
011072 030000 L 3639          LDX     =SGSCB7                                                05 03377
011073 002000 A 3640          CALL    SG4ENT      PUT CARD PUNCH TYPE CODE IN DATA PATCH     05 03378
011074 013544 A
011075 011231 A 3641          DATA    LCF18                                                  05 03379
       3642 *                                                                               05 03380
011076 012721 A 3643          LDA     SGEDR8      GET LISTING PAGE SIZE                      05 03381
011077 054130 A 3644          STA     LCF17+3                                                05 03382
011100 030000 L 3645          LDX     =SGSCB7                                                05 03383
011101 002000 A 3646          CALL    SG4ENT      PUT PAGE SIZE IN DATA PATCH STACK          05 03384
011102 013544 A
011103 011225 A 3647          DATA    LCF17                                                  05 03385
       3648 *                                                                               05 03386
011104 002000 A 3649          CALL    IDOS        *  * GET DEVICE ADDR AND BIC ADDR OF SYS   05 03387
011105 010150 E
011106 000007 A 3650          DATA    SYS                                                    05 03388
011107 011113 A 3651          DATA    *+4,*+3,*+2,*-6                                        05 03389
011110 011113 A
011111 011113 A
011112 011104 A
011113 035021 A 3652          LDX     17,X                                                   05 03390
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011114 015000 A 3653          LDA     0,X             GET BIC DEVICE ADDR                                    05 03391
011115 054106 A 3654          STA     LCF16+3                                                                05 03392
011116 015005 A 3655          LDA     5,X             GET RMD DEVICE ADDR                                    05 03393
011117 054100 A 3656          STA     LCF15+3                                                                05 03394
011120 030000 L 3657          LDX     =SGSCB7                                                                05 03395
011121 002000 A 3658          CALL    SG4ENT          PUT DEVICE ADDR IN DATA PATCH (FOR INIT)               05 03396
011122 013544 A
011123 011215 A 3659          DATA    LCF15                                                                  05 03397
011124 030000 L 3660          LDX     =SGSCB7                                                                05 03398
011125 002000 A 3661          CALL    SG4ENT          PUT BIC ADDR IN DATA PATCH (FOR INIT)                  05 03399
011126 013544 A
011127 011221 A 3662          DATA    LCF16                                                                  05 03400
                3663          IFF     VORTEX-2                                                       V2      05 03401
                3664          GOTO    1                                                              V2      05 03402
                3665 *                                                                                       05 03403
                3666 *                * * SET-UP MEMORY ALLOCATION WORDS FOR LOW-CORE * *                    05 03404
                3667 *                                                                                       05 03405
011130 006505 A 3668          JSR     SG4PKK,X        CONVERT "V$CAM" TO LOADER CODE                         05 03406
011131 013772 A
011132 000006 A 3669          DATA    6,LCF2                                                                 05 03407
011133 011245 A
011134 005301 A 3670          DECR    01                                                                     05 03408
011135 030000 L 3671          LDX     =SGSCB6                                                                05 03409
011136 020000 L 3672          LDB     =ITEM                                                                  05 03410
011137 002000 A 3673          CALL    SGSAE           SEARCH LOADER TABLE FOR "V$CAM"                        05 03411
011140 014744 A
011141 000000 A 3674          DATA    0                                                                      05 03412
011142 050663 A 3675          STA     AD$CAM          SAVE ADDR OF 'V$CAM'                                   05 03413
011143 005041 A 3676          TXA                                                                            05 03414
011144 001004 A 3677          JAN     LCF6            ERROR, IF 'V$CAM' NOT FOUND                            05 03415
011145 011164 A
                3678 *                                                                                       05 03416
                3679 *                                                                                       05 03417
                3680 1        CONT                                                           V2              05 03418
011146 006505 A 3681          JSR     SG4PKK,X        SEARCH LOADER TABLE FOR 'V$CRDR'                       05 03419
011147 013772 A
011150 000006 A 3682          DATA    6,LCF14                                                                05 03420
011151 011211 A
011152 005301 A 3683          DECR    01                                                                     05 03421
011153 030000 L 3684          LDX     =SGSCB6                                                                05 03422
011154 020000 L 3685          LDB     =ITEM                                                                  05 03423
011155 002000 A 3686          CALL    SGSAE                                                                  05 03424
011156 014744 A
011157 000000 A 3687          DATA    0                                                                      05 03425
011160 050662 A 3688          STA     ADCRDR          SAVE ADDR OF 'V$CRDR' FOR RES TASK CONFIG.             05 03426
011161 005041 A 3689          TXA                                                                            05 03427
011162 001002 A 3690          JAP     SG4CLO          *  * EXIT IF 'V$CRDR' FOUND *  *                       05 03428
011163 011266 A
                3691 *                                                                                       05 03429
011164 012647 A 3692 LCF6     LDA     ER45                                                                   05 03430
011165 002000 A 3693          CALL    SG4PRO          POST 'UNDEFINED ENTRY' ERROR                           05 03431
011166 013617 A
011167 001000 A 3694          JMP     RELOAD            AND RELOAD DPROC.                                    05 03432
011170 015031 A
                3695 *                                                                                       05 03433
                3696 *                                                                                       05 03434
011171 153244 A 3697 LCF10    DATA    'V$TFC',0                                                              05 03435
011172 152306 A
011173 141640 A
011174 000000 A
                3698 *                                                                                       05 03436
011175 153244 A 3699 LCF11    DATA    'V$BFC',0                                                              05 03437
011176 141306 A
011177 141640 A
011200 000000 A
                3700 *                                                                                       05 03438
011201 153244 A 3701 LCF12    DATA    'V$LIT',0                                                              05 03439
011202 146311 A
011203 152240 A
011204 000000 A
                3702 *                                                                                       05 03440
011205 153244 A 3703 LCF13    DATA    'V$BVN',0                                                              05 03441
011206 141326 A
011207 147240 A
011210 000000 A
                3704 *                                                                                       05 03442
011211 153244 A 3705 LCF14    DATA    'V$CRDR',0                                                             05 03443
011212 141722 A
011213 142322 A
011214 000000 A
                3706 *                                                                                       05 03444
011215 121704 A 3707 LCF15    DATA    '#DSYS',0                                                              05 03445
011216 151731 A
011217 151640 A
011220 000000 A
                3708 *                                                                                       05 03446
011221 121702 A 3709 LCF16    DATA    '#BSYS',0                                                              05 03447
011222 151731 A
011223 151640 A
011224 000000 A
                3710 *                                                                                       05 03448
011225 121644 A 3711 LCF17    DATA    '#$LCNT',0                                                             05 03449
011226 146303 A
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011227 147324 A
011230 000000 A
                    3712 *                                                                                  05 03450
011231 121644 A     3713 LCF18   DATA     '#$CRDM',0                                                        05 03451
011232 141722 A
011233 142315 A
011234 000000 A
                    3714 *                                                                                  05 03452
011235 121644 A     3715 LCF19   DATA     '#$PST ',0                                                        05 03453
011236 150323 A
011237 152240 A
011240 000000 A
                    3716 *                                                                                  05 03454
011241 121711 A     3717 LCF20   DATA     '#I    ',0                                                       05 03455
011242 120240 A
011243 120240 A
011244 000000 A
                    3718 *                                                                                  05 03456
011245 153244 A     3719 LCF2    DATA     'V$CAM',0                                                         05 03457
011246 141701 A
011247 146640 A
011250 000000 A
011251 011250 A     3720 LCF25   PZE      *-1                                                               E.1 ********
011252 046372 A     3721         DATA     046372       V$PTSZ                                               E.1 ********
011253 102303 A     3722         DATA     0102303      IN                                                   E.1 ********
011254 000015 A     3723         DATA     015          LOADER CODE                                          E.1 ********
011255 153244 A     3724 LCF26   DATA     'V$PEND',0   ENTRY FOR V$PEND                                     E.1 ********
011256 150305 A
011257 147304 A
011260 000000 A
011261 153244 A     3725 LCF27   DATA     'V$PSTR',0   ENTRY FOR V$PSTR                                     E.1 ********
011262 150323 A
011263 152322 A
011264 000000 A
011265 000000 A     3726 LCTMP   DATA     0            TEMP STORAGE                                         E.1 ********
                    3727         EJEC                                                                       05 03458
                    3728 *                                                                                  05 03459
                    3729 *       SG4CLO                                                                     05 03460
                    3730 *                                                                                  05 03461
                    3731 *            PURPOSE:  FOR GENERATE "CL" LIBRARY ON RMD                            05 03462
                    3732 *                                                                                  05 03463
                    3733 *            CALLING SEQUENCE:  JMP   SG4CLO                                       05 03464
                    3734 *                                                                                  05 03465
                    3735 *            RETURN PARAMETERS:  NONE                                              05 03466
                    3736 *                                                                                  05 03467
                    3737 *                                                                                  05 03468
011266              3738 SG4CLO  BSS      0            *  * ENTRY POINT *  *                                05 03469
011266 020000 L     3739         LDB      =SGSCB6                                                           E.1 ********
011267 016000 A     3740         LDA      0,B          CURRENT START OF STACK                               E.1 ********
011270 054542 A     3741         STA      $RSTR                                                             E.1 ********
011271 016001 A     3742         LDA      1,B                                                               E.1 ********
011272 054541 A     3743         STA      $REND        END OF STACK                                         E.1 ********
011273 016002 A     3744         LDA      2,B          ITEM SIZE                                            E.1 ********
011274 054542 A     3745         STA      $RINC        ITEM SIZE                                            E.1 ********
011275 002000 A     3746         CALL     SGSRT        SORT CL DIRECTORY                                    E.1 ********
011276 011760 A
011277 020000 L     3747         LDB      =CLD12       POST "CORE RESIDENT LIBRARY" LISTING                      05 03470
011300 002000 A     3748         CALL     SGLIS          HEADER (IF LISTING REQUESTED).                          05 03471
011301 015267 A
011302 020000 L     3749         LDB      =CLD13                                                                 05 03472
011303 002000 A     3750         CALL     SGLIS                                                                  05 03473
011304 015267 A
011305 020000 L     3751         LDB      =CLD14                                                                 05 03474
011306 002000 A     3752         CALL     SGLIS                                                                  05 03475
011307 015267 A
011310 020000 L     3753         LDB      =CLD13                                                                 05 03476
011311 002000 A     3754         CALL     SGLIS                                                                  05 03477
011312 015267 A
011313 005001 A     3755         TZA                                                                             05 03478
011314 054375 A     3756         STA      CLD1         RESET "UNDEFINED" FLAG                                    05 03479
                    3757 *                                                                                      05 03480
                    3758 *            *  * FIND "SYS" UNIT PST IN VIRTUAL MEMORY *  *                          05 03481
                    3759 *                                                                                      05 03482
011315 002000 A     3760         CALL     IOCS         LOCATE SYSTEM RMD NAME                                    05 03483
011316 011105 E
011317 000007 A     3761         DATA     SYS                                                                    05 03484
011320 011324 A     3762         DATA     *+4,*+3,*+2,*-6                                                        05 03485
011321 011324 A
011322 011324 A
011323 011315 A
011324 015002 A     3763         LDA      2,X                                                                    05 03486
011325 054420 A     3764         STA      CLD15+1      SAVE RMD NAME                                             05 03487
011326 015003 A     3765         LDA      3,X                                                                    05 03488
011327 054417 A     3766         STA      CLD15+2                                                                05 03489
011330 006505 A     3767         JSR      SG4PKK,X     PACK NAME IN LOADER CODE                                  05 03490
011331 013772 A
011332 000006 A     3768         DATA     6,CLD15                                                                05 03491
011333 011745 A
011334 005301 A     3769         DECR     01                                                                     05 03492
011335 020000 L     3770         LDB      =ITEM                                                                  05 03493
011336 030000 L     3771         LDX      =SGSCB6                                                                05 03494
011337 002000 A     3772         CALL     SGSAE        SEARCH LDR TABLE STACK FOR "!PD00"                        05 03495
011340 014744 A
```

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011341 000000 A 3773          DATA    0                                                    05 03496
011342 005311 A 3774          DAR                                                          05 03497
011343 057000 I 3775          STA     MA          SAVE PST BASE ADDR (IF FOUND)            05 03498
011344 005041 A 3776          TXA                                                          05 03499
011345 001004 A 3777          JAN     CL016       ERROR, IF NOT FOUND                      05 03500
011346 011703 A
                 3778 *                                                                    05 03501
011347 020000 L 3779          LDB     =-6         INPUT FIRST SIX WORDS OF PST TO (CL017)  05 03502
011350 006505 A 3780 CL018    JSR     VMRCT,X                                              05 03503
011351 013210 A
011352 017000 I 3781          LDA     VDATA                                                05 03504
011353 006056 A 3782          STAE    CL017+6,B                                            05 03505
011354 011756 A
011355 047000 I 3783          INR     MA                                                   05 03506
011356 005122 A 3784          IBR                                                          05 03507
011357 001026 A 3785          JBNZ    CL018                                                05 03508
011360 011350 A
011361 014366 A 3786          LDA     CL017                                                05 03509
011362 152571 A 3787          ANA     RHW                                                  05 03510
011363 054364 A 3788          STA     CL017                                                05 03511
                 3789 *                                                                    05 03512
011364 014367 A 3790          LDA     CL017+4                                              05 03513
011365 001010 A 3791          JAZ     CL020       IF NO BAD TRACKS IN PARTITION            05 03514
011366 011406 A
011367 014361 A 3792          LDA     CL017+1                                              05 03515
011370 057000 I 3793          STA     MA                                                   05 03516
011371 006505 A 3794          JSR     VMRCT,X     INPUT FIRST WORD OF BAD TRACK TABLE      05 03517
011372 013210 A
011373 027000 I 3795          LDB     VDATA       B=1ST WD OF BT TABLE          -35        05 03518
011374 047000 I 3796          INR     MA                                                   05 03519
011375 006505 A 3797          JSR     VMRCT,X     INPUT SECOND WORD OF BAD TRACK TABLE     05 03520
011376 013210 A
011377 017000 I 3798          LDA     VDATA       A=2ND WD OF BT TABLE          -35        05 03521
011400 034351 A 3799          LDX     CL017+2                                              05 03522
011401 005344 A 3800          DXR                                                          05 03523
011402 004541 A 3801 CL011    LLSR    1           MOVE B TO A FOR NEXT TRK.     -35        05 03524
011403 005344 A 3802          DXR                                                          05 03525
011404 001046 A 3803          JXNZ    CL011                                                05 03526
011405 011402 A
011406 064347 A 3804 CL020    STB     CL019       BIT 0 IN B REG. IS TRK DESIRED -35       05 03527
                 3805 *                                                                    05 03528
011407 002000 A 3806          CALL    IOCS        REWIND "SYS" DEVICE                      05 03529
011410 011316 E
011411 002007 A 3807          DATA    REW+SYS                                              05 03530
011412 002000 A 3808          CALL    IOCS                                                 05 03531
011413 011410 E
011414 000007 A 3809          DATA    SYS                                                  05 03532
011415 011705 A 3810          DATA    CL021,CL021,*+2,*-6                                  05 03533
011416 011705 A
011417 011421 A
011420 011412 A
                 3811 *                                                                    05 03534
011421 005001 A 3812          TZA                                                          05 03535
011422 024327 A 3813          LDB     CL017+2     POSITION "SYS" DEVICE TO BEGINNING OF 'CL' 05 03536
011423 005322 A 3814          DBR                                                          05 03537
011424 164323 A 3815          MUL     CL017       CONVERT TO SECTORS TO SKIP               05 03538
011425 064003 A 3816          STB     CL022                                                05 03539
011426 002000 A 3817          CALL    IOCS                                                 05 03540
011427 011413 E
011430 003007 A 3818          DATA    SKRF+SYS                                             05 03541
011431 000000 A 3819 CL022    DATA    0                                                    05 03542
011432 002000 A 3820          CALL    IOCS                                                 05 03543
011433 011427 E
011434 000007 A 3821          DATA    SYS                                                  05 03544
011435 011705 A 3822          DATA    CL021,CL021,CL021,*-6                                05 03545
011436 011705 A
011437 011705 A
011440 011432 A
                 3823 *                                                                    05 03546
                 3824 *                                                                    05 03547
011441 005001 A 3825          TZA                                                          05 03548
011442 052506 A 3826          STA     IBUF1+4     INITIALIZE PARTITION RELATIVE POINTER    05 03549
011443 014304 A 3827 CL024    LDA     CL017                                                05 03550
011444 054312 A 3828          STA     CL023       INITIALIZE SECTORS/TRACK COUNTER         05 03551
011445 054010 A 3829          STA     CL026       SET-UP SKIP TRACK                        05 03552
011446 014307 A 3830          LDA     CL019                                                05 03553
011447 006440 A 3831          BT      RA0,CL09    IF CURRENT TRK IS GOOD        -35        05 03554
011450 011470 A
011451 004341 A 3832          LSRA    1           MOVE NEXT TRK TO BIT 0        -35        05 03555
011452 054303 A 3833          STA     CL019       SET UP FLAG FOR NEXT TRACK               05 03556
011453 002000 A 3834          CALL    IOCS          AND SKIP OVER CURRENT TRACK            05 03557
011454 011433 E
011455 003007 A 3835          DATA    SKRF+SYS                                             05 03558
011456 000000 A 3836 CL026    DATA    0                                                    05 03559
011457 002000 A 3837          CALL    IOCS                                                 05 03560
011460 011454 E
011461 000007 A 3838          DATA    SYS                                                  05 03561
011462 011705 A 3839          DATA    CL021,CL021,CL021,*-6                                05 03562
011463 011705 A
011464 011705 A
011465 011457 A
011466 001000 A 3840          JMP     CL024       GO CHECK FOR BAD TRACK                   05 03563
011467 011443 A
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                    3841 *                                                                                  05 03564
011470 005002 A     3842 CL09   TZB                 CLEAR OUT (SGIBUF) FOR FILE DIRECTORY BUIL          05 03565
011471 030000 L     3843        LDX     =120          AND (SGOBUF) FOR OBJECT MODULE BUILD              05 03566
011472 005344 A     3844 CL02   DXR                                                                     05 03567
011473 006065 A     3845        STBE    SGIBUF,X                                                        05 03568
011474 000664 A
011475 001046 A     3846        JXNZ    CL02                                                            05 03569
011476 011472 A
011477 030000 L     3847        LDX     =120                                                            05 03570
011500 005344 A     3848 CL03   DXR                                                                     05 03571
011501 006065 A     3849        STBE    SGOBUF,X                                                        05 03572
011502 002026 A
011503 001046 A     3850        JXNZ    CL03                                                            05 03573
011504 011500 A
                    3851 *                                                                              05 03574
011505 012506 A     3852        LDA     TBUF1+4                                                         05 03575
011506 122530 A     3853        ADD     TWO         UPDATE PARTITION RELATIVE POINTER                   05 03576
011507 052506 A     3854        STA     TBUF1+4       AND INITIALIZE                                    05 03577
011510 005111 A     3855        IAR                   FILE DIRECTORY ENTRY BUFFER                       05 03578
011511 052505 A     3856        STA     TBUF1+3       FOR NEXT OBJ. MOD./DIRECTORY                      05 03579
011512 052507 A     3857        STA     TBUF1+5       *                                                 05 03580
011513 051001 A     3858        STA     SGIBUF+77     AND LINK TO NEXT FILE DIRECTORY                   05 03581
                    3859 *                                                                              05 03582
011514 010000 L     3860        LDA     =SGIBUF                                                         05 03583
011515 122573 A     3861        ADD     FIVE                                                            05 03584
011516 054066 A     3862        STA     CL04        SET UP FILE DIRECTORY ENTRY POINTER                 05 03585
011517 010000 L     3863        LDA     =SGOBUF                                                         05 03586
011520 120000 L     3864        ADD     =11                                                             05 03587
011521 054171 A     3865        STA     CL05        SET UP OBJECT MODULE BUFFER POINTER                 05 03588
                    3866 *                                                                              05 03589
011522 010000 L     3867        LDA     =0160400                                                        05 03590
011523 052026 A     3868        STA     SGOBUF      CREATE OBJ. MOD. RECORD CONTROL WORD                05 03591
011524 030000 L     3869        LDX     =SGSCB6                                                         05 03592
011525 020000 L     3870        LDB     =ITEM                                                           05 03593
011526 002000 A     3871        CALL    SGGET       GET NEXT LOADER TABLE ENTRY                         05 03594
011527 014616 A
011530 001004 A     3872        JAN     CL027       IF LOADER TABLE STACK EXHAUSTED                     05 03595
011531 011676 A
011532 012020 A     3873 CL06   LDA     ITEM+4      BUILD LOADER CODE FOR "ENTRY"                       05 03596
011533 152600 A     3874        ANA     BM17                                                            05 03597
011534 110000 L     3875        ORA     =010760                                                         05 03598
011535 057000 I     3876        STA*    CL05                                                            05 03599
011536 044154 A     3877        INR     CL05                                                            05 03600
011537 012017 A     3878        LDA     ITEM+3                                                          05 03601
011540 057000 I     3879        STA*    CL05                                                            05 03602
011541 044151 A     3880        INR     CL05                                                            05 03603
011542 012016 A     3881        LDA     ITEM+2                                                          05 03604
011543 057000 I     3882        STA*    CL05                                                            05 03605
011544 044146 A     3883        INR     CL05                                                            05 03606
011545 012014 A     3884        LDA     ITEM                                                            05 03607
011546 057000 I     3885        STA*    CL05                                                            05 03608
011547 114142 A     3886        ORA     CL01        MERGE DEFINED/UNDEFINED BITS                        05 03609
011550 054141 A     3887        STA     CL01          AND SAVE FOR LATER CHECK                          05 03610
011551 044141 A     3888        INR     CL05                                                            05 03611
                    3889 *                                                                              05 03612
011552 002000 A     3890        CALL    SG4UPK      UNPACK ENTRY NAME AND LIST (IF DESIRED)             05 03613
011553 015302 A
                    3891 *                                                                              05 03614
011554 012406 A     3892 CL07   LDA     SGLBUF      LEFT ADJUST UNPACKED NAME IN (SGLBUF)               05 03615
011555 152570 A     3893        ANA     LHW                                                             05 03616
011556 130000 L     3894        ERA     =0120000                                                        05 03617
011557 001016 A     3895        JANZ    CL025       IF LEFT ADJUSTED                                    05 03618
011560 011574 A
011561 012406 A     3896        LDA     SGLBUF                                                          05 03619
011562 022407 A     3897        LDB     SGLBUF+1                                                        05 03620
011563 004450 A     3898        LLRL    8                                                               05 03621
011564 052406 A     3899        STA     SGLBUF                                                          05 03622
011565 004050 A     3900        LALB    8                                                               05 03623
011566 012410 A     3901        LDA     SGLBUF+2                                                        05 03624
011567 004450 A     3902        LLRL    8                                                               05 03625
011570 062407 A     3903        STB     SGLBUF+1                                                        05 03626
011571 052410 A     3904        STA     SGLBUF+2                                                        05 03627
011572 001000 A     3905        JMP     CL07                                                            05 03628
011573 011554 A
                    3906 *                                                                              05 03629
011574 002000 A     3907 CL025  CALL    SGMOV       COMBINE ENTRY NAME AND FILE/SECTOR                  05 03630
011575 014325 A
011576 000003 A     3908        DATA    3             INFORMATION IN (TBUF1) AND MOVE                   05 03631
011577 002406 A     3909        DATA    SGLBUF        IT INTO OBJ. MOD. IN (SGOBUF)                     05 03632
011600 002502 A     3910        DATA    TBUF1                                                           05 03633
011601 002000 A     3911        CALL    SGMOV                                                           05 03634
011602 014325 A
011603 000006 A     3912        DATA    6                                                               05 03635
011604 002502 A     3913        DATA    TBUF1                                                           05 03636
011605 000000 A     3914 CL04   DATA    0                                                               05 03637
                    3915 *                                                                              05 03638
011606 017000 I     3916        LDA     CL04                                                            05 03639
011607 122574 A     3917        ADD     SIX                                                             05 03640
011610 057000 I     3918        STA     CL04        UPDATE OBJ. MOD. BUFFER POINTER                     05 03641
011611 040664 A     3919        INR     SGIBUF      UPDATE NUMBER-OF-ENTRIES IN FILE DIRECTORY          05 03642
011612 010664 A     3920        LDA     SGIBUF                                                          05 03643
011613 140000 L     3921        SUB     =12                                                             05 03644
011614 001016 A     3922        JANZ    CL025       JUMP IF FILE DIRECTORY NOT FULL                     05 03645
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011615 011627 A
011616 030000 L 3923          LDX     =SGSCB6       FILE DIRECTORY FULL - CHECK STACK          05 03646
011617 015000 A 3924          LDA     0,X           BASE ADDRESS OF STACK                      05 03647
011620 145001 A 3925          SUB     1,X           MINUS BOTTOM ADDRESS                       05 03648
011621 001004 A 3926          JAN     CL08          JUMP IF STACK NOT EMPTY                    05 03649
011622 011637 A
011623 005101 A 3927          INCR    01            STACK EMPTY -                              05 03650
011624 057000 I 3928          STA*    CL04          SET END OF DIRECTORY FLAG                  05 03651
011625 001000 A 3929          JMP     CL08                                                     05 03652
011626 011637 A
                3930 *                                                                         05 03653
                3931 *                                                                         05 03654
011627 030000 L 3932 CL045    LDX     =SGSCB6       GET NEXT ITEM FROM LOADER TABLE STACK      05 03655
011630 020000 L 3933          LDB     =ITEM                                                    05 03656
011631 002000 A 3934          CALL    SGGET                                                    05 03657
011632 014616 A
011633 001002 A 3935          JAP     CL06          GO PROCESS ITEM                            05 03658
011634 011532 A
011635 005101 A 3936          INCR    01                                                       05 03659
011636 057000 I 3937          STA*    CL04          SET END-OF-DIRECTORY FLAG IF DONE          05 03660
                3938 *                                                                         05 03661
011637 002000 A 3939 CL08     CALL    IOCS          OUTPUT FILE DIRECTORY RECORD               05 03662
011640 011460 E
011641 041007 A 3940          DATA    WBIN+SYS                                                 05 03663
011642 000170 A 3941          DATA    120,SGIBUF                                               05 03664
011643 000664 A
011644 002000 A 3942          CALL    IOCS                                                     05 03665
011645 011640 E
011646 000007 A 3943          DATA    SYS                                                      05 03666
011647 011705 A 3944          DATA    CL021,CL021,CL021,*-6                                    05 03667
011650 011705 A
011651 011705 A
011652 011644 A
011653 002000 A 3945          CALL    IOCS          OUTPUT OBJECT MODULE RECORD                05 03668
011654 011645 E
011655 041007 A 3946          DATA    WBIN+SYS                                                 05 03669
011656 000170 A 3947          DATA    120,SGOBUF                                               05 03670
011657 002026 A
011660 002000 A 3948          CALL    IOCS                                                     05 03671
011661 011654 E
011662 000007 A 3949          DATA    SYS                                                      05 03672
011663 011705 A 3950          DATA    CL021,CL021,CL021,*-6                                    05 03673
011664 011705 A
011665 011705 A
011666 011660 A
                3951 *                                                                         05 03674
011667 014067 A 3952          LDA     CL023                                                    05 03675
011670 142530 A 3953          SUB     TWO                                                      05 03676
011671 054065 A 3954          STA     CL023         DECR SECTORS/TRACK COUNTER                 05 03677
011672 001010 A 3955          JAZ     CL024         IF AT END OF TRACK, CHECK FOR BAD TRACK    05 03678
011673 011443 A
011674 001000 A 3956          JMP     CL09          OTHERWISE, PROCESS NORMALLY                05 03679
011675 011470 A
                3957 *                                                                         05 03680
011676 014013 A 3958 CL027    LDA     CL01                                                     05 03681
011677 001002 A 3959          JAP     SG4TSL        * * EXIT, IF NO "UNDEFINED"                05 03682
011700 012041 A
                3960 *                                                                         05 03683
                3961 *                                                                         05 03684
                3962 *        * * ERROR MESSAGES * *                                           05 03685
                3963 *                                                                         05 03686
011701 012647 A 3964 CL010    LDA     ER45          POST "LDR-TABLE-ENTRY-UNDEFINED ERROR"     05 03687
011702 001006 A 3965          DATA    01006                                                    05 03688
011703 012633 A 3966 CL016    LDA     ER25          POST "INCOMPLETE SYS DEFINITION ERROR"     05 03689
011704 001006 A 3967          DATA    01006                                                    05 03690
011705 012621 A 3968 CL021    LDA     ER11          POST "WRITE ERROR" MESSAGE                 05 03691
011706 002000 A 3969          CALL    SG4PRO                                                   05 03692
011707 013617 A
011710 001000 A 3970          JMP     RELOAD        GO RELOAD DIRECTIVE PROCESSER              05 03693
011711 015031 A
                3971 *                                                                         05 03694
                3972 *        * * DATA CELLS * *                                               05 03695
                3973 *                                                                         05 03696
011712 000000 A 3974 CL01     DATA    0             "UNDEFINED EXTERNALS" FLAG                 05 03697
011713 000000 A 3975 CL05     DATA    0             OBJECT MODULE BUFFER POINTER               05 03698
011714 000013 A 3976 CL012    DATA    11,'CORE RESIDENT LIBRARY'                               05 03699
011715 141717 A
011716 151305 A
011717 120322 A
011720 142723 A
011721 144704 A
011722 142716 A
011723 152240 A
011724 146311 A
011725 141322 A
011726 140722 A
011727 154640 A
011730 000001 A 3977 CL013    DATA    1,'  '                                                   05 03700
011731 120240 A
011732 000012 A 3978 CL014    DATA    10,'NAME        LOCATION'                                05 03701
011733 147301 A
011734 146705 A
011735 120240 A
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011736 120240 A
011737 120240 A
011740 120240 A
011741 146317 A
011742 141701 A
011743 152311 A
011744 147716 A
011745 120720 A 3979 CL015   DATA    'IP     '                                  E5 03702
011746 120240 A
011747 120240 A
011750          3980 CL017   BSS     6       NUMBER OF 120-WORD RECORDS/TRACK   E5 03703
                3981 *                       BAD TRACK TABLE ADDRESS            E5 03704
                3982 *                       STARTING TRACK NUMBER              E5 03705
                3983 *                       PROTECT KEY                        E5 03706
                3984 *                       NUMBER OF BAD TRACKS               E5 03707
                3985 *                       LAST TRACK (+1) NUMBER             E5 03708
011756          3986 CL019   BSS     1       BAD TRACK TABLE                    E5 03709
011757 000000 A 3987 CL023   DATA    0       SECTORS/TRACK COUNTER              E5 03710
                3988         EJEC                                               E.1 ********
                3989 *                                                          E.1 ********
                3990 *       SGSRT                                              E.1 ********
                3991 *                                                          E.1 ********
                3992 *       PURPOSE:  SORT CL STACK NUMERICALLY, HIGH TO LOW   E.1 ********
                3993 *                                                          E.1 ********
                3994 *       CALLING SEQUENCE:  CALL SGSRT                      E.1 ********
                3995 *                          LOC SRSTR = START OF STACK      E.1 ********
                3996 *                          LOC SREND = END OF STACK        E.1 ********
                3997 *                          LOC SRINC = STACK ITEM SIZE     E.1 ********
                3998 *                                                          E.1 ********
                3999 *       RETURN PARAMETERS:  NONE                           E.1 ********
                4000 *                                                          E.1 ********
011760 000000 A 4001 SGSRT   ENTR                                               E.1 ********
011761 014051 A 4002 SR05    LDA     SRSTR   STACK START                        E.1 ********
011762 124054 A 4003         ADD     SRINC   ITEM SIZE                          E.1 ********
011763 054051 A 4004         STA     SRITM   SET NEXT ITEM                      E.1 ********
011764 034046 A 4005 SR10    LDX     SRSTR                                      E.1 ********
011765 024047 A 4006         LDB     SRITM   NEXT ITEM                          E.1 ********
011766 015000 A 4007         LDA     0,X                                        E.1 ********
011767 146000 A 4008         SUB     0,B                                        E.1 ********
011770 001002 A 4009         JAP     SR20    IF CURRENT ITEM LE TOP ITEM        E.1 ********
011771 012013 A
011772 014044 A 4010         LDA     SRINC                                      E.1 ********
011773 054042 A 4011         STA     SRCNT   SET EXCHANGE COUNT                 E.1 ********
011774 015000 A 4012 SR15    LDA     0,X                                        E.1 ********
011775 054042 A 4013         STA     SRTMP   EXCHANGE                           E.1 ********
011776 016000 A 4014         LDA     0,B                                        E.1 ********
011777 055000 A 4015         STA     0,X     ONE                                E.1 ********
012000 014037 A 4016         LDA     SRTMP                                      E.1 ********
012001 056000 A 4017         STA     0,B     WORD                               E.1 ********
012002 014033 A 4018         LDA     SRCNT   LOOP COUNT                         E.1 ********
012003 005311 A 4019         DAR                                                E.1 ********
012004 001010 A 4020         JAZ     SR20    IF DONE                            E.1 ********
012005 012013 A
012006 054027 A 4021         STA     SRCNT                                      E.1 ********
012007 005144 A 4022         IXR             UPDATE ITEM POINTERS               E.1 ********
012010 005122 A 4023         IBR                                                E.1 ********
012011 001000 A 4024         JMP     SR15    CONTINUE EXCHANGE                  E.1 ********
012012 011774 A
012013 014021 A 4025 SR20    LDA     SRITM   CURRENT ITEM                       E.1 ********
012014 124022 A 4026         ADD     SRINC   ITEM SIZE                          E.1 ********
012015 054017 A 4027         STA     SRITM   SET FOR NEXT ITEM                  E.1 ********
012016 144015 A 4028         SUB     SREND   END OF STACK                       E.1 ********
012017 001002 A 4029         JAP     SR30    IF END OF STACK                    E.1 ********
012020 012023 A
012021 001000 A 4030         JMP     SR10    CONTINUE BUBBLE SORT               E.1 ********
012022 011764 A
012023 014007 A 4031 SR30    LDA     SRSTR   CURRENT TOP OF SORT                E.1 ********
012024 124012 A 4032         ADD     SRINC   ITME SIZE                          E.1 ********
012025 054005 A 4033         STA     SRSTR   SET NEW TOP                        E.1 ********
012026 144003 A 4034         SUB     SREND   END OF STACK                       E.1 ********
012027 001002 A 4035         JAP*    SGSRT   RETURN IF SORT DONE                E.1 ********
012030 011760 A
012031 001000 A 4036         JMP     SR05                                       E.1 ********
012032 011761 A
                4037 *                                                          E.1 ********
012033 000000 A 4038 SRSTR   DATA    0       START OF STACK                     E.1 ********
012034 000000 A 4039 SREND   DATA    0       END OF STACK                       E.1 ********
012035 000000 A 4040 SRITM   DATA    0       CURRENT ITEM                       E.1 ********
012036 000000 A 4041 SRCNT   DATA    0       EXCHANGE COUNT                     E.1 ********
012037 000000 A 4042 SRINC   DATA    0       ITEM SIZE                          E.1 ********
012040 000000 A 4043 SRTMP   DATA    0       TEMP STORAGE                       E.1 ********
                4044         EJEC                                               E5 03711
                4045 *                                                          E5 03712
                4046 *       SG4TSL                                             E5 03713
                4047 *                                                          E5 03714
                4048 *       PURPOSE:  LIST NON-SCHEDULED TASK NAMES AND PURGE  E5 03715
                4049 *                 ALL STACKS NOT USED BY LOAD MODULE       E5 03716
                4050 *                 GENERATOR.                               E5 03717
                4051 *                                                          E5 03718
                4052 *       CALLING SEQUENCE:  JMP  SG4TSL                     E5 03719
                4053 *                                                          E5 03720
                4054 *       RETURN PARAMETERS:  NONE (CALLS SGLDR TO LOAD SGEN3) E5 03721
                4055 *                                                          E5 03722
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                    4056 *
012041              4057 SG4TSL BSS     0              * * ENTRY POINT * *                                  05 03723
012041 020000 L     4058        LDB     =TSL2          POST "NON-SCHEDULED TASK" HEADER                     05 03724
012042 002000 A     4059        CALL    SGLIS                                                               05 03725
012043 015267 A                                                                                             05 03726
012044 020000 L     4060        LDB     =TSL3                                                               05 03727
012045 002000 A     4061        CALL    SGLIS                                                               05 03728
012046 015267 A                                                                                             05 03729
012047 020000 L     4062        LDB     =TSL4                                                               05 03730
012050 002000 A     4063        CALL    SGLIS                                                               05 03731
012051 015267 A                                                                                             05 03732
012052 020000 L     4064        LDB     =TSL3                                                               05 03733
012053 002000 A     4065        CALL    SGLIS                                                               05 03734
012054 015267 A                                                                                             05 03735
                    4066 *                                                                                  05 03736
012055 030000 L     4067 TSL5   LDX     =SGSCB8                                                             05 03737
012056 020000 L     4068        LDB     =ITEM                                                               05 03738
012057 002000 A     4069        CALL    SGGET          GET ITEM FROM RESIDENT TASK NAME STACK               05 03739
012060 014616 A                                                                                             05 03740
012061 001004 A     4070        JAN     TSL1           IF STACK EXHAUSTED                                   05 03741
012062 012067 A                                                                                             05 03742
012063 002000 A     4071        CALL    SG4UPK         CONVERT NAME AND ADDR TO ASCII AND LIST              05 03743
012064 015302 A                                                                                             05 03744
012065 001000 A     4072        JMP     TSL5           CONTINUE                                             05 03745
012066 012055 A                                                                                             05 03746
                    4073 *                                                                                  05 03747
012067 030000 L     4074 TSL1   LDX     =SGSCB6        PURGE LOADER TABLE STACK                             05 03748
012070 020000 L     4075        LDB     =ITEM                                                               05 03749
012071 002000 A     4076        CALL    SGGET                                                               05 03750
012072 014616 A                                                                                             05 03751
012073 001002 A     4077        JAP     TSL1                                                                05 03752
012074 012067 A                                                                                             05 03753
                    4078 *                                                                                  05 03754
012075 030000 L     4079 TSL7   LDX     =SGSCB7        PURGE DATA PATCH STACK                               05 03755
012076 020000 L     4080        LDB     =ITEM                                                               05 03756
012077 002000 A     4081        CALL    SGGET                                                               05 03757
012100 014616 A                                                                                             05 03758
012101 001002 A     4082        JAP     TSL7                                                                05 03759
012102 012075 A                                                                                             05 03760
                    4083 *                                                                                  05 03761
012103 002000 A     4084        CALL    SGPUR          PURGE TEMPORARY STACK                                05 03762
012104 014243 A                                                                                             05 03763
012105 006030 A     4085        LDXI    TSL9                                                    V2          05 03764
012106 012120 A                                                                                             05 03765
012107 001400 A     4086        JSS3    EXIT                                                    V2          05 03766
012110 000000 E                                                                                             05 03767
012111 006030 A     4087        LDXI    TSL8                                                                05 03768
012112 012115 A                                                                                             05 03769
012113 001000 A     4088        JMP     EXIT           GO LOAD SGEN3 (LOAD-MODULE-GENERATOR)                05 03770
012114 012110 E                                                                                             05 03771
                    4089 *                                                                                  05 03772
                    4090 *              * * DATA CELLS * *                                                  05 03773
                    4091 *                                                                                  05 03774
012115 055623 A     4092 TSL8   DATA    055623         LOADER CODE FOR SGEN3                                05 03775
012116 031636 A     4093        DATA    031636                                                              05 03776
012117 000000 A     4094        DATA    0                                                                   05 03777
012120 055624 A     4095 TSL9   DATA    055624         'SGEN4'                                  V2         05 03778
012121 031636 A     4096        DATA    031636                                                  V2          05 03779
012122 000000 A     4097        DATA    0                                                       V2          05 03780
                    4098 *                                                                                  05 03781
012123 000012 A     4099 TSL2   DATA    12,'NON-SCHEDULED TASKS'                                            05 03782
012124 147317 A
012125 147255 A
012126 151703 A
012127 144305 A
012130 142325 A
012131 146305 A
012132 142240 A
012133 152301 A
012134 151713 A
012135 151640 A
       011730 A     4100 TSL3   EQU     CLD13                                                               05 03783
       011732 A     4101 TSL4   EQU     CLD14                                                               05 03784
                    4102        EJEC                                                                        05 03785
                    4103 *                                                                                  05 03786
                    4104 *      LGCUL                                                                       05 03787
                    4105 *                                                                                  05 03788
                    4106 *              PURPOSE:  LGCUL IS CALLED TO FINISH OFF A PASS THROUGH              05 03789
                    4107 *                        THE "LOADER" PORTION OF LMGEN.                            05 03790
                    4108 *                                                                                  05 03791
                    4109 *              CALLING SEQUENCE: JMP  LGCUL                                        05 03792
                    4110 *                                                                                  05 03793
                    4111 *              EXIT:  RETURN FROM LGSTAR; NO EXIT PARAMETERS                       05 03794
                    4112 *                                                                                  05 03795
012136 017000 I     4113 LGCUL  LDA     LPT                                                                 05 03796
012137 027000 I     4114        LDB     BADT                                                                05 03797
012140 056000 A     4115        STA     0,B            UPDATE PROGRAM REGION POINTER (SGCPED/REV)           05 03798
012141 005301 A     4116        DECR    01                                                                  05 03799
012142 057000 I     4117        STA     MA                                                                  05 03800
012143 017000 I     4118        LDA     CBS                                                                 05 03801
012144 001004 A     4119        JAN     SG4ICR         JUMP IF VIRTUAL MEMORY NOT USED                      05 03802
012145 003443 A                                                                                             05 03803
012146 006505 A     4120        JSR     IOW,X          WRITE OUT CURRENT VIRTUAL MEMORY BUFFER              05 03804
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012147 013240 A
012150 013415 A 4121          DATA    $+1                                                  05 03788
012151 001000 A 4122          JMP     SG4ICR          GO READ NEXT RECORD                  05 03789
012152 003443 A
                4123          EJEC                                                         05 03790
                4124 *                                                                     05 03791
                4125 *        SG4LMP                                                       05 03792
                4126 *                                                                     05 03793
                4127 *              PURPOSE:  TO CONVERT ONE OR MORE OBJECT MODULES       05 03794
                4128 *                        TO NUCLEUS COMPONENT CODE.                   05 03795
                4129 *                                                                     05 03796
                4130 *              CALLING SEQUENCE:  INDIRECT JUMP FROM SG4ICR           05 03797
                4131 *                                                                     05 03798
                4132 *              RETURN PARAMETERS:  NONE (RETURNS TO SG4IND UPON       05 03799
                4133 *                                   DETECTION OF "TDF" OR             05 03800
                4134 *                                   "ENE" CONTROL RECORD)             05 03801
                4135 *                                                                     05 03802
                4136 *                                                                     05 03803
012153          4137 SG4LMP   BSS     0               * * ENTRY POINT * *                  05 03804
012153 005001 A 4138          TZA                                                          05 03805
012154 057000 I 4139          STA     ECW             CLEAN UP ERROR CONTROL WORD          05 03806
012155 012671 A 4140          LDA     SGCLUN                                               05 03807
012156 054247 A 4141          STA     CLUN            STORE CURRENT LU NUMBER IN INPUT READ CALL 05 03808
012157 001000 A 4142          JMP     LGEND                                                05 03809
012160 012201 A
                4143 *                                                                     05 03810
                4144 *        LGEND                                                        05 03811
                4145 *                                                                     05 03812
                4146 *              PURPOSE:  LGEND IS CALLED UPON ENTRY TO THE LOADER/    05 03813
                4147 *                        GENERATOR AND BETWEEN PROCESSING OF INPUT    05 03814
                4148 *                        OBJECT MODULES.  IT UPDATES VARIOUS INTER-   05 03815
                4149 *                        PROGRAM REGISTERS AND PERFORMS LIBRARY       05 03816
                4150 *                        SEARCHES TO SATISFY UNDEFINED EXTERNALS.     05 03817
                4151 *                                                                     05 03818
                4152 *              CALLING SEQ.:  JMP  LGEND   -TO ENTER FROM LGSTAR-     05 03819
                4153 *                             JMP  END2    -TO ENTER FROM LGGEWD-     05 03820
                4154 *                                                                     05 03821
                4155 *              EXIT:  TO LGDAFT TO START OBJECT MODULE PROCESSING;    05 03822
                4156 *                     TO LGCUL TO CLEAN UP AND RETURN.                05 03823
                4157 *                                                                     05 03824
                4158 *                           ENTER HERE FROM LGGEWD ---                05 03825
012161 012673 A 4159 END20    LDA     SGCSGN                                               05 03826
012162 152566 A 4160          ANA     BR15                                                 05 03827
012163 052673 A 4161          STA     SGCSGN          RESET FIRST OBJ. MODULE FLAG         05 03828
012164 030522 A 4162          LDX     SGSCB6          (XR)= BASE OF LOADER TABLE STACK     05 03829
012165 015000 A 4163 END50    LDA     0,X                                                  05 03830
012166 001004 A 4164          JAN     END40           IF ITEM AN EXTERNAL                  05 03831
012167 012173 A
012170 015004 A 4165          LDA     4,X                                                  05 03832
012171 112545 A 4166          ORA     BS14                                                 05 03833
012172 055004 A 4167          STA     4,X             SET 'NO COMMON BIAS UPDATE' FLAG     05 03834
012173 005040 A 4168 END40    TXA                                                          05 03835
012174 122573 A 4169          ADD     FIVE                                                 05 03836
012175 005014 A 4170          TAX                     (XR)= PNTR TO NEXT ITEM              05 03837
012176 140523 A 4171          SUB     SGSCB6+1                                             05 03838
012177 001016 A 4172          JAMZ    END50           IF NOT END OF STACK                  05 03839
012200 012165 A
                4173 *                                                                     05 03840
                4174 *                           ENTER HERE FROM LGSTAR                    05 03841
012201          4175 LGEND    BSS     0                                                    05 03842
012201 030522 A 4176          LDX     SGSCB6                                               05 03843
012202 012666 A 4177          LDA     SGCIIL                                               05 03844
012203 012667 A 4178          LDA     SGCIDL                                               05 03845
012204 012700 A 4179          LDA     SGCPSD                                               05 03846
012205 057000 I 4180          STA     LPT             UPDATE END-OF-LOAD ADDR REGISTER     05 03847
012206 017000 I 4181          LDA     GTCB                                                 05 03848
012207 057000 I 4182          STA     GTCV                                                 05 03849
012210 057000 I 4183          STA     GTCW            RESET RECORD CONTROL WORD CHECK MASKS 05 03850
012211 010000 L 4184          LDP     =0                                                   05 03851
012212 057000 I 4185          STA     IWC             RESET INPUT BUFFER INDEX             05 03852
012213 001000 A 4186          JMP     LGDAFT                                               05 03853
012214 012215 A
                4187          EJEC                                                         05 03854
                4188 *                                                                     05 03855
                4189 *        LGDAFT                                                       05 03856
                4190 *                                                                     05 03857
                4191 *              PURPOSE:  LGDAFT UNPACKS AND INTERPRETS LOADER CODE,   05 03858
                4192 *                        THEN SETS UP A JUMP TO THE PROPER ROUTINE    05 03859
                4193 *                        FOR PROCESSING THE LOAD ITEM.  AS PART OF    05 03860
                4194 *                        THIS PROCESS, IT USES THE LOADER CODE WORD    05 03861
                4195 *                        AND FIRST DATA WORD TO SET UP SEVERAL DATA    05 03862
                4196 *                        REGISTERS FOR LATER USE.                     05 03863
                4197 *                                                                     05 03864
                4198 *              CALLING SEQ.:  JMP LGDAFT - TO PROCESS NEW LOADER CODE 05 03865
                4199 *                             OR                                      05 03866
                4200 *                             JMP DAF2  - TO PROCESS NEXT ABS DATA    05 03867
                4201 *                                         WORD (IN A SET OF ABS WORDS) 05 03868
                4202 *                                                                     05 03869
                4203 *              EXIT:  TO THE PROPER ROUTINE (SEE JUMP TABLE);         05 03870
                4204 *                                                                     05 03871
                4205 *                     (AR)= FIRST DATA WORD MODIFIED BY PNTR VALUE     05 03872
                4206 *                     (BR)= NUMBER OF LOAD POINTER                    05 03873
                4207 *                     (XR)= ADDRESS OF LOAD POINTER                   05 03874
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                  4208 *                                                                05 03875
                  4209 *                                                                05 03876
012215 002000 A 4210 LGDAFT CALL     LGGEWD         GET LOADER CODE WORD.               05 03877
012216 012360 A
012217 001010 A 4211        JAZ      LGDAFT         IGNORE ZERO LOADER CODE WORDS       05 03878
012220 012215 A
012221 057000 I 4212        STA      DCW            (DCW)= LOADER CODE WORD             05 03879
012222 004555 A 4213        LLSR     13                                                 05 03880
012223 005311 A 4214        DAR                                                         05 03881
012224 001002 A 4215        JAP      DAF0           JUMP IF LOADER CODE NOT ZERO        05 03882
012225 012231 A
012226 005021 A 4216        TBA                                                         05 03883
012227 004354 A 4217        LSRA     12             UNPACK LOADER SUBCODE               05 03884
012230 122572 A 4218        ADD      THREE            AND SET UP REFERENCE PT. INTO JUMP TABLE 05 03885
                  4219 *                                                                05 03886
012231 006120 A 4220 DAF0   ADDI     JTAB+0100000                                       05 03887
012232 112263 A
012233 054027 A 4221        STA      DAF3           (DAF3)= ADDRESS OF LDR CODE PROCESS ROUTIN 05 03888
012234 004451 A 4222        LLRL     9                                                  05 03889
012235 152601 A 4223        ANA      BM37           UNPACK LOAD POINTER NUMBER          05 03890
012236 005315 A 4224        DECR     015                                                05 03891
012237 057000 I 4225        STA      PTM1           (PTM1)= LOAD PNTR NUMBER -1         05 03892
                  4226 *                                                                05 03893
012240 005211 A 4227 DAF1   CPA                                                         05 03894
012241 006120 A 4228        ADDI     LPT            (AR)= LPT - LOAD PNTR NUMBER        05 03895
012242 013377 A
012243 057000 I 4229        STA      PEP            (PEP)= ADDRESS OF CURRENT LOAD POINTER 05 03896
012244 005145 A 4230        INCR     045                                                05 03897
012245 142601 A 4231        SUB      BM37                                               05 03898
012246 001010 A 4232        JAZ      DAF1           IF ABS LD PNTR, SET (PEP)= LPT-040  05 03899
012247 012240 A
012250 005001 A 4233        TZA                                                         05 03900
012251 004444 A 4234        LLRL     4              UNPACK NAME FIELD OF LOADER CODE WORD 05 03901
012252 057000 I 4235        STA      SNAM           (SNAM)= FIRST 4-BITS OF NAME (IF ANY) 05 03902
                  4236 *                                                                05 03903
012253 002000 A 4237 DAF2   CALL     LGGEWD         GET FIRST DATA WORD                 05 03904
012254 012360 A
012255 057000 I 4238        STA      SNAM+1         (SNAM+1)= CONTINUATION OF NAME (IF ANY) 05 03905
012256 037000 I 4239        LDX      PEP                                                05 03906
012257 125000 A 4240        ADD      0,X                                                05 03907
012260 054364 A 4241        STA      DATA           (DATA)= DATA WORD + LOAD PNTR BIAS  05 03908
012261 027000 I 4242        LDB      PTM1           (BR)= LOAD PNTR NUMBER -1           05 03909
012262 001000 A 4243        JMP      0              JUMP TO APPLICABLE ROUTINE          05 03910
012263 000000 A
                  4244 *                                                                05 03911
012263            4245 DAF3   BES      0              ADDRESS OF PROCESSING ROUTINE       05 03912
                  4246        EJEC                                                      05 03913
                  4247 *                                                                05 03914
                  4248 *      LGDAFT JUMP TABLE                                         05 03915
                  4249 *                                                                05 03916
                  4250 *               PURPOSE:  PROVIDE JUMP ADDRESS FOR LGDAFT AS A FCN OF 05 03917
                  4251 *                         LOADER CODE AND SUBCODE.             05 03918
                  4252 *                                                                05 03919
                  4253 *                                SUB-                            05 03920
                  4254 *               NAME       CODE  CODE  DESCRIPTION               05 03921
012263            4255 JTAB   BES      0           1     -    NOT USED                  05 03922
012264 012500 A 4256        DATA     LGREL       2     -    RELATIVE DATUM            05 03923
012265 013330 A 4257        DATA     TEXT        3     -   LITERAL - TEXT ERROR       05 03924
012266 012503 A 4258        DATA     LGABS       4     -    ABSOLUTE DATUM            05 03925
012267 012531 A 4259        DATA     LGORG       0     1    ORIGIN SET                05 03926
012270 012707 A 4260        DATA     LGSTR       0     2    STRING DEFINITION         05 03927
012271 013330 A 4261        DATA     TEXT        0     3    NOT USED - TEXT ERROR     05 03928
012272 013330 A 4262        DATA     TEXT        0     4    NOT USED - TEXT ERROR     05 03929
012273 013330 A 4263        DATA     TEXT        0     5    NOT USED - TEXT ERROR     05 03930
012274 013330 A 4264        DATA     TEXT        0     6    NOT USED - TEXT ERROR     05 03931
012275 013317 A 4265        DATA     LGXEQ       0     7    EXECUTION ADDRESS SET     05 03932
012276 012643 A 4266        DATA     LGENT       0    10    ENTRY DEFINITION          05 03933
012277 012573 A 4267        DATA     LGPDE       0    11    POINTER DEFINITION        05 03934
012300 012657 A 4268        DATA     LGEXT       0    12    EXTERNAL DEFINITION       05 03935
012301 013330 A 4269        DATA     TEXT        0   13    EXT. LITERAL - TEXT ERROR  05 03936
012302 013330 A 4270        DATA     TEXT        0    14    NOT USED - TEXT ERROR     05 03937
012303 013330 A 4271        DATA     TEXT        0    15    NOT USED - TEXT ERROR     05 03938
012304 013330 A 4272        DATA     TEXT        0    16    NOT USED - TEXT ERROR     05 03939
012305 013330 A 4273        DATA     TEXT        0    17    NOT USED - TEXT ERROR     05 03940
                  4274        EJEC                                                      05 03941
                  4275 *                                                                05 03942
                  4276 *      LGDFRC                                                    05 03943
                  4277 *                                                                05 03944
                  4278 *               PURPOSE:  LGDFRC IS ENTERED FROM LGLCMC AFTER A LOAD 05 03945
                  4279 *                         ITEM HAS BEEN PROCESSED. IF THE LOAD ITEM 05 03946
                  4280 *                         WAS AN ABSOLUTE LOAD, MORE DATA WORDS MAY 05 03947
                  4281 *                         REMAIN TO BE LOADED UNDER THE SAME LOADER 05 03948
                  4282 *                         TEXT WORD. LGDFRC DETERMINES IF THIS IS THE 05 03949
                  4283 *                         CASE AND, IF SO, EXITS TO DAF2 TO PROCESS 05 03950
                  4284 *                         THE NEXT DATA WORD.                  05 03951
                  4285 *                                                                05 03952
                  4286 *               CALLING SEQUENCE:  JMP LGDFRC                    05 03953
                  4287 *                                                                05 03954
                  4288 *               EXIT:  TO LGDAFT TO PROCESS NEXT LOAD ITEM;      05 03955
                  4289 *                      TO DAF2 TO PROCESS NEXT ABS DATA WORD.    05 03956
                  4290 *                      THERE ARE NO EXIT PARAMETERS.             05 03957
                  4291 *                                                                05 03958
012306 017000 I 4292 LGDFRC LDA      DCW                                                05 03959
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012307 005311 A 4293          DAR
012310 057000 I 4294          STA     DCW             DECREMENT LOADER TEXT WORD                              05 03960
012311 001002 A 4295          JAP     LGDAFT          JUMP IF NOT ABSOLUTE DATA                               05 03961
012312 012215 A                                                                                               05 03962
012313 001000 A 4296          JMP     DAF2            GO PROCESS NEXT ABSOLUTE DATA WORD                      05 03963
012314 012253 A
                4297          EJEC                                                                            05 03964
                4298 *                                                                                        05 03965
                4299 *        LGGEWD                                                                          05 03966
                4300 *                                                                                        05 03967
                4301 *              PURPOSE:  LGGEWD IS CALLED TO FETCH A WORD OF OBJECT                      05 03968
                4302 *                        TEXT FROM THE INPUT BUFFER.  LGGEWD MAINTAINS                   05 03969
                4303 *                        A POINTER TO THE NEXT WORD, INPUTS AND VERIFYS                  05 03970
                4304 *                        A NEW RECORD WHEN THE BUFFER IS EMPTY, SETS                     05 03971
                4305 *                        POINTERS IF REVERSE LOADING, AND DETECTS LAST                   05 03972
                4306 *                        RECORD IN EACH OBJECT MODULE.                                   05 03973
                4307 *                                                                                        05 03974
                4308 *              CALLING SEQ.:  CALL  LGGEWD    (NO ENTRANCE PARAMETERS).                  05 03975
                4309 *                                                                                        05 03976
                4310 *              EXIT:  TO LGEND IF BUFFER IS EMPTY AND RECORD IS END;                     05 03977
                4311 *                     TO LGEF IF RECORD,SEQUENCE,OR CHECKSUM ERROR.                      05 03978
                4312 *                     OTHERWISE, RETURN TO CALLING PROGRAM.                              05 03979
                4313 *                                                                                        05 03980
                4314 *                                                                                        05 03981
012315 017000 I 4315 GEW3     LDA     DTCW                                                                    05 03982
012316 152571 A 4316          ANA     BM377                                                                   05 03983
012317 001016 A 4317          JANZ    SEQN            ERROR IF BAD SEQUENCE NUMBER                            05 03984
012320 012466 A
012321 017000 I 4318          LDA     DTCV                                                                    05 03985
012322 142571 A 4319          SUB     BM377                                                                   05 03986
012323 112537 A 4320          ORA     BS8                                                                     05 03987
012324 057000 I 4321          STA     DTCV            (DTCV)=MASK FOR REC CONTROL WORD, NEXT REC              05 03988
                4322 *                                                                                        05 03989
012325 017000 I 4323          LDA     DTCW                                                                    05 03990
012326 152543 A 4324          ANA     BS12                                                                    05 03991
012327 006414 A 4325          BT      R4,B12,GEW5     JUMP IF NOT START RECORD                                05 03992
012330 012351 A
                4326 *                                                                                        05 03993
012331 006030 A 4327          LDXI    LLC                                                                     05 03994
012332 013432 A
012333 012674 A 4328          LDA     SGTPLT                                                                  05 03995
012334 027000 I 4329          LDB     LPT             (BR)=PROGRAM REGION LOAD POINTER                        05 03996
012335 006445 A 4330          BT      R4@4,B5,GEW4    JUMP IF FORWARD LOAD                                    05 03997
012336 012344 A
                4331 *                                                                                        05 03998
012337 017000 I 4332          LDA     LPT             FOR REVERSE LOAD, REDUCE PROGRAM                        05 03999
012340 140666 A 4333          SUB     LGDMIB+2          REGION LOAD POINTER BY THE SIZE                       05 04000
012341 057000 I 4334          STA     LPT               OF THE NEW OBJECT MODULE (INPUT)                      05 04001
012342 006030 A 4335          LDXI    SGOPED                                                                  05 04002
012343 002700 A
                4336 *                                                                                        05 04003
012344 077000 I 4337 GEW4     STX     BAPT            (BAPT)=LLC*FORWARD LOAD; LGOPED:REV LOAD                05 04004
012345 017000 I 4338          LDA     LPT                                                                     05 04005
012346 057000 I 4339          STA     LLC             (LLC)= PROGRAM REGION LOAD REGION                       05 04006
012347 005301 A 4340          DECR    01                                                                      05 04007
012350 057000 I 4341          STA     LLPT            (LLPT)= -1= PROG REGION LOAD PNTR NUMBER                05 04008
                4342 *                                                                                        05 04009
012351 152570 A 4343 GEW5     ANA     NINE            (AR) =NINE:FIRST REC; =ZERO:ALL OTHER REC               05 04010
012352 005112 A 4344          INCR    0,2             (BR)=(AR)+1                                             05 04011
012353 005122 A 4345          IBR                                                                             05 04012
                4346 *                                                                                        05 04013
012354 067000 I 4347 GEW6     STB     RWC             UPDATE INPUT BUFFER INDEX                               05 04014
012355 006016 A 4348          LDAE    LGDMIB,B        FETCH NEXT WORD                                         05 04015
012356 000664 A
012357 001000 A 4349          JMP     0               RETURN                                                  05 04016
012360 000000 A
                4350 *                                                                                        05 04017
                4351 *        ENTRY POINT                                                                     05 04018
                4352 *                                                                                        05 04019
012360                4353 LGGEWD BSS     0                                                                   05 04020
012361 017000 I 4354          LDA     WC              (AR)=INDEX TO LAST WORD READ FROM LGDMIB                05 04021
012362 005113 A 4355          INCR    0,3             (AR)=(BR)=(AR)+1                                        05 04022
012363 140000 L 4356          SUB     =DL             RL = 60                                                 05 04023
012364 001004 A 4357          JAN     GEW6            JUMP IF BUFFER NOT EMPTY                                05 04024
012365 012354 A
                4358 *                                                                                        05 04025
012366 017000 I 4359          LDA     DTCW                                                                    05 04026
012367 157000 I 4360          ANA     DTEF                                                                    05 04027
012370 001010 A 4361          JAZ     *GOOD           JUMP IF 'END RECORD'                                    05 04028
012371 012136 A
012372 017000 I 4362 GEW8     LDA     RS              (RS)=NUMBER OF WORDS IN BUFFER                          05 04029
012373 001002 A 4363          JAP     *+2             IF 'RECORD READ' FLAG NOT SET                           05 04030
012374 012400 A
012375 004517 A 4364          LASR    15              REMOVE SIGN                                             05 04031
012376 001000 A 4365          JMP     *GEW1           GO CHECK RECORD ALREADY IN                              05 04032
012377 012434 A
012400 140000 L 4366          SUB     =RL             RL = 60                                                 05 04033
012401 001010 A 4367          JAZ     GEW1            JUMP IF BUFFER EMPTY                                    05 04034
012402 012413 A
012403 002000 A 4368          CALL    LGFJV           LEFT JUSTIFY NEXT RECORD                                05 04035
012404 014323 A
012405 000074 A 4369          DATA    RL                                                                      05 04036
012406 000760 A 4370          DATA    LGDMIB+RL                                                               05 04037
```

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012407 000664 A 4371          DATA    LGOMIB                                          05 04038
012410 020000 L 4372          LDB     =RL             RL = 60                         05 04039
012411 001000 A 4373          JMP     GEW7                                            05 04040
012412 012434 A
                4374 *                                                                05 04041
012413 012671 A 4375 GEW1     LDA     SGCLUN                                          05 04042
012414 054011 A 4376          STA     CLUN                                            05 04043
012415 110000 L 4377          ORA     =040400                                         05 04044
012416 054002 A 4378          STA     GEW9            SET UP LOGICAL UNIT             05 04045
012417 002000 A 4379          CALL    IOCS            READ A RECORD                   05 04046
012420 011661 E
012421 040400 A 4380 GEW9     DATA    RBIN,60,LGOMIB                                  05 04047
012422 000074 A
012423 000664 A
012424 002000 A 4381          CALL    IOCS              AND STATUS                    05 04048
012425 012420 E
012426 000000 A 4382 CLUN     DATA    0                                               05 04049
012427 012470 A 4383          DATA    READ,LGCUL,LGCUL,*-6                            05 04050
012430 012136 A
012431 012136 A
012432 012424 A
012433 025000 A 4384          LDB     0,X                                             05 04051
        012434 A 4385 GEW7    EQU     *                                               05 04052
012434 064744 A 4386          STB     RS              (RS)=NUMBER OF WORDS READ       05 04053
012435 010664 A 4387          LDA     LGOMIB                                          05 04054
012436 001010 A 4388          JAZ     GEW8            IGNORE RECORDS WITH ZERO FIRST WORD  05 04055
012437 012372 A
012440 134745 A 4389          ERA     DTCV                                            05 04056
012441 054743 A 4390          STA     DTCW                                            05 04057
012442 154740 A 4391          ANA     DTCB                                            05 04058
012443 001016 A 4392          JANZ    RCRD            ERROR IF BAD RECORD CONTROL WORD  05 04059
012444 012464 A
                4393 *                                                                05 04060
012445 010664 A 4394          LDA     LGOMIB                                          05 04061
012446 006417 A 4395          BT      RA1+B15,GEW3    JUMP IF "CHECKSUM SUPPRESS" INDICATED.  05 04062
012447 012315 A
012450 030000 L 4396          LDX     =RL             RL = 60                         05 04063
012451 005001 A 4397          TZA                                                     05 04064
                4398 *              --CHECKSUM CHECKING LOOP**                        05 04065
012452 005042 A 4399 GEW2     TXB                     SAVE WORD COUNTER               05 04066
012453 005344 A 4400          DXR                     (XR) = BUFFER INDEX             05 04067
012454 001030 A 4401          JIF     030,GEW3        JUMP IF ALL WORDS EOR'D AND CKSUM CHECKS.  05 04068
012455 012315 A
012456 001020 A 4402          JBZ     CKSM            ERROR IF ALL WORDS EOR'D AND BAD CKSUM  05 04069
012457 012472 A
012460 006135 A 4403          ERAE    LGOMJB,X        PICK UP NEXT WORD---            05 04070
012461 000664 A
012462 001000 A 4404          JMP     GEW2              ---AND LOOP                   05 04071
012463 012452 A
                4405 *                                                                05 04072
012464 012615 A 4406 RCRD     LDA     ER07            NON-BINARY RECORD ERROR         05 04073
012465 001006 A 4407          DATA    01006                                           05 04074
012466 012614 A 4408 SEQN     LDA     ER06            SEQUENCE ERROR                  05 04075
012467 001006 A 4409          DATA    01006                                           05 04076
012470 012606 A 4410 READ     LDA     ER00            READ ERROR                      05 04077
012471 001006 A 4411          DATA    01006                                           05 04078
012472 012613 A 4412 CKSM     LDA     ER05            CHECKSUM ERROR                  05 04079
012473 002000 A 4413          CALL    IOGASC          POST ERROR,                     05 04080
012474 013766 A
012475 025000 A 4414          LDB     0,X               (BR)= NUMBER OF WORDS READ ON RECOVERY,  05 04081
012476 001000 A 4415          JMP     GEW7              AND PROCESS AGAIN             05 04082
012477 012434 A
                4416          EJEC                                                    05 04083
                4417 *                                                                05 04084
                4418 *        LGDWH                                                   05 04085
                4419 *                                                                05 04086
                4420 *        PURPOSE:  LGDWH IS ENTERED DURING THE PROCESS OF STORING  05 04087
                4421 *                  A WORD IN THE PROGRAM AREA. ITS PURPOSE IS TO  05 04088
                4422 *                  SET THE DYNAMIC RELOCATION BIT FLAG ON OR OFF  05 04089
                4423 *                  DEPENDING ON WHETHER THE WORD IS RELO OR ABS   05 04090
                4424 *                  RESPECTIVLY.                                  05 04091
                4425 *                                                                05 04092
                4426 *        CALLING SEQ.:  JMP  LGABS   OR   JMP  LGREL             05 04093
                4427 *                                                                05 04094
                4428 *        EXIT:  TO LGSTOW TO STORE WORD; (AR)=DATA WORD          05 04095
                4429 *                                                                05 04096
                4430 *                                                                05 04097
012500 005302 A 4431 LGREL    DECR    B2              (BR)= -1                        05 04098
012501 001002 A 4432          JMP     DWH1            SET (RELOB)= -1  AND JUMP TO LGSTOW  05 04099
012502 012505 A
                4433 *                                                                05 04100
                4434 *                                                                05 04101
012503 014721 A 4435 LGABS    LDA     SNAM+1          (AR)= DATA WORD                 05 04102
012504 005002 A 4436          TZB                                                     05 04103
012505          4437 DWH1     BSS     0                                               05 04104
012505 001000 A 4438          JMP     LGSTOW          GO TO STORE WORD                05 04105
012506 012507 A
                4439          EJEC                                                    05 04106
                4440 *                                                                05 04107
                4441 *        LGSTOW                                                  05 04108
                4442 *                                                                05 04109
                4443 *        PURPOSE:  LGSTOW TAKES CARE OF ACTUALLY STORING DATA    05 04110
                4444 *                  IN THE PROGRAM AREA (OF VIRTUAL MEMORY).      05 04111
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                    4445 *                                                                                  05 04112
                    4446 *          CALLING SEQ.:  (AR)= WORD TO BE STORED                                  05 04113
                    4447 *                         JMP  LGSTOW                                              05 04114
                    4448 *                                                                                  05 04115
                    4449 *          EXIT:  EXIT IS TO LGLCMC TO CHECK IF (LC) ARE STILL                     05 04116
                    4450 *                 WITHIN LIMITS; THERE ARE NO EXIT PARAMETERS.                     05 04117
                    4451 *                                                                                  05 04118
                    4452 *                                                                                  05 04119
012507 054135 A     4453 LGSTOW STA     DATA                                                                05 04120
012510 054700 A     4454        STA     VDATA       (VDATA)= VIRTUAL MEMORY DATA BUFFER                     05 04121
012511 024720 A     4455        LDB     LLC                                                                 05 04122
012512 064675 A     4456        STB     MA          (MA)= VIRTUAL MEMORY ADDRESS REGISTER                   05 04123
012513 014717 A     4457        LDA     LCPT                                                                05 04124
012514 005311 A     4458        DAR                                                                         05 04125
012515 005311 A     4459        DAR                                                                         05 04126
012516 001002 A     4460        JAP     STOW1       JUMP IF LOAD POINTER POINTS TO NAMED COMMO              05 04127
012517 012524 A
012520 006505 A     4461        JSR     VMWCT,X     STORE WORD IN CURRENT SEQ. VIRTUAL MEMORY               05 04128
012521 013215 A
012522 001000 A     4462        JMP     STOW2                                                               05 04129
012523 012525 A
012524 006505 A     4463 STOW1  JSR     VMWRT,X     STORE WORD IN ROOT SEGMENT VIRTUAL MEMORY               05 04130
012525 013175 A
012526 044703 A     4464 STOW2  IMR     LLC         UPDATE LOCATION COUNTER                                 05 04131
012527 001000 A     4465        JMP     LGLCMC      GO TO CHECK VALIDITY OF NEW (LC)                        05 04132
012530 012543 A
                    4466        EJEC                                                                        05 04133
                    4467 *                                                                                  05 04134
                    4468 *      LGORG                                                                       05 04135
                    4469 *                                                                                  05 04136
                    4470 *          PURPOSE:  LGORG IS ENTERED FROM THE LOAD ITEM DECODER                   05 04137
                    4471 *                    (LGDAFT) TO PROCESS CHANGES TO THE LOCATION                    05 04138
                    4472 *                    COUNTER.                                                      05 04139
                    4473 *                                                                                  05 04140
                    4474 *          CALLING SEQUENCE:  (AR)= NEW LOAD POINTER VALUE                         05 04141
                    4475 *                             (BR)= LOAD POINTER NUMBER -1                         05 04142
                    4476 *                             JMP  LGORG                                           05 04143
                    4477 *                                                                                  05 04144
                    4478 *          EXIT:  TO LGLCMC OR LGEF (IF ERROR); NO EXIT PARAMETERS                 05 04145
                    4479 *                                                                                  05 04146
                    4480 *                                                                                  05 04147
012531 054700 A     4481 LGORG  STA     LLC         SET LOCATION COUNTER TO NEW VALUE                       05 04148
012532 064700 A     4482        STB     LCPT                                                                05 04149
012533 005122 A     4483        IBR     (BR)= LOAD POINTER NUMBER                                           05 04150
012534 001026 A     4484        JBNZ    ORG1        JUMP IF NOT POINTING TO PROGRAM REGION                  05 04151
012535 012541 A
012536 142677 A     4485        SUB     SGCPGM                                                              05 04152
012537 001004 A     4486        JAN     PSIZ        ERROR IF (LC) BELOW CURRENT PROGRAM REGION              05 04153
012540 013326 A
012541              4487 ORG1   BSS     0                                                                   05 04154
012541 001000 A     4488        JMP     LGLCMC      NORMAL EXIT TO CHECK UPPER BOUNDARY OF (LC              05 04155
012542 012543 A
                    4489        EJEC                                                                        05 04156
                    4490 *                                                                                  05 04157
                    4491 *      LGLCMC                                                                      05 04158
                    4492 *                                                                                  05 04159
                    4493 *          PURPOSE:  LGLCMC MAINTAINS IN ($PED) THE HIGHEST                        05 04160
                    4494 *                    REFERENCED PROGRAM AREA LOCATION.  IN ADDITION                05 04161
                    4495 *                    IT CHECKS (LC),($PED), AND ($COM) TO INSURE                   05 04162
                    4496 *                    LOAD MODULE GENERATION IS STAYING WITHIN                      05 04163
                    4497 *                    REQUIRED BOUNDS.                                              05 04164
                    4498 *                                                                                  05 04165
                    4499 *          CALLING SEQ.:  JMP  LGLCMC     -TO MAINTAIN ($PED)                      05 04166
                    4500 *                         JMP  COCK       -TO CHECK BOUNDARIES                     05 04167
                    4501 *                                                                                  05 04168
                    4502 *          EXIT:  TO LGDFRC TO PROCESS NEXT INPUT WORD;                            05 04169
                    4503 *                 TO LGEF IF AN ERROR CONDITION WAS FOUND;                         05 04170
                    4504 *                 THERE ARE NO EXIT PARAMETERS.                                    05 04171
                    4505 *                                                                                  05 04172
                    4506 *                                                                                  05 04173
012543 014667 A     4507 LGLCMC LDA     LCPT                                                                05 04174
012544 001002 A     4508        JAP     LGDFRC      IF (LC) REFERS TO COM, NO NEED TO CHECK                 05 04175
012545 012306 A
012546 024663 A     4509        LDB     LLC                                                                 05 04176
012547 005321 A     4510        DECR    2                                                                   05 04177
012550 142700 A     4511        SUB     $GCPED                                                              05 04178
012551 001002 A     4512        JAP     UPED        IF (LC)>($PED), UPDATE ($PED)                           05 04179
012552 012561 A
012553 005021 A     4513        TDC                                                                         05 04180
012554 142677 A     4514        SUB     $GCPGM                                                              05 04181
012555 001004 A     4515        JAN     PSIZ        ERROR IF (LC) BELOW PROGRAM REGION                      05 04182
012556 013326 A
012557 001000 A     4516        JMP     LGDFRC      (LC) CHECKS OUT; GO PROCESS NEXT DATA WORD              05 04183
012560 012306 A
                    4517 *                                                                                  05 04184
012561 062700 A     4518 UPED   STB     $GCPED      UPDATE ($PED)                                           05 04185
                    4519 *                                                                                  05 04186
012562 005001 A     4520 COCK   TZA                                                                         05 04187
012563 022674 A     4521        LDB     $GTALT                                                              05 04188
012564 006460 A     4522        BT      $60,COCK1   IF BACKGROUND PROGRAM                                   05 04189
012565 012567 A
                    4523 *                                                                                  05 04190
012566 012540 A     4524        LDA     BSS                                                                 05 04191
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012367 122700 A 4525 COCK1  ADD     SGCPED                                                  05 04192
012570 142566 A 4526        SUB     BR15                                                    05 04193
012571 001002 A 4527        JAP     PSIZ          IF LOAD MODULE TOO LARGE                  05 04194
012572 013326 A
012573 001000 A 4528        JMP     LGDFRC        CONTINUE                                  05 04195
012574 012306 A
                4529 *                                                                      05 04196
                4530 *                                                                      05 04197
                4531 *      NOTE:   THE ABOVE LOAD MODULE SIZE CHECK ONLY GUARDS            05 04198
                4532 *              AGAINST GROSS MISCALCULATIONS.  AT ANY GIVEN            05 04199
                4533 *              TIME, A LOAD MODULE MAY PASS THIS TEST YET              05 04200
                4534 *              BE TOO LARGE TO LOAD ON THE CURRENT SYSTEM              05 04201
                4535 *              CONFIGURATION.                                          05 04202
                4536        EJEC                                                            05 04203
                4537 *                                                                      05 04204
                4538 *      LGPDE                                                           05 04205
                4539 *                                                                      05 04206
                4540 *              PURPOSE:  LGPDE CHECKS COMMON BLOCK ASSIGNMENTS TO SEE  05 04207
                4541 *                        IF THEY ARE MADE AT APPROPRIATE TIMES AND ARE 05 04208
                4542 *                        CONSISTENT WITH PREVIOUS ASSIGNMENTS.         05 04209
                4543 *                        LGPDE THEN HANDLES THE GENERATION OF LOADER   05 04210
                4544 *                        TABLE STACK ITEMS AND THE ASSIGNMENT OF LOAD  05 04211
                4545 *                        POINTERS FOR COMMON.                          05 04212
                4546 *                                                                      05 04213
                4547 *              CALLING SEQ.:  (XR)= POINTER TO LOC. OF LOAD POINTER    05 04214
                4548 *                             JMP  LGPDE                               05 04215
                4549 *                                                                      05 04216
                4550 *              EXIT:  TO LGDAFT IF COMMON BLOCK ALREADY ASSIGNED.      05 04217
                4551 *                     TO LGSTR IF NEW COMMON BLOCK ASSIGNMENT.         05 04218
                4552 *                                                                      05 04219
                4553 *                     ...WITH (AR)= BASE ADDR OF ASSIGNED AREA         05 04220
                4554 *                             (XR)= POINTER TO STACK ENTRY DEFINITION  05 04221
                4555 *                                   ADDRESS                            05 04222
                4556 *                                                                      05 04223
                4557 *                                                                      05 04224
012575 005001 A 4558 LGPDE  TZA                                                             05 04225
012576 055000 A 4559        STA     0,X           ZERO LOAD POINTER                         05 04226
012577 014624 A 4560        LDA     SNAM                                                    05 04227
012600 112545 A 4561        ORA     BS14          SET BIT FOR NO COMMON BIAS UPDATE         05 04228
012601 054622 A 4562        STA     SNAM                                                    05 04229
012602 002000 A 4563        CALL    LGSAE         SEARCH LOADER TABLE STACK FOR MATCH       05 04230
012603 012752 A
012604 100000 A 4564        MZE     0                                                       05 04231
012605 001004 A 4565        JAN     PDE0          JUMP IF NO MATCH FOUND                    05 04232
012606 012617 A
012607 024626 A 4566        LDB     PEP                                                     05 04233
012610 056000 A 4567        STA     0,B           SET COMMON BLOCK BASE ADDR INTO LOAD PNTR  05 04234
                4568 *                                                                      05 04235
012611 012710 A 4569        LDA     SGMRY2                                                  05 04236
012612 144615 A 4570        SUB     CSIZ                                                    05 04237
012613 001002 A 4571        JAP     LGDAFT        GO PROCESS NEXT ITEM IF LESS THAN ALLO    05 04238
012614 012215 A
012615 001000 A 4572        JMP     COMN          COMMON ERROR                              05 04239
012616 013322 A
                4573 *                                                                      05 04240
                4574 *          WE GOT HERE BECAUSE COMMON WAS NOT PREVIOUSLY DEFINED       05 04241
                4575 *                                                                      05 04242
012617 152566 A 4576 PDE0   ANA     BR15                                                    05 04243
012620 055000 A 4577        STA     0,X           SET STACK ITEM ADDRESS TO ZERO            05 04244
                4578 *                                                                      05 04245
012621 024607 A 4579        LDB     STM1                                                    05 04246
012622 005322 A 4580        DBR                                                             05 04247
012623 001026 A 4581        JBNZ    COMN          ERROR, IF NOT DEFINING BLANK COMMON       05 04248
012624 013322 A
                4582 *                                                                      05 04249
012625 012710 A 4583        LDA     SGMRY2        GET SIZE OF BLANK COMMON AREA             05 04250
012626 144601 A 4584        SUB     CSIZ                                                    05 04251
012627 001004 A 4585        JAN     COMN          ERROR, IF DESIRED BLOCK TOO LARGE         05 04252
012630 013322 A
012631 012707 A 4586        LDA     SGMRY1                                                  05 04253
012632 142710 A 4587        SUB     SGMRY2        (AR)= BASE ADDRESS                        05 04254
012633 005111 A 4588        XAR                                             V2              05 04255
                4589 *                                                                      05 04256
012634 024601 A 4590        LDB     PEP                                                     05 04257
012635 056000 A 4591        STA     0,B           STORE BASE ADDR OF COMMON IN LOAD POINTER  05 04258
012636 025000 A 4592        LDB     0,X                                                     05 04259
012637 055000 A 4593        STA     0,A           STORE BASE ADDR OF COMN IN LDR TBLE ITEM  05 04260
012640 005024 A 4594        TDX                   (XR)= STRING ADDR                         05 04261
012641 001000 A 4595        JMP     STR1          GO TO THREAD ADDR THROUGH ANY REFERENCES  05 04262
012642 012711 A
                4596        EJEC                                                            05 04263
                4597 *                                                                      05 04264
                4598 *      LGENT                                                           05 04265
                4599 *                                                                      05 04266
                4600 *              PURPOSE:  PROCESS ENTRY NAME LOAD ITEMS.                05 04267
                4601 *                        IF A NAME IS IN THE LOADER TABLE STACK        05 04268
                4602 *                        ALREADY, BUT ITS LOCATION IS UNDEFINED,       05 04269
                4603 *                        LGENT -THROUGH LGSTR-DEFINES THE EXTERAL'S    05 04270
                4604 *                        ADDRESS.  IF THE NAME IS NOT IN THE STACK,    05 04271
                4605 *                        LGENT PUTS IT IN THE STACK (DEFINED).         05 04272
                4606 *                        IF THE NAME IS IN THE STACK AND DEFINED,      05 04273
                4607 *                        THE NEW ENTRY NAME LOAD ITEM IS IGNORED.      05 04274
                4608 *                                                                      05 04275
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                      4609 *               CALLING SEQ.:  JMP  LGENT                              05 04276
                      4610 *                                                                       05 04277
                      4611 *               EXIT:   TO LGSTR TO DEFINE AN ADDRESS AND SATISFY A STRIN 05 04278
                      4612 *                       (AR)= THREAD/DEFINITION ADDRESS LOCATION IN STACK 05 04279
                      4613 *                             ITEM                                      05 04280
                      4614 *                                                                       05 04281
                      4615 *                       TO LGDAFT TO PROCESS NEXT LOAD ITEM             05 04282
                      4616 *                                                                       05 04283
                      4617 *                                                                       05 04284
012643 002000 A 4618 LGENT   CALL    LGSAE         INPUT REST OF LOAD ITEM; DO STACK SEARCH  05 04285
012644 012752 A
                      4619 *                                                                       05 04286
012645 000000 A 4620 DATA    DATA    0                                                         05 04287
                      4621 *                                                                       05 04288
012646 001002 A 4622         JAP     LGDAFT        IF ENTRY ALREADY DEFINED,PROCESS NEXT ITEM 05 04289
012647 012215 A
                      4623 *                                                                       05 04290
012650 152566 A 4624         ANA     BR15          TURN OFF UNDEFINED FLAG.                  05 04291
012651 005012 A 4625         TAB                   (BR)= STRING ADDRESS                      05 04292
012652 017000 I 4626         LDA     DATA                                                      05 04293
012653 055000 A 4627         STA     0,X           DEFINE LOADER TABLE ITEM                  05 04294
012654 005024 A 4628         TBX                   (XR)= STRING ADDRESS                      05 04295
012655 001000 A 4629         JMP     STR2            NOW GO STRING                           05 04296
012656 012712 A
                      4630           EJEC                                                      05 04297
                      4631 *                                                                       05 04298
                      4632 *         LGEXT                                                     05 04299
                      4633 *                                                                       05 04300
                      4634 *               PURPOSE:  PROCESS EXTERNAL REQUEST LOAD ITEMS.     05 04301
                      4635 *                                                                       05 04302
                      4636 *                         IF THE REQUEST IS FOUND -ALREADY DEFINED-  05 04303
                      4637 *                         IN THE LOADER TABLE STACK, EXIT IS TO LGSTR 05 04304
                      4638 *                         TO THREAD DEFINITION ADDRESS THROUGH EXTERNAL 05 04305
                      4639 *                         STRING.                                   05 04306
                      4640 *                                                                       05 04307
                      4641 *                         IF THE REQUEST IS FOUND -NOT DEFINED- IN STACK 05 04308
                      4642 *                         EXIT IS TO LGSTR TO CONNECT STRING OF NEW  05 04309
                      4643 *                         REQUEST TO ALREADY EXISTING STRING.        05 04310
                      4644 *                                                                       05 04311
                      4645 *                         IF THE REQUEST IS NOT FOUND IN THE STACK,  05 04312
                      4646 *                         LGSAE ENTERS IT. EXIT IS TO LGSTR TO ENTER 05 04313
                      4647 *                         THE STRING ADDRESS IN THE LOADER TABLE STACK 05 04314
                      4648 *                         ITEM.                                     05 04315
                      4649 *                                                                       05 04316
                      4650 *               CALLING SEQ.:  JMP  LGEXT                          05 04317
                      4651 *                                                                       05 04318
                      4652 *               EXIT:   TO LGSTR TO HANDLE STRINGS:                05 04319
                      4653 *                                                                       05 04320
                      4654 *                         IF ENTERING AT STR0: (AR)= DEFINITION ADDR 05 04321
                      4655 *                                                                       05 04322
                      4656 *                         IF ENTERING AT STR2: (XR)= STRING ADDR     05 04323
                      4657 *                                                                       05 04324
                      4658 *                                                                       05 04325
012657 002000 A 4659 LGEXT   CALL    LGSAE         INPUT REST OF LOAD ITEM; DO STACK SEARCH  05 04326
012660 012752 A
012661 100000 A 4660         MZE     0                                                         05 04327
                      4661 *                                                                       05 04328
012662 025004 A 4662         LDB     4,X                                                       05 04329
012663 001002 A 4663         JAP     STR0          IF ENTRY DEFINED,GO STRING DEFINITION ADDR 05 04330
012664 012710 A
                      4664 *                                                                       05 04331
012665 152566 A 4665         ANA     BR15          TURN OFF UNDEFINED BIT                    05 04332
012666 001016 A 4666         JANZ    EXT20         JUMP IF NO STRINGS CONNECTED TO EXT, YET  05 04333
012667 012675 A
012670 017000 I 4667         LDA     DATA                                                      05 04334
012671 112546 A 4668         ORA     BS15          (AR)=STRING ADDRESS WITH UNDEFINED BIT SET 05 04335
012672 055000 A 4669         STA     0,X           STORE ADDR, IN LOADER TABLE STACK         05 04336
012673 001000 A 4670         JMP     LDCK                                                      05 04337
012674 012562 A
                      4671 *                                                                       05 04338
                      4672 *               THE FOLLOWING CODE TRACES AN EXISTING STRING TO ITS 05 04339
                      4673 *               ORIGIN SO THAT A NEW STRING CAN BE CONNECTED TO THE END 05 04340
                      4674 *                                                                       05 04341
012675 054512 A 4675 EXT20   STA     MA                                                        05 04342
012676 006505 A 4676         JSR     VMRST,X       READ CONTENTS OF ADDR IN (MA) FROM V.MEM. 05 04343
012677 013210 A
012700 014510 A 4677         LDA     VDATA                                                     05 04344
012701 152566 A 4678         ANA     BR15                                                      05 04345
012702 034505 A 4679         LDX     MA                                                        05 04346
012703 001010 A 4680         JAZ     STR2          JUMP TO CONNECT STRINGS IF END FOUND      05 04347
012704 012712 A
012705 001000 A 4681         JMP     EXT20                                                     05 04348
012706 012675 A
                      4682           EJEC                                                      05 04349
                      4683 *                                                                       05 04350
                      4684 *         LGSTR                                                     05 04351
                      4685 *                                                                       05 04352
                      4686 *               PURPOSE:  LGSTR IS CALLED TO:                      05 04353
                      4687 *                                                                       05 04354
                      4688 *                       A) GO THROUGH A STRING SATISFYING DEF. ADDR. 05 04355
                      4689 *                       B) STORE END-OF-STRING ADDR IN LOADER     05 04356
                      4690 *                            TABLE STACK ITEM.                    05 04357
                      4691 *                       C) CONNECT A NEW STRING TO THE BEGINNING  05 04358
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                 4692 *                        OF AN OLD STRING.                              05 04359
                 4693 *                                                                       05 04360
                 4694 *               CALLING SEQ.:              FOR ENTRY AT:                05 04361
                 4695 *                                                                       05 04362
                 4696 *                          JMP  LGSTR          LGSTR                    05 04363
                 4697 *                                                                       05 04364
                 4698 *                          (AR)=DEFINED ADDR                            05 04365
                 4699 *                          JMP   STR0          STR0                     05 04366
                 4700 *                                                                       05 04367
                 4701 *                          (AR)=DEFINED ADDR                            05 04368
                 4702 *                          (XR)=STRING ADDR                             05 04369
                 4703 *                          JMP   STR1          STR1                     05 04370
                 4704 *                                                                       05 04371
                 4705 *                          (XR)=STRING ADDR                             05 04372
                 4706 *                          JMP   STR2          STR2                     05 04373
                 4707 *                                                                       05 04374
                 4708 *               EXIT:  TO LGLCMC TO CHECK FOR CORE OVERFLOW; NO EXIT    05 04375
                 4709 *                         PARAMETERS.                                   05 04376
                 4710 *                                                                       05 04377
                 4711 *                                                                       05 04378
012707 014522 A 4712 LGSTR   LDA     LLC                                                      05 04379
                 4713 *                                                                       05 04380
012710 037000 I 4714 STR0    LDX     DATA                                                     05 04381
                 4715 *                                                                       05 04382
012711 057000 I 4716 STR1    STA     DATA                                                     05 04383
                 4717 *                                                                       05 04384
012712 001040 A 4718 STR2    JXZ     COCK          JUMP IF END OF STRING HAS BEEN REACHED     05 04385
012713 012562 A
012714 074473 A 4719         STX     MA                                                       05 04386
012715 006505 A 4720         JSR     VMRCT,X                                                  05 04387
012716 013210 A
012717 014471 A 4721         LDA     VDATA         (AR)=(VDATA)= NEXT ADDR IN STRING          05 04388
012720 152566 A 4722         ANA     BR15                                                     05 04389
012721 005012 A 4723         TAB                   (BR)= NEXT ADDR -WITHOUT INDIRECT BIT      05 04390
012722 134466 A 4724         ERA     VDATA                                                    05 04391
012723 127000 I 4725         ADD     DATA          (AR)=DEFINED OR STRING ADDRESS             05 04392
                 4726 *                              WITH INDIRECT BIT PRESERVED.             05 04393
012724 054464 A 4727         STA     VDATA                                                    05 04394
012725 006505 A 4728         JSR     VMWCT,X       WRITE ADDRESS INTO VIRTUAL MEMORY          05 04395
012726 013215 A
012727 005024 A 4729         TBX                   (XR)= NEXT STRING ADDRESS                  05 04396
012730 001000 A 4730         JMP     STR2                                                     05 04397
012731 012712 A
                 4731         EJEC                                                            05 04398
                 4732 *                                                                       05 04399
                 4733 *       LGSAE                                                           05 04400
                 4734 *                                                                       05 04401
                 4735 *               PURPOSE:  LGSAE MAINTAINS THE LOADER TABLE STACK        05 04402
                 4736 *                           A) COMPLETES INPUT OF ENTRY OR EXT LOAD ITEM 05 04403
                 4737 *                           B) SEARCHES LOADER TABLE STACK FOR MATCH    05 04404
                 4738 *                           C) IF NO MATCH, ENTERS LOAD ITEM IN STACK   05 04405
                 4739 *                                                                       05 04406
                 4740 *               CALLING SEQ.:  CALL LGSAE       -FOR ENTRY              05 04407
                 4741 *                              DATA N                                   05 04408
                 4742 *                                                                       05 04409
                 4743 *                              CALL LGSAE       -FOR EXTERNAL           05 04410
                 4744 *                              MZE  0                                   05 04411
                 4745 *                                                                       05 04412
                 4746 *               EXIT:  (AR)= POINTER TO FIRST WORD OF STACK ENTRY       05 04413
                 4747 *                                 (THREAD/ENTRY LOCATION)               05 04414
                 4748 *                                                                       05 04415
                 4749 *                                                                       05 04416
012732 015004 A 4750 SAE0    LDA     4,X           COMPARE FIRST 4-BITS OF NAME               05 04417
012733 134470 A 4751         ERA     SNAM                                                     05 04418
012734 152600 A 4752         ANA     BM17                                                     05 04419
012735 001016 A 4753         JANZ    SAE60         JUMP IF NO MATCH                           05 04420
012736 013016 A
                 4754 *                                                                       05 04421
012737 015003 A 4755         LDA     3,X           COMPARE NEXT 16-BITS OF NAME               05 04422
012740 134464 A 4756         ERA     SNAM+1                                                   05 04423
012741 001016 A 4757         JANZ    SAE60         JUMP IF NO MATCH                           05 04424
012742 013016 A
                 4758 *                                                                       05 04425
012743 015002 A 4759         LDA     2,X           COMPARE LAST 16-BITS OF NAME               05 04426
012744 134461 A 4760         ERA     SNAM+2                                                   05 04427
012745 001016 A 4761         JANZ    SAE60         JUMP IF NO MATCH                           05 04428
012746 013016 A
                 4762 *                                                                       05 04429
012747 015000 A 4763 SAE30   LDA     0,X           (AR)= THREAD/DEFINITION ADDRESS            05 04430
012750 044001 A 4764         INR     LGSAE                                                    05 04431
012751 001000 A 4765         JMP     0             RETURN                                     05 04432
012752 000000 A
                 4766 *                                                                       05 04433
                 4767 *         ROUTINE ENTRY POINT                                           05 04434
                 4768 *                                                                       05 04435
012752           4769 LGSAE   BES     0                                                       05 04436
012753 002000 A 4770         CALL    LGGEWD        FETCH LAST 16-BITS OF NAME                 05 04437
012754 012360 A
012755 054450 A 4771         STA     SNAM+2                                                   05 04438
012756 002000 A 4772         CALL    LGGEWD        FETCH COMMON SIZE OR DEFINITION ADDRESS    05 04439
012757 012360 A
012760 054447 A 4773         STA     CSIZ          *  STORE IN CASE OF COMMON                 05 04440
012761 024454 A 4774         LDB     PEP                                                      05 04441
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012762 126000 A 4775            ADD     0,2         *  MODIFY BY LOAD POINTER VALUE             05 04442
012763 057000 I 4776            STA     DATA        *  AND STORE IN CASE OF ENTRY ITEM          05 04443
                4777 *                                                                          05 04444
                4778 *                              *  * DETERMINE WHICH STACK TO SEARCH/ENTR   05 04445
012764 014437 A 4779            LDA     SNAM                                                    05 04446
012765 024437 A 4780            LDB     SNAM+1                                                  05 04447
012766 152600 A 4781            ANA     BM17                                                    05 04448
012767 004442 A 4782            LLRL    2                                                       05 04449
012770 001016 A 4783            JANZ    SAE10                                                   05 04450
012771 013005 A
012772 004446 A 4784 SAE40      LLRL    6                                                       05 04451
012773 001016 A 4785            JANZ    SAE10                                                   05 04452
012774 013005 A
012775 004446 A 4786            LLRL    6                                                       05 04453
012776 001016 A 4787            JANZ    SAE10                                                   05 04454
012777 013005 A
013000 004442 A 4788            LLRL    2                                                       05 04455
013001 024424 A 4789            LDB     SNAM+2                                                  05 04456
013002 004444 A 4790            LLRL    4                                                       05 04457
013003 001010 A 4791            JAZ     SAE40                                                   05 04458
013004 012772 A
013005 020000 L 4792 SAE10      LDB     =SGSCB7                                                 05 04459
013006 132572 A 4793            ERA     THREE                                                   05 04460
013007 001010 A 4794            JAZ     *+3                                                     05 04461
013010 013012 A
013011 020000 L 4795            LDB     =SGSCB6                                                 05 04462
013012 064035 A 4796            STB     SAE100                                                  05 04463
013013 005122 A 4797            IBR                                                             05 04464
013014 064054 A 4798            STB     SAE101                                                  05 04465
013015 036000 A 4799            LDX     0,B                                                     05 04466
                4800 *                                                                          05 04467
                4801 *             START STACK SEARCH                                           05 04468
                4802 *                                                                          05 04469
013016 005041 A 4803 SAE60      TXA                                                             05 04470
013017 142573 A 4804            SUB     FIVE                                                    05 04471
013020 005014 A 4805            TAX                 (XR)= POINTER TO NEXT STACK ENTRY           05 04472
013021 147000 I 4806            SUB*    SAE100                                                  05 04473
013022 001002 A 4807            JAP     SAE0        JUMP TO CONTINUE SEARCH IF NOT AT STACK EN  05 04474
013023 012732 A
                4808 *                                                                          05 04475
013024 037000 I 4809            LDX     LGSAE                                                   05 04476
                4810 *                                                                          05 04477
013025 014402 A 4811            LDA     CSIZ                                                    05 04478
013026 052015 A 4812            STA     ITEM+1      (ITEM+1)= SIZE OF COMMON (IF ANY)           05 04479
                4813 *                                                                          05 04480
013027 014376 A 4814            LDA     SNAM+2                                                  05 04481
013030 052016 A 4815            STA     ITEM+2      (ITEM+2)= LAST 16-BITS OF NAME              05 04482
                4816 *                                                                          05 04483
013031 014373 A 4817            LDA     SNAM+1                                                  05 04484
013032 052017 A 4818            STA     ITEM+3      (ITEM+3)= NEXT 16-BITS OF NAME              05 04485
                4819 *                                                                          05 04486
013033 005002 A 4820            IZB                 SET RELO FLAG TO ABS (=0)                   05 04487
013034 015000 A 4821            LDA     0,X                                                     05 04488
013035 052014 A 4822            STA     ITEM        (ITEM)= THREAD/DEFINITION ADDRESS           05 04489
013036 001004 A 4823            JAN     SAE20       JUMP IF ADDR NOT YET DEFINED                05 04490
013037 013050 A
                4824 *                                                                          05 04491
013040 012674 A 4825            LDA     SGTALT                                                  05 04492
013041 006440 A 4826            BT      040,SAE20   JUMP IF BACKGROUND PROGRAM (BIT #0 =0)      05 04493
013042 013050 A
                4827 *                                                                          05 04494
013043 012671 A 4828            LDA     SGCLUN                                                  05 04495
013044 130000 L 4829            ERA     =103                                                    05 04496
013045 001010 A 4830            JAZ     SAE20       JUMP IF PROCESSING SYSTEM PARAMETERS        05 04497
013046 013050 A
                4831 *                                                                          05 04498
                4832 *          WE GOT HERE BECAUSE WE'RE:                                      05 04499
                4833 *             A) GENERATING A FORGROUND PROGRAM                            05 04500
                4834 *             B) NOT INPUTTING SYSTEM PARAMETERS                           05 04501
                4835 *             C) LOAD ITEM IS DEFINED (I.E. AN ENTRY)                      05 04502
                4836 *                                                                          05 04503
                4837 *          THERFORE, SET FLAG INDICATING DEFINITION ADDR. IS RELOCATABLE   05 04504
                4838 *                                                                          05 04505
013047 022346 A 4839            LDB     BS15        SET FLAG                                    05 04506
                4840 *                                                                          05 04507
013050 014353 A 4841 SAE20      LDA     SNAM                                                    05 04508
013051 152766 A 4842            ANA     BS15                                                    05 04509
013052 005001 A 4843            MERG    031         OR IN FLAG BIT                              05 04510
013053 052020 A 4844            STA     ITEM+4      (ITEM+4)= FIRST 4-BITS OF NAME, AND FLAG    05 04511
                4845 *                                                                          05 04512
013054 020000 L 4846            LDB     =ITEM                                                   05 04513
013055 034012 A 4847            LDX     SAE100                                                  05 04514
013056 002000 A 4848            CALL    SGPUT       PUT NEW LOAD ITEM IN LOADER TABLE STACK     05 04515
013057 014331 A
                4849 *                                                                          05 04516
013060 001004 A 4850            JAN     SGIZ        ERROR IF NO ROOM FOR STACK ENTRY            05 04517
013061 013024 A
013062 034006 A 4851            LDX     SAE101                                                  05 04518
013063 015000 A 4852            LDA     0,X         (AR)= LOADER TABLE STACK BOTTOM ADDRESS     05 04519
013064 142570 A 4853            SUB     FIVE                                                    05 04520
013065 005014 A 4854            TAX                 (XR)= ADDRESS OF NEW STACK ENTRY            05 04521
013066 001000 A 4855            JMP     SAE30       JUMP TO SET RETURN POINTERS                 05 04522
013067 013047 A
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                    4856 *                                                                                  05 04523
013070 000000 A     4857 SAE100 DATA    0                                                                   05 04524
013071 000000 A     4858 SAE101 DATA    0                                                                   05 04525
                    4859        EJEC                                                                        05 04526
                    4860 *                                                                                  05 04527
                    4861 *      LGVMS                                                                       05 04528
                    4862 *                                                                                  05 04529
                    4863 *              PURPOSE:  LGVMS READS DATA FROM AND STORES DATA INTO                05 04530
                    4864 *                        VIRTUAL MEMORIES CREATED ON THE SYSTEM                    05 04531
                    4865 *                        WORKING FILE OF MASS MEMORY.                              05 04532
                    4866 *                                                                                  05 04533
                    4867 *              CALLING SEQ.:  JSR 1,VMRRT   READS FROM ROOT SEGMENT               05 04534
                    4868 *                                                                                  05 04535
                    4869 *                             JSR 1,VMWRT   WRITES INTO ROOT SEGMENT               05 04536
                    4870 *                                                                                  05 04537
                    4871 *                             JSR 1,VMRCT   READS FROM CURRENT SEGMENT             05 04538
                    4872 *                                                                                  05 04539
                    4873 *                             JSR 1,VMWCT   WRITES INTO CURRENT SEGMENT            05 04540
                    4874 *                                                                                  05 04541
                    4875 *              EXIT:  RETURNS TO CALLING ROUTINE: (AR) AND (BR) RESTORE            05 04542
                    4876 *                                                                                  05 04543
013072 000000 A     4877 LGVMS  ENTR                                                                        05 04544
013073 014314 A     4878        LDA     MA              (AR)= VIRTUAL MEMORY ADDRESS                        05 04545
013074 144321 A     4879        SUB     BA                                                                  05 04546
013075 005016 A     4880        MERG    016             (AR)=(XR)=(BR)=(MA)-(BA)                            05 04547
013076 005001 A     4881        TZA                                                                         05 04548
013077 170000 L     4882        DIV     =120                                                                05 04549
013100 064311 A     4883        STB     PN              (BR)=(PN)=NUM OF VIRTUAL MEMORY PAGE                05 04550
013101 005221 A     4884        COMP    021                                                                 05 04551
013102 001002 A     4885        JAP     PSIZ            ERROR IF (PN) IS NEGATIVE                           05 04552
013103 013326 A
013104 005112 A     4886        INCR    012             (BR)=-(PN)                                          05 04553
013105 005041 A     4887        TXA                                                                         05 04554
013106 160000 L     4888        MUL     =120                                                                05 04555
013107 064303 A     4889        STB     RLP             (RLP)=(MA)-(BA)-((PN)X120)                          05 04556
                    4890 *                                                                                  05 04557
013110 014301 A     4891 VMS1   LDA     PN                                                                  05 04558
013111 124305 A     4892        ADD     SA                                                                  05 04559
013112 144302 A     4893        SUB     CBS+1                                                               05 04560
013113 001010 A     4894        JAZ     VMS2            JUMP TO READ/WRITE IF CORRECT PAGE IN CORE          05 04561
013114 013157 A
013115 014276 A     4895        LDA     CBS                                                                 05 04562
013116 001004 A     4896        JAN     VMS3            SKIP WRITE OF OLD PAGE IF FIRST OPERATION           05 04563
013117 013123 A
013120 006505 A     4897        JSR     IOW,X           WRITE OLD PAGE BUFFER CONTENTS TO VIR. MEM          05 04564
013121 013240 A
013122 013415 A     4898        DATA    CBS+1           SYSTEM WORKING FILE LOGICAL UNIT                    05 04565
                    4899 *                                                                                  05 04566
013123 014266 A     4900 VMS3   LDA     PN                                                                  05 04567
013124 054267 A     4901        STA     CBS                                                                 05 04568
013125 124271 A     4902        ADD     SA                                                                  05 04569
013126 054266 A     4903        STA     CBS+1           SET NEW PAGE BUFFER STATUS                          05 04570
013127 142676 A     4904        SUB     SGCHSN                                                              05 04571
013130 005311 A     4905        DAR                                                                         05 04572
013131 001004 A     4906        JAN     VMS6            IF CURRENT PAGE HAS BEEN WRITTEN ON BEFORE          05 04573
013132 013152 A
                    4907 *                              CLEAN OUT VIRTUAL MEMORY UP TO THIS POINT.          05 04574
013133 005001 A     4908        TZA                                                                         05 04575
013134 030000 L     4909        LDX     =120                                                                05 04576
013135 005344 A     4910 VMS5   DXR                                                                         05 04577
013136 006055 A     4911        STAE    LGOUTB,X                                                            05 04578
013137 002026 A
013140 001046 A     4912        JXNZ    VMS5                                                                05 04579
013141 013135 A
013142 042676 A     4913 VMS7   INR     SGCHSN          UPDATE HIGHEST SECTOR NUMBER                        05 04580
013143 006505 A     4914        JSR     IOW,X             AND WRITE ZEROS IN SECTOR                         05 04581
013144 013240 A
013145 002676 A     4915        DATA    SGCHSN                                                              05 04582
                    4916 *                                                                                  05 04583
013146 012676 A     4917        LDA     SGCHSN          (AR)= SECTOR NUMBER                                 05 04584
013147 144245 A     4918        SUB     CBS+1                                                               05 04585
013150 001016 A     4919        JANZ    VMS7            FALL THROUGH IF MEMORY CLEANED OUT                  05 04586
013151 013142 A
                    4920 *                                                                                  05 04587
013152 006505 A     4921 VMS6   JSR     IOR,X           READ REQUIRED PAGE OF MEMORY INTO BUFFER            05 04588
013153 013234 A
013154 013415 A     4922        DATA    CBS+1                                                               05 04589
013155 001000 A     4923        JMP     VMS1            JUMP TO READ OR WRITE WORD                          05 04590
013156 013110 A
                    4924 *                                                                                  05 04591
                    4925 *      READ/WRITE OPERATION                                                        05 04592
                    4926 *                                                                                  05 04593
013157 024233 A     4927 VMS2   LDB     RLP             (BR)=RELATIVE POINTER INTO PAGE                     05 04594
013160 034226 A     4928        LDX     MODE                                                                05 04595
013161 001046 A     4929        JXNZ    VMS4                                                                05 04596
013162 013170 A
                    4930 *                              * READ OPERATION *                                  05 04597
013163 006016 A     4931        LDAE    LGOUTB,B                                                            05 04598
013164 002026 A
013165 054223 A     4932        STA     VDATA           (VDATA)=DESIRED WORD                                05 04599
013166 001000 A     4933        JMP*    LGVMS                                                               05 04600
013167 113072 A
                    4934 *                              * WRITE OPERATION *                                 05 04601
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013170 014220 A 4935 VMS4   LDA     VDATA                                                    05 04602
013171 006056 A 4936        STAE    LGOUTB,B        STORE (VDATA) INTO CURRENT PAGE BUFFER   05 04603
013172 002026 A
                4937 *                                                                       05 04604
013173 001000 A 4938        JMP*    LGVMS           RETURN                                   05 04605
013174 113072 A
                4939 *                                                                       05 04606
                4940 *      NORMAL ENTRY POINTS FOR LGVMS                                    05 04607
                4941 *                                                                       05 04608
                4942 *                                                                       05 04609
                4943 *          WRITE INTO ROOT SEGMENT                                      05 04610
                4944 *                                                                       05 04611
013175 074035 A 4945 VMWRT  STX     VM2             SAVE RETURN ADDRESS                      05 04612
013176 005104 A 4946        INCR    04                                                       05 04613
013177 074207 A 4947        STX     MODE            SET READ/WRITE MODE TO WRITE             05 04614
013200 054217 A 4948 VMRT   STA     VMAS                                                     05 04615
013201 064217 A 4949        STB     VMBS            SAVE REGISTERS                           05 04616
013202 012656 A 4950        LDA     SGTARS                                                   05 04617
013203 054212 A 4951        STA     BA              (BA)= BASE ADDRESS/ROOT SEG. VIRTUAL MEMOR 05 04618
013204 012657 A 4952        LDA     SGBSNR                                                   05 04619
013205 054211 A 4953        STA     SA              (SA)= BASE SECTOR NUM/ROOT SEG. VIRTUAL ME 05 04620
013206 001000 A 4954        JMP     VM1                                                      05 04621
013207 013223 A
                4955 *                                                                       05 04622
                4956 *          READ FROM CURRENT SEGMENT                                    05 04623
                4957 *                                                                       05 04624
013210 074022 A 4958 VMRCT  STX     VM2             SAVE RETURN ADDRESS                      05 04625
013211 005004 A 4959        TZX                                                              05 04626
013212 074174 A 4960        STX     MODE            SET READ/WRITE MODE TO READ              05 04627
013213 001000 A 4961        JMP     VMCT                                                     05 04628
013214 013220 A
                4962 *                                                                       05 04629
                4963 *          WRITE INTO CURRENT MODE                                      05 04630
                4964 *                                                                       05 04631
013215 074015 A 4965 VMWCT  STX     VM2             SAVE RETURN ADDRESS                      05 04632
013216 005104 A 4966        INCR    04                                                       05 04633
013217 074167 A 4967        STX     MODE            SET READ/WRITE MODE TO WRITE             05 04634
013220 054177 A 4968 VMCT   STA     VMAS                                                     05 04635
013221 064177 A 4969        STB     VMBS            SAVE REGISTERS                           05 04636
013222 012701 A 4970        LDA     SGCBAD                                                   05 04637
013223 054172 A 4971        STA     BA              (BA)= BASE ADDR/CURRENT SEG. VIRTUAL MEMOR 05 04638
013224 012702 A 4972        LDA     SGCBSN                                                   05 04639
013225 054171 A 4973        STA     SA              (SA)= BASE SECTOR/CURRENT SEG. VIRTUAL MEM 05 04640
                4974 *                                                                       05 04641
                4975 *                                                                       05 04642
013226 002000 A 4976 VM1    CALL    LGVMS           OPERATE ON VIRTUAL MEMORY                05 04643
013227 013072 A
013230 014167 A 4977        LDA     VMAS                                                     05 04644
013231 024167 A 4978        LDB     VMBS            RESTORE REGISTERS                        05 04645
013232 001000 A 4979        JMP     0                                                        05 04646
013233 000000 A
013233          4980 VM2    RES     1               RETURN                                   05 04647
                4981        EJEC                                                             05 04648
                4982 *                                                                       05 04649
                4983 *      IOR/IOW                                                          05 04650
                4984 *                                                                       05 04651
                4985 *          PURPOSE:  TO POSITION RMD AND READ/WRITE ON VIRTUAL       05 04652
                4986 *                    MEMORY.                                          05 04653
                4987 *                                                                       05 04654
                4988 *          CALLING SEQUENCE:  JSR   IOR,X                           05 04655
                4989 *                             DATA  LOC. OF SECTOR NUMBER           05 04656
                4990 *                                                                   05 04657
                4991 *                             JSR   IOW,X                           05 04658
                4992 *                             DATA  LOC. OF SECTOR NUMBER           05 04659
                4993 *                                                                   05 04660
                4994 *                                  ... READS TO AND WRITES FROM (SGOBUF) 05 04661
                4995 *                                                                   05 04662
                4996 *          RETURN PARAMETERS:  NONE (RETURNS ONLY WHEN NORMAL       05 04663
                4997 *                               IT IS REQUESTED.)                   05 04664
                4998 *                                                                   05 04665
                4999 *                                                                   05 04666
013234          5000 IOR    BSS     0               *  * READ - ENTRY POINT *  *         05 04667
013234 010000 L 5001        LDA     =040407                                              05 04668
013235 054040 A 5002        STA     IO3             SET UP READ OPERATION                05 04669
013236 001000 A 5003        JMP     IO2                                                  05 04670
013237 013242 A
                5004 *                                                                   05 04671
013240          5005 IOW    BSS     0               *  * WRITE - ENTRY POINT *  *        05 04672
013240 010000 L 5006        LDA     =041007                                              05 04673
013241 054034 A 5007        STA     IO3             SET UP WRITE OPERATION               05 04674
                5008 *                                                                   05 04675
013242 025000 A 5009 IO2    LDB     0,X                                                  05 04676
013243 016000 A 5010        LDA     0,B                                                  05 04677
013244 054017 A 5011        STA     IO7             SAVE SECTOR NUMBER          -35      05 04678
013245 005144 A 5012        INR     1                                                    05 04679
013246 074042 A 5013        STX     IO1             SAVE RETURN ADDRESS                  05 04680
013247 002000 A 5014 IO9    CALL    IOCS            STATUS 'SYS' TO GET POSITION         05 04681
013250 012425 E
013251 000007 0 5015        DATA    SYS                                                  05 04682
013252 013312 A 5016        DATA    *+8,*+3,*+2,*-6                                      05 04683
013253 013256 A
013254 013255 A
013255 013247 A
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013256 002000 A 5017          CALL    IOCS                                                    -35     05 04684
013257 013250 E
013260 002007 A 5018          DATA    REW+SYS         REWIND                                  -35     05 04685
                5019 *                                                                                05 04686
013261 002000 A 5020          CALL    IOCS            POSITION RMD                                    05 04687
013262 013257 E
013263 003007 A 5021          DATA    03007           SKIP FORWARD                            -35     05 04688
013264 000000 A 5022 I07      DATA    0               COUNT OF SECTORS TO SKIP                -35     05 04689
013265 002000 A 5023          CALL    IOCS                                                            05 04690
013266 013262 E
013267 000007 A 5024          DATA    SYS                                                             05 04691
013270 013312 A 5025          DATA    I08,I08,I08,*-6                                                 05 04692
013271 013312 A
013272 013312 A
013273 013265 A
                5026 *                                                                                05 04693
013274 002000 A 5027          CALL    IOCS            READ OR WRITE                                   05 04694
013275 013266 E
013276 040407 A 5028 I03      DATA    RBIN+SYS,120,SGOBUF                                             05 04695
013277 000170 A
013300 002026 A
013301 002000 A 5029          CALL    IOCS                                                            05 04696
013302 013275 E
013303 000007 A 5030          DATA    SYS                                                             05 04697
013304 013312 A 5031          DATA    I08,I08,I08,*-6                                                 05 04698
013305 013312 A
013306 013312 A
013307 013301 A
                5032 *                                                                                05 04699
013310 001000 A 5033          JMP     0               *  * RETURN *  *                                05 04700
013311 000000 A
013311          5034 I01      BES     0                                                               05 04701
                5035 *                                                                                05 04702
                5036 *                                                                                05 04703
013312 012606 A 5037 I08      LDA     ER00            POST "READ ERROR" MESSAGE                       05 04704
013313 002000 A 5038          CALL    SG4PRO                                                          05 04705
013314 013617 A
013315 001000 A 5039          JMP     I09               AND TRY AGAIN                                 05 04706
013316 013247 A
                5040          EJEC                                                                    05 04707
                5041 *                                                                                05 04708
                5042 *        LGXEQ                                                                   05 04709
                5043 *                                                                                05 04710
                5044 *              PURPOSE:  LGXEQ IS ENTERED FROM THE LOAD ITEM DECODER             05 04711
                5045 *                        (LGDAFT) TO STORE A PROGRAM EXECUTION ADDRESS           05 04712
                5046 *                        IN LGCXEQ.                                              05 04713
                5047 *                                                                                05 04714
                5048 *              CALLING SEQUENCE:  (AR)= EXECUTION ADDRESS                        05 04715
                5049 *                                 JMP   LGXEQ                                    05 04716
                5050 *                                                                                05 04717
                5051 *              EXIT:  TO LGDAFT TO PROCESS NEXT LOAD ITEM; NO EXIT               05 04718
                5052 *                     PARAMETERS.                                                05 04719
                5053 *                                                                                05 04720
013317 052675 A 5054 LGXEQ    STA     SGCXEQ                                                          05 04721
013320 001000 A 5055          JMP     LGDAFT                                                          05 04722
013321 012215 A
                5056          EJEC                                                                    05 04723
                5057 *                                                                                05 04724
                5058 *        LGEF                                                                    05 04725
                5059 *                                                                                05 04726
                5060 *              PURPOSE:  LGEF IS ENTERED WHENEVER AN ERROR OCCURS                05 04727
                5061 *                        DURING THE ACTUAL GENERATION OF A LOAD                  05 04728
                5062 *                        MODULE.  ITS ONLY PURPOSE IS TO SET AN ERROR            05 04729
                5063 *                        FLAG WORD SO THAT THE ERROR PROCESSING ROUTINE          05 04730
                5064 *                        (LGERRP) CAN IDENTIFY THE ERROR.                        05 04731
                5065 *                                                                                05 04732
                5066 *              CALLING SEQ.:  JUMP TO APPROPRIATE ENTRY POINT                    05 04733
                5067 *                                                                                05 04734
                5068 *              EXIT:  TO RELOAD DIRECTIVE PROCESSOR                              05 04735
                5069 *                                                                                05 04736
                5070 *                                                                                05 04737
013322 012640 A 5071 COMN     LDA     ER33            COMMON ERROR                                    05 04738
013323 001006 A 5072          DATA    01006                                                           05 04739
013324 012632 A 5073 GSIZ     LDA     ER24            LMGEN STACKS EXCEEDED AVAILABLE MEMORY          05 04740
013325 001006 A 5074          DATA    01006                                                           05 04741
013326 012635 A 5075 PSIZ     LDA     ER30            PROG BEING GENERATED EXCEEDED DEFINED AREA      05 04742
013327 001006 A 5076          DATA    01006                                                           05 04743
013330 012646 A 5077 TEXT     LDA     ER44            ILLEGAL LOADER CODE DETECTED                    05 04744
013331 001006 A 5078          DATA    01006                                                           05 04745
013332 012642 A 5079 NAME     LDA     ER41            ENTRY NAME LOAD ITEM NOT FOUND                  05 04746
013333 001006 A 5080          DATA    01006                                                           05 04747
013334 012621 A 5081 WRITE    LDA     ER11            WRITE ERROR ON OUTPUT UNIT                      05 04748
013335 002000 A 5082          CALL    SG4PRO                                                          05 04749
013336 013617 A
013337 001000 A 5083          JMP     RELOAD          GO RELOAD DIRECTIVE PROCESSOR                   05 04750
013340 015031 A
                5084          EJEC                                                                    05 04751
                5085 *                                                                                05 04752
                5086 *        LOAD POINTER TABLE                                                      05 04753
                5087 *                                                                                05 04754
                5088 *              PURPOSE:  THE FOLLOWING LOCATIONS CONTAIN LOAD POINTERS           05 04755
                5089 *                        FOR THE PROGRAM AND COMMON REGIONS.                     05 04756
                5090 *                                                                                05 04757
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                          5091 *                                                                  05 04758
013341                    5092 LPTB     BSS     0              LOAD POINTER TABLE BASE            05 04759
                          5093 *                                                                  05 04760
013341                    5094          BSS     28               NAMED COMMON REGION POINTERS     05 04761
013375  000000  A  5095          DATA    0                BLANK COMMON REGION POINTER      05 04762
013376  000000  A  5096          DATA    0                - NOT USED -                     05 04763
013377  000000  A  5097 LPT      DATA    0                PROGRAM REGION POINTER           05 04764
                          5098 *                                                                  05 04765
                          5099 *                OBJ. MODULE INPUT ROUTINE REGISTERS               05 04766
                          5100 *                                                                  05 04767
        000074  A  5101 RL       EQU     60             RECORD LENGTH                      05 04768
013400  000000  A  5102 END10    DATA    0              BUFFER POINTER ADDR FROM 'FMSD'    05 04769
013401  000000  A  5103 RS       DATA    0              (RS)= NUMBER OF WORDS READ         05 04770
013402  000000  A  5104 RWC      DATA    0              (RWC)= POINTER TO LAST WD READ FROM LGOMIB 05 04771
013403  060400  A  5105 DTCB     DATA    060400                                            05 04772
013404  064400  A  5106 DTEM     DATA    064400                                            05 04773
013405  000000  A  5107 DTCW     DATA    0                                                 05 04774
013406  000000  A  5108 DTCV     DATA    0                                                 05 04775
                          5109 *                                                                  05 04776
                          5110 *                VIRTUAL MEMORY DATA REGISTERS                     05 04777
                          5111 *                                                                  05 04778
013407  000000  A  5112 MODE     DATA    0              =1 FOR WRITE; =0 FOR READ          05 04779
013410  000000  A  5113 MA       DATA    0              MEMORY ADDRESS REGISTER            05 04780
013411  000000  A  5114 VDATA    DATA    0              MEMORY BUFFER REGISTER             05 04781
013412  000000  A  5115 PN       DATA    0              COMPUTED PAGE NUMBER               05 04782
013413  000000  A  5116 RLP      DATA    0              COMPUTED PAGE RELATIVE POINTER     05 04783
013414  177777  A  5117 CBS      DATA    -1             NUM OF V.M. PAGE CURRENTLY IN VMBUF 05 04784
013415  000000  A  5118          DATA    0              SECTOR NUM OF V.M. PAGE CURRENTLY IN VMBUF 05 04785
013416  000000  A  5119 BA       DATA    0              BASE ADDR/CURRENT SEG. OF VIRTUAL MEMORY 05 04786
013417  000000  A  5120 SA       DATA    0              BASE SECTOR/CURRENT SEG. OF VIRTUAL MEMORY 05 04787
013420  000000  A  5121 VMAS     DATA    0              (AR) TEMP. STORE.                  05 04788
013421  000000  A  5122 VMBS     DATA    0              (BR) TEMP. STORE.                  05 04789
013422  000000  A  5123 ADDRE    DATA    0                                                 05 04790
                          5124 *                                                                  05 04791
                          5125 *       UTILITY BUFFER                                             05 04792
                          5126 *                                                                  05 04793
013423  000000  A  5127 LITS     DATA    0              LITERAL ROUTINE TEMPORARY STORE    05 04794
                          5128 *                                                                  05 04795
                          5129 *                MISC. LOAD PARAMETERS                             05 04796
                          5130 *                                                                  05 04797
013424                    5131 SNAM     BSS     4              BUFFER FOR ENTRY/EXTERNAL LOAD ITEM NAMES 05 04798
013430  000000  A  5132 CSIZ     DATA    0              HOLDS SIZE OF COM DURING DEFINITION 05 04799
013431  000000  A  5133 PTM1     DATA    0              LOAD POINTER NUMBER -1             05 04800
013432  000000  A  5134 LLC      DATA    0              LOADING LOCATION COUNTER           05 04801
013433  000000  A  5135 LCPT     DATA    0              NUM OF LAST LC LOAD POINTER -1     05 04802
013434  000000  A  5136 DCW      DATA    0              CURRENT LOADER TEXT CONTROL WORD   05 04803
013435  000000  A  5137 ECW      DATA    0              ERROR FLAG WORD                    05 04804
013436  000000  A  5138 PEP      DATA    0              ADDR OF CURRENT LOAD POINTER       05 04805
013437  000000  A  5139 BAPT     DATA    0              (BAPT)= (LC):FORWARD LOAD; ($PED):REV LOAD 05 04806
                          5140          EJEC                                                      05 04807
                          5141 *                                                                  05 04808
                          5142 *       SG4EXT                                                     05 04809
                          5143 *                                                                  05 04810
                          5144 *                PURPOSE:  TO ENTER 'EXTERNALS' IN THE LOADER TABLE STACK 05 04811
                          5145 *                          AND 'DATA REQUESTS' IN THE DATA PATCH STACK 05 04812
                          5146 *                          AND CONNECT STRINGS.                  05 04813
                          5147 *                                                                  05 04814
                          5148 *                CALLING SEQUENCE:  (XR)=  STACK CONTROL BLOCK PNTR 05 04815
                          5149 *                                   CALL   SG4EXT              05 04816
                          5150 *                                   DATA   LOC. OF 4-WORD ITEM 05 04817
                          5151 *                                                                  05 04818
                          5152 *                RETURN PARAMETERS:  NONE                          05 04819
                          5153 *                                                                  05 04820
                          5154 *                                                                  05 04821
013440  000000  A  5155 SG4EXT   ENTR                                                      05 04822
013441  017000  I  5156          LDA     XR                                                05 04823
013442  054075  A  5157          STA     EXT7                                              05 04824
013443  074073  A  5158          STX     EXT2           SAVE STACK POINTER                 05 04825
013444  027000  I  5159          LDX*    SG4EXT         GET LOC. OF 'EXTERNAL'             05 04826
013445  064006  A  5160          STX     EXT1                                              05 04827
013446  016003  A  5161          LDA     0,B                                               05 04828
013447  054066  A  5162          STA     EXT2           SAVE NEW STRING ADDRESS            05 04829
013450  047000  I  5163          IMR     SG4EXT         SET UP RETURN ADDRESS              05 04830
013451  006505  A  5164          JSR     SCAPKK,X       CONVERT ASCII CHAR TO LOADER CODE  05 04831
013452  013772  A
013453  000006  A  5165          DATA    6                                                 05 04832
013454  000000  A  5166 EXT1     DATA    0              LOC. OF 'EXTERNAL'                 05 04833
013455  010000  L  5167          LDA     =0100000                                          05 04834
013456  052014  A  5168          STA     ITEM                                              05 04835
013457  005001  A  5169          IZA                                                       05 04836
013460  052015  A  5170          STA     ITEM+1                                            05 04837
013461  034055  A  5171          LDX     EXT3                                              05 04838
013462  020000  L  5172          LDB     =ITEM                                             05 04839
013463  002000  A  5173          CALL    ENTRE          SEARCH AND ENTER ITEM IN PROPER STACK 05 04840
013464  014744  A
013465  000000  A  5174          DATA    0                                                 05 04841
013466  001002  A  5175          JAP     EXT5           IF ITEM ALREADY DEFINED            05 04842
013467  013514  A
                          5176 *                                                                  05 04843
013470  152566  A  5177          ANA     DR15           TURN OFF UNDEFINED BIT             05 04844
013471  001016  A  5178          JANZ    EXT4           JUMP IF STRINGS ALREADY CONNECTED TO EXT. 05 04845
013472  013502  A
013473  014042  A  5179          LDA     EXT2                                              05 04846
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013474 112546 A 5180          DRA     BS15                                                    05 04847
013475 055000 A 5181          STA     0,X         OTHERWISE PUT NEW STRING ADDR. IN EXTERNAL  05 04848
013476 014041 A 5182 EXT8     LDA     EXT7        RESTORE OLD VALUE FOR (MA)                  05 04849
013477 057000 I 5183          STA     MA                                                      05 04850
013500 001000 A 5184          JMP*    SG4EXT        AND RETURN                                05 04851
013501 113440 A
                5185 *                                                                        05 04852
                5186 *        * * TRACE OLD STRING TO BEGINNING                               05 04853
                5187 *                                                                        05 04854
013502 057000 I 5188 EXT4     STA     MA                                                      05 04855
013503 006505 A 5189          JSR     VMRCT,X     FETCH NEXT STRING ADDRESS                   05 04856
013504 013210 A
013505 017000 I 5190          LDA     VDATA                                                   05 04857
013506 152566 A 5191          ANA     BR15        REMOVE INDIRECT BIT                         05 04858
013507 037000 I 5192          LDX     MA          KEEP LAST ADDR IN CASE STRING END REACHED   05 04859
013510 001010 A 5193          JAZ     EXT6          IF AT STRING END                          05 04860
013511 013516 A
013512 001000 A 5194          JMP     EXT4        OTHERWISE, FOLLOW STRING                    05 04861
013513 013502 A
                5195 *                                                                        05 04862
                5196 *        * * WE GOT HERE TO:                                             05 04863
                5197 *            A)ENTER VALUE THROUGH STRING IF ITEM                        05 04864
                5198 *              PREVIOUSLY DEFINED,OR                                     05 04865
                5199 *            B)CONNECT OLD STRING TO NEW STRING                          05 04866
                5200 *                                                                        05 04967
013514 034021 A 5201 EXT5     LDX     EXT2                                                    05 04868
013515 054020 A 5202          STA     EXT2                                                    05 04869
013516 001040 A 5203 EXT6     JXZ     EXT8        RETURN IF END OF STRING                     05 04870
013517 013476 A
013520 077000 I 5204          STX     MA                                                      05 04871
013521 006505 A 5205          JSR     VMRCT,X     FETCH NEXT STRING VALUE                     05 04872
013522 013210 A
013523 017000 I 5206          LDA     VDATA                                                   05 04873
013524 152566 A 5207          ANA     BR15        TURN OFF INDIRECT BIT                       05 04874
013525 005012 A 5208          TAB                                                             05 04875
013526 137000 I 5209          ERA     VDATA       SAVE INDIRECT BIT                           05 04876
013527 124006 A 5210          ADD     EXT2                                                    05 04877
013530 057000 I 5211          STA     VDATA       STORE VALUE OR STRING CONNECT               05 04878
013531 006505 A 5212          JSR     VMWCT,X                                                 05 04879
013532 013215 A
013533 005024 A 5213          TBX                                                             05 04880
013534 001000 A 5214          JMP     EXT6        CONTINUE                                    05 04881
013535 013516 A
                5215 *                                                                        05 04882
                5216 *                                                                        05 04883
013536 000000 A 5217 EXT2     DATA    0           STRING ADDRESS REGISTER                     05 04884
013537 000000 A 5218 EXT3     DATA    0           STACK CONTROL BLOCK POINTER                 05 04885
013540 000000 A 5219 EXT7     DATA    0           TEMP LOC FOR OLD (MA)                       05 04886
                5220          EJEC                                                            05 04887
                5221 *                                                                        05 04888
                5222 *        SG4ENT                                                          05 04889
                5223 *                                                                        05 04890
                5224 *        PURPOSE:  MAKE AN ENTRY IN THE LOADER TABLE OR                  05 04891
                5225 *                  DATA PATCH STACK                                      05 04892
                5226 *                                                                        05 04893
                5227 *        CALLING SEQUENCE:  (XR)=  STACK CONTROL BLOCK PNTR              05 04894
                5228 *                           CALL   SG4ENT                                05 04895
                5229 *                           DATA   LOC. OF 4-WORD ITEM                   05 04896
                5230 *                                                                        05 04897
                5231 *        RETURN PARAMETERS:  NONE                                        05 04898
                5232 *                                                                        05 04899
                5233 *                                                                        05 04900
013541 014054 A 5234 ENT5     LDA     ENT4        RESTORE OLD VALUE FOR (MA)                  05 04901
013542 057000 I 5235          STA     MA                                                      05 04902
013543 001000 A 5236          JMP     0           * * RETURN * *                              05 04903
013544 000000 A
013544        5237 SG4ENT     BES     0           * * ENTRY POINT * *                         05 04904
013545 017000 I 5238          LDA     MA                                                      05 04905
013546 054047 A 5239          STA     ENT4                                                    05 04906
013547 074015 A 5240          STX     ENT2        SAVE PNTR TO PROPER STACK                   05 04907
013550 037000 I 5241          LDX*    SG4ENT                                                  05 04908
013551 074006 A 5242          STX     ENT1        SAVE LOC. OF ITEM                           05 04909
013552 015003 A 5243          LDA     3,X                                                     05 04910
013553 052014 A 5244          STA     ITEM        SAVE DEFINITION ADDR OR DATA VALUE          05 04911
013554 047000 I 5245          INR     SG4ENT      SET UP RETURN ADDR.                         05 04912
013555 006505 A 5246          JSR     SG4PKK,X    CONVERT ITEM NAME FROM ASCII                05 04913
013556 013772 A
013557 000006 A 5247          DATA    6             TO LOADER CODE AND PUT IN (ITEM,+1)       05 04914
013560 000000 A 5248 ENT1     DATA    0                                                       05 04915
013561 005001 A 5249          TZA                                                             05 04916
013562 052015 A 5250          STA     ITEM+1                                                  05 04917
013563 020000 L 5251          LDB     =ITEM                                                   05 04918
013564 006030 A 5252          LDXI    3                                                       05 04919
013565 000000 A
013565        5253 ENT2       BES     0                                                       05 04920
013566 002000 A 5254          CALL    SGSRE       SEARCH AND ENTER ITEM IN STACK              05 04921
013567 014744 A
013570 000000 A 5255          DATA    0                                                       05 04922
013571 001002 A 5256          JAP     ENT5        RETURN IF NO EXTERNAL ENCOUNTERED           05 04923
013572 013541 A
                5257 *                                                                        05 04924
                5258 *                                                                        05 04925
013573 152566 A 5258          ANA     BR15                                                    05 04926
013574 005012 A 5259          TAB                 SAVE EXTERNAL STRING ADDRESS                05 04927
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 13575 012014 A 5260          LDA     ITEM                                                    05 04927
013576 055000 A 5261          STA     0,X             STORE DEF ADDR OR DATA VALUE IN STACK ITEM 05 04928
                5262 *                                                                        05 04929
                5263 *                  * * STRING VALUE * *                                  05 04930
                5264 *                                                                        05 04931
013577 001020 A 5265 ENT3     JRZ     ENT5            * * RETURN IF END OF STRING * *         05 04932
013600 013541 A
013601 067000 I 5266          STB     MA                                                      05 04933
013602 006505 A 5267          JSR     VMRCT,X         READ VIRTUAL MEMORY FOR CONTENTS OF (MA) 05 04934
013603 013210 A
013604 017009 I 5268          LDC     VDATA                                                   05 04935
013605 152566 A 5269          ANA     DR15                                                    05 04936
013606 005010 A 5270          TAB                     SAVE NEW STRING ADDRESS                 05 04937
013607 137000 I 5271          ERA     VDATA           SAVE INDIRECT BIT                       05 04938
013610 122014 A 5272          ADD     ITEM            AND FORM DATA WORD                      05 04939
013611 057000 I 5273          STA     VDATA                                                   05 04940
013612 006505 A 5274          JSR     VMWCT,X         WRITE DATA WORD TO VIRTUAL MEMORY       05 04941
013613 013215 A
013614 001000 A 5275          JMP     ENT3            CONTINUE                                05 04942
013615 013577 A
                5276 *                                                                        05 04943
013616 000000 A 5277 ENT4     DATA    0               TEMP LOC FOR OLD (MA)                   05 04944
                5278          EJEC                                                            05 04945
                5279 *                                                                        05 04946
                5280 *        SG4EAR                                                          05 04947
                5281 *                                                                        05 04948
                5282 *        PURPOSE:  POST ERROR MESSAGES AND EFFECT RECOVERY               05 04949
                5283 *                  WHERE APPLICABLE.                                     05 04950
                5284 *                                                                        05 04951
                5285 *        CALLING SEQ.:  (AR)= ERROR CODE   OR   (AR)= ERROR CODE       05 04952
                5286 *                       CALL  SG4ASC             CALL  SG4PRD            05 04953
                5287 *                                                                        05 04954
                5288 *        RETURN PARAMETERS:  NONE                                        05 04955
                5289 *                                                                        05 04956
                5290 *                                                                        05 04957
013617 000000 A 5291 SG4PRD ENTR                      * ENTRY TO POST ERROR ONLY *            05 04958
013620 005002 A 5292          IZB                                                             05 04959
013621 052410 A 5293 EAR1     STA     SGLBUF+2        STORE ERROR CODE IN BUFFER              05 04960
013622 062653 A 5294          STB     PREC            STORE RECOVERY FLAG                     05 04961
013623 012530 A 5295          LDA     TWO                                                     05 04962
013624 052406 A 5296          STA     SGLBUF          SET UP ERROR MESSAGE                    05 04963
013625 006010 A 5297          LDAI    'SG'                                                    05 04964
013626 151707 A
013627 052407 A 5298          STA     SGLBUF+1                                                05 04965
013630 020000 L 5299 EAR7     LDB     =SG_BUF                                                 05 04966
013631 002000 A 5300          CALL    SGU30           WRITE MESSAGE TO "OC" AND "LIS"         05 04967
013632 015034 A
013633 001046 A 5301          JXNZ    EAR7            RETRY IF ERROR                          05 04968
013634 013630 A
                5302 *                                                                         5 04969
013635 002000 A 5303          CALL    SGCLR           CLEAR SGIBUF TO BLANKS                  5 04970
013636 014602 A
                5304 *                                                                        05 04971
013637 002000 A 5305 EAR6     JMPM    IOCS            READ MESSAGE FROM 'OC'                  05 04972
013640 013302 E
013641 000403 A 5306          DATA    RALF+OC                                                 05 04973
013642 000050 A 5307          DATA    40,SGIBUF                                               05 04974
013643 000664 A
013644 002000 A 5308          JMPM    IOCS                                                    05 04975
013645 013640 E
013646 000003 A 5309          DATA    OC                                                      05 04976
013647 013637 A 5310          DATA    EAR6,EAR6,EAR6,*-6                                      05 04977
013650 013637 A
013651 013637 A
013652 013644 A
013653 002000 A 5311          JMPM    IOCS            DETERMINE 'LIS' DEVICE                  05 04978
013654 013645 E
013655 000005 A 5312          DATA    LIS                                                     05 04979
013656 013662 A 5313          DATA    *+4,*+3,*+2,*-6                                         05 04980
013657 013662 A
013660 013663 A
013661 013659 A
013662 015000 A 5314          LDA     0,X                                                     05 04981
013663 130000 L 5315          ERA     ='TY'                                                   05 04982
013664 001016 A 5316          JXNZ    EAR9            IF NOT TELETYPE                         05 04983
013665 013672 A
013666 015000 A 5317          LDA     3,X                                                     05 04984
013667 130000 L 5318          ERA     ='OC'                                                   05 04985
013670 001010 A 5319          JRZ     EAR8            IF 'OC' TELETYPE, DON'T LIST            05 04986
013671 013706 A
                5320 *                                                                        05 04987
013672 002000 A 5321 EAR9     JMPM    IOCS            LIST RECOVERY MESSAGE                   05 04988
013673 013654 E
013674 001005 A 5322          DATA    WALF+LIS                                                05 04989
013675 000059 A 5323          DATA    49,SGIBUF                                               05 04990
013676 000664 A
013677 002000 A 5324          JMPM    IOCS                                                    05 04991
013700 013673 A
013701 000005 A 5325          DATA    LIS                                                     05 04992
013702 013706 A 5326          DATA    EAR8,EAR8,EAR8,*-6                                      05 04993
013703 013706 A
013704 013705 A
013705 013677 A
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                    5327 *                                                                                  05 04994
013706              5328 EAR8   BSS     0                                                                   05 04995
013706 012653 A     5329        LDA     DREC                                                                05 04996
013707 001010 A     5330        JAZ*    SG4PRD      * RETURN IF NO RECOVERY REQUESTED *                     05 04997
013710 113617 A
013711 006505 A     5331        JSR     SGGFI,X     GET RECOVERY PARAMETER                                  05 04998
013712 014420 A
013713 013717 A     5332        DATA    EAR3,2                                                              05 04999
013714 000002 A
013715 005312 A     5333        DECR    012         (BR)=NUMBER OF CHAR. READ MINUS ONE                     05 05000
013716 006010 A     5334        LDAI    0                                                                   05 05001
013717 000000 A
013717              5335 EAR3   DES     0                                                                   05 05002
013720 006140 A     5336        SUBI    0141400                                                             05 05003
013721 141400 A
013722 001030 A     5337        JIF     030,EAR4    IF RECOVERY SPECIFIES READ FROM 'LIB/ALT'               05 05004
013723 013726 A
013724 001000 A     5338        JMP*    SG4ASC      * RETURN WITH NEW CONTROL REC. IN SGIBUF *              05 05005
013725 113766 A
013726              5339 EAR4   BSS     2                                                                   05 05006
013726 012671 A     5340        LDA     SGCLUN      SET UP I/O OPERATIONS ON INPUT UNIT                     05 05007
013727 054014 A     5341        STA     EAR2                                                                05 05008
013730 054027 A     5342        STA     EAR11                                                               05 05009
013731 122537 A     5343        ADD     DS8                                                                 05 05010
013732 054020 A     5344        STA     EAR10                                                               05 05011
013733 006120 A     5345        ADDI    0103000-0400                                                        05 05012
013734 102400 A
013735 054002 A     5346        STA     EAR12                                                               05 05013
                    5347 *                                                                                  05 05014
013736 002000 A     5348        CALL    IOCS        BACKSPACE TO REREAD LAST INPUT RECORD                   05 05015
013737 013700 E
013740 000000 A     5349 EAR12  DATA    0                                                                   05 05016
013741 000001 A     5350        DATA    1                                                                   05 05017
013742 002000 A     5351        CALL    IOCS        STATUS BACKSPACE OPERATION                              05 05018
013743 013737 E
013744 000000 A     5352 EAR2   DATA    0                                                                   05 05019
013745 013751 A     5353        DATA    *+4,*+3,*+2,*-6                                                     05 05020
013746 013751 A
013747 013751 A
013750 013742 A
                    5354 *                                                                                  05 05021
013751 002000 A     5355 EAR5   CALL    IOCS        READ THE RECORD                                         05 05022
013752 013743 E
013753 000000 A     5356 EAR10  DATA    0                                                                   05 05023
013754 000170 A     5357        DATA    120,SGIBUF                                                          05 05024
013755 000664 A
013756 002000 A     5358        CALL    IOCS        STATUS READ OPERATION AND RETRY IF ERROR                05 05025
013757 013752 E
013760 000000 A     5359 EAR11  DATA    0                                                                   05 05026
013761 013765 A     5360        DATA    *+4,*+3,*+2,*-6                                                     05 05027
013762 013765 A
013763 013765 A
013764 013756 A
013765 001000 A     5361        JMP     0           *  * RETURN *  *                                        05 05028
013766 000000 A
                    5362 *                                                                                  05 05029
013766              5363 SG4ASC BSS     0           *  ENTRY TO POST ERROR AND RECOVER  *                   05 05030
013767 005102 A     5364        INCR    B           SET RECOVERY FLAG                                       05 05031
013770 001000 A     5365        JMP     EAR1                                                                05 05032
013771 013621 A
                    5366        EJEC                                                                        05 05033
                    5367 *                                                                                  05 05034
                    5368 *      SG4PKK                                                                      05 05035
                    5369 *                                                                                  05 05036
                    5370 *          PURPOSE:  CONVERT ASCII CHARACTER FIELD TO                              05 05037
                    5371 *                    LOADER CODE                                                   05 05038
                    5372 *                                                                                  05 05039
                    5373 *          CALLING SEQUENCE:  JSR   SG4PKK,X                                       05 05040
                    5374 *                             DATA  NUMBER OF CHARACTERS (1 TO 6)                  05 05041
                    5375 *                             DATA  POINTER TO BUFFER                              05 05042
                    5376 *                                                                                  05 05043
                    5377 *          RETURN PARAMETERS:  NONE                                                05 05044
                    5378 *                                                                                  05 05045
                    5379 *                                                                                  05 05046
013772 015000 A     5380 SG4PKK LDA     0,X                                                                 05 05047
013773 054107 A     5381        STA     PKK1        SAVE NUMBER OF CHARACTERS                               05 05048
013774 015001 A     5382        LDA     1,X                                                                 05 05049
013775 005144 A     5383        IXR                                                                         05 05050
013776 005144 A     5384        IXR                                                                         05 05051
013777 074104 A     5385        STX     PKK2        SAVE RETURN ADDRESS                                     05 05052
014000 005014 A     5386        TAX                 (XR)= POINTER TO BUFFER                                 05 05053
014001 005001 A     5387        TZA                                                                         05 05054
014002 052016 A     5388        STA     ITEM+2      CLEAR ITEM BUFFER                                       05 05055
014003 052017 A     5389        STA     ITEM+3                                                              05 05056
014004 052020 A     5390        STA     ITEM+4                                                              05 05057
                    5391 *                                                                                  05 05058
014005 015000 A     5392        LDA     0,X         GET FIRST CHARACTER                                     05 05059
014006 004350 A     5393        LSRA    8             AND CONVERT                                           05 05060
014007 140000 L     5394        SUB     =0040           TO LOADER CODE                                      05 05061
014010 005012 A     5395        TAB                 HOLD IT IN (BR)                                         05 05062
014011 014071 A     5396        LDA     PKK1                                                                05 05063
014012 140000 L     5397        SUB     =6                                                                  05 05064
014013 001016 A     5398        JANZ    PKK3        IF LESS THAN SIX CHARACTERS                             05 05065
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014014 014022 A
014015 005021 A 5399          TBA
014016 004142 A 5400          LSRB    2               SPLIT FIRST CHARACTER                    05 05066
014017 062020 A 5401          STB     ITEM+4            AND PUT MS 4 BITS IN (ITEM+4)          05 05067
014020 150000 L 5402          ANA     =3                                                       05 05068
014021 005012 A 5403          TAB                                                              05 05069
014022 062010 A 5404 PKK3     STB     ITEM+2          (ITEM+2) GETS EITHER FULL CHAR OR LS 2-BIT 05 05070
                    5405 *                                                                     05 05071
014023 014057 A 5406 PKK4     LDA     PKK1                                                     05 05072
014024 005311 A 5407          DAR                                                              05 05073
014025 054055 A 5408          STA     PKK1            DECREMENT CHARACTER COUNT                05 05074
014026 001010 A 5409          JAZ*    PKK2            RETURN IF ALL CHAR CONVERTED AND PACKED  05 05075
014027 114104 A                                                                                05 05076
014030 015000 A 5410          LDA     0,X                                                      05 05077
014031 152371 A 5411          ANA     =HW                                                      05 05078
014032 140000 L 5412          SUB     =0240                                                    05 05079
014033 054034 A 5413          STA     PKK5            CONVERT RIGHT HALF CHAR AND SAVE         05 05080
014034 022017 A 5414          LDB     ITEM+3                                                   05 05081
014035 012016 A 5415          LDA     ITEM+2          GET PREVIOUSLY STORED CHAR               05 05082
014036 004446 A 5416          LLRL    6                 AND SHIFT TO MAKE ROOM                 05 05083
014037 114043 A 5417          ORA     PKK5            BRING IN NEW CHAR                        05 05084
014040 062017 A 5418          STB     ITEM+3                                                   05 05085
014041 052016 A 5419          STA     ITEM+2          AND RESAVE CONVERTED CHAR                05 05086
014042 005144 A 5420          IXR                     BUMP INDEX                               05 05087
014043 014037 A 5421          LDA     PKK1                                                     05 05088
014044 005311 A 5422          DAR                                                              05 05089
014045 054035 A 5423          STA     PKK1                                                     05 05090
014046 001010 A 5424          JAZ     PKK6            IF ALL CHAR CONVERTED, RIGHT JUSTIFY     05 05091
014047 014063 A
                    5425 *                                                                     05 05092
014050 015000 A 5426          LDA     0,X                                                      05 05093
014051 004350 A 5427          LSRA    8                                                        05 05094
014052 140000 L 5428          SUB     =0240                                                    05 05095
014053 054031 A 5429          STA     PKK5            CONVERT LEFT HALF CHAR AND SAVE          05 05096
014054 012016 A 5430          LDA     ITEM+2          GET PREVIOUSLY STORED CHAR               05 05097
014055 004416 A 5431          LLRL    6                 AND SHIFT TO MAKE ROOM                 05 05098
014056 114026 A 5432          ORA     PKK5            BRING IN NEW CHAR                        05 05099
014057 062017 A 5433          STB     ITEM+3                                                   05 05100
014060 052016 A 5434          STA     ITEM+2          AND RESAVE                               05 05101
014061 001000 A 5435          JMP     PKK4              CONTINUE                               05 05102
014062 014023 A
                    5436 *                                                                     05 05103
014063 012016 A 5437 PKK6     LDA     ITEM+2          GET RIGHT-MOST CHAR                      05 05104
014064 150000 L 5438          ANA     =077                                                     05 05105
014065 001016 A 5439          JANZ*   PKK2            RETURN, IF RIGHT CHAR NOT BLANK          05 05106
014066 114104 A
014067 012020 A 5440          LDA     ITEM+4                                                   05 05107
014070 022017 A 5441          LDB     ITEM+3                                                   05 05108
014071 004546 A 5442          LLLR    8                                                        05 05109
014072 012017 A 5443          LDA     ITEM+3                                                   05 05110
014073 062017 A 5444          STB     ITEM+3                                                   05 05111
014074 022016 A 5445          LDB     ITEM+2                                                   05 05112
014075 004546 A 5446          LLLR    8                                                        05 05113
014076 062016 A 5447          STB     ITEM+2                                                   05 05114
014077 005002 A 5448          TAB                                                              05 05115
014100 062020 A 5449          STB     ITEM+4                                                   05 05116
014101 001000 A 5450          JMP     PKK6                                                     05 05117
014102 014063 A
                    5451 *                                                                     05 05118
                    5452 *                                                                     05 05119
014103 000000 A 5453 PKK1     DATA    0               NUMBER OF CHARACTERS                     05 05120
014104 000000 A 5454 PKK2     DATA    0               RETURN ADDRESS                           05 05121
014105 000000 A 5455 PKK5     DATA    0               TEMPORARY REGISTER                       05 05122
                    5456      EJECT                                                            05 05123
                    5457 *                                                                     05 05124
                    5458 *      %GCNV                                                          05 05125
                    5459 *                                                                     05 05126
                    5460 *      PURPOSE:  TO CONVERT A DECIMAL OR OCTAL ASCII NUMBER           05 05127
                    5461 *                TO BINARY.                                           05 05128
                    5462 *                                                                     05 05129
                    5463 *      CALLING SEQUENCE:  (XR)= POINTER TO FIRST DIGIT                05 05130
                    5464 *                         (AR)= NUMBER OF DIGITS                      05 05131
                    5465 *                         CALL  %GCNV                                 05 05132
                    5466 *                                                                     05 05133
                    5467 *      RETURN PARAMETERS:  (BR)= BINARY VALUE                         05 05134
                    5468 *                          (CF)= 0   IF NO ERROR                      05 05135
                    5469 *                                1   IF OVERFLOW OR NON-NUMERIC      05 05136
                    5470 *                                    CHARACTER ENCOUNTERED            05 05137
                    5471 *                                                                     05 05138
                    5472 *                                                                     05 05139
014106 000000 A 5473 %GCNV    ENTR    0               *  * ENTRY POINT *  *                    05 05140
014107 007400 A 5474          RCF                     RESET ERROR FLAG                         05 05141
014110 005002 A 5475          TAB                     RESET ACCUMULATOR                        05 05142
014111 054067 A 5476          STA     CNVD1           STORE NUM OF CHAR                        05 05143
014112 012532 A 5477          LDA     =10                                                      05 05144
014113 054066 A 5478          STA     CNVD2           SET BASE TO OCTAL                        05 05145
                    5479 *                                                                     05 05146
014114 015000 A 5480          LDA     0,X             GET FIRST CHAR                           05 05147
014115 004350 A 5481          LSRA    8                                                        05 05148
014116 144060 A 5482          SUB     =D72                                                     05 05149
014117 001002 A 5483          JAP     CNV2            IF CHAR NOT NUMBER                       05 05150
014120 014174 A
014121 122577 A 5484          ADD     TEN                                                      05 05151
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014122 001004 A 5485          JAN     CNV3        IF CHAR NOT NUMBER                          05 05152
014123 014174 A
014124 001010 A 5486          JAZ     CNV1        IF CHAR ZERO                                05 05153
014125 014134 A
                5487 *                                                                        05 05154
014126 022577 A 5488          LDB     TEN                                                     05 05155
014127 064052 A 5489          STB     CNVD2       RESET BASE TO DECIMAL                       05 05156
014130 005002 A 5490          TZB                                                             05 05157
014131          5491 CNV2     BSS     0                                                       05 05158
014131 164050 A 5492          MUL     CNVD2       MULTIPLY BY BASE AND ADD NEW NUMBER         05 05159
014132 001016 A 5493          JANZ    CNV3        IF OVERFLOW                                 05 05160
014133 014174 A
014134 014044 A 5494 CNV1     LDA     CNVD1                                                   05 05161
014135 005311 A 5495          DAR                 DECREMENT NUMBER OF CHARACTERS              05 05162
014136 054042 A 5496          STA     CNVD1                                                   05 05163
014137 001010 A 5497          JAZ*    SGCNV       IF CHAR COUNT TO ZERO, RETURN               05 05164
014140 114105 A
                5498 *                                                                        05 05165
014141 015000 A 5499          LDA     0,X         GET NEXT CHARACTER                          05 05166
014142 152571 A 5500          ANA     RHW                                                     05 05167
014143 144033 A 5501          SUB     D260                                                    05 05168
014144 144035 A 5502          SUB     CNVD2                                                   05 05169
014145 001002 A 5503          JAP     CNV3        IF CHAR NOT NUMBER                          05 05170
014146 014174 A
014147 124032 A 5504          ADD     CNVD2                                                   05 05171
014150 001004 A 5505          JAN     CNV3        IF CHAR NOT NUMBER                          05 05172
014151 014174 A
014152 164027 A 5506          MUL     CNVD2       MULTIPLY BY BASE AND ADD NEW NUMBER         05 05173
014153 001016 A 5507          JANZ    CNV3        IF OVERFLOW                                 05 05174
014154 014174 A
014155 005144 A 5508          IXR                 BUMP CHAR POINTER                           05 05175
014156 014022 A 5509          LDA     CNVD1                                                   05 05176
014157 005311 A 5510          DAR                 DECREMENT NUMBER OF CHARACTERS              05 05177
014160 054020 A 5511          STA     CNVD1                                                   05 05178
014161 001010 A 5512          JAZ*    SGCNV       IF CHAR COUNT TO ZERO, RETURN               05 05179
014162 114106 A
                5513 *                                                                        05 05180
014163 015000 A 5514          LDA     0,X         GET NEXT CHARACTER                          05 05181
014164 004350 A 5515          LSRA    8                                                       05 05182
014165 144011 A 5516          SUB     D260                                                    05 05183
014166 144013 A 5517          SUB     CNVD2                                                   05 05184
014167 001002 A 5518          JAP     CNV3        IF CHAR NOT NUMBER                          05 05185
014170 014174 A
014171 124010 A 5519          ADD     CNVD2                                                   05 05186
014172 001002 A 5520          JAP     CNV2        IF CHAR IS A NUMBER                         05 05187
014173 014131 A
                5521 *                                                                        05 05188
014174 007401 A 5522 CNV3     SOF                 SET ERROR FLAG                              05 05189
014175 001000 A 5523          JMP*    SGCNV         AND RETURN                                05 05190
014176 114106 A
                5524 *                                                                        05 05191
        002532 A 5525 D10     EQU     BS3                                                     05 05192
014177 000260 A 5526 D260     DATA    0260                                                    05 05193
014200 000272 A 5527 D272     DATA    0272                                                    05 05194
014201 000000 A 5528 CNVD1    DATA    0           CHARACTER COUNTER                           05 05195
014202 000000 A 5529 CNVD2    DATA    0           BASE VALUE                                  05 05196
                5530          EJEC                                                          05 05197
                5531 *                                                                        05 05198
                5532 *        SG3GAC                                                          05 05199
                5533 *                                                                        05 05200
                5534 *              PURPOSE:  TO CONVERT A DIRECTIVE PARAMETER FIELD          05 05201
                5535 *                        TO A BINARY NUMBER (BETWEEN ZERO AND 32K)       05 05202
                5536 *                                                                        05 05203
                5537 *              CALLING SEQUENCE:    (AR)=ASCII CODE FOR REQUIRED         05 05204
                5538 *                                        FIELD TERMINATOR              05 05205
                5539 *                                   CALL   SG3GAC                        05 05206
                5540 *                                                                        05 05207
                5541 *              RETURN PARAMETERS:   (BR)=BINARY VALUE                    05 05208
                5542 *                                                                        05 05209
                5543 *              NOTE:    IF DIRECTIVE FIELD OR CONVERTED NUMBER           05 05210
                5544 *                       IS IN ERROR, AN ERROR MESSAGE IS POSTED          05 05211
                5545 *                       AND RETURN IS TO INPUT A NEW DIRECTIVE.          05 05212
                5546 *                                                                        05 05213
                5547 *                                                                        05 05214
014203 000000 A 5548 SG3GAC   ENTR    0                                                       05 05215
014204 054012 A 5549          STA     GACD2                                                   05 05216
014205 006505 A 5550          JSR     SOGNI,X       GET PARAMETER                             05 05217
014206 014424 A
014207 002521 A 5551          DATA    INUF3                                                   05 05218
014210 000007 A 5552          DATA    7                                                       05 05219
014211 054011 A 5553          STA     GACD1         SAVE CHARACTER COUNT FOR CONVERSION       05 05220
014212 014004 A 5554          LDA     GACD2                                                 V75********
014213 001010 A 5555          JAZ     GACD1-1       CHECK IF TEST DISABLED                  V75********
014214 014222 A
014215 005021 A 5556          TBA                                                             05 05221
014216 006130 A 5557          ERAI    0                                                       05 05222
014217 000000 A
014217          5558 GACD2    BES     0                                                       05 05223
014220 001016 A 5559          JANZ    GAC3          IF FIELD TERMINATOR INCORRECT             05 05224
014221 014234 A
014222 006010 A 5560          LDAI    0             GET NUMBER OF CHARACTERS                  05 05225
014223 000000 A
014223          5561 GACD1    BES     0                                                       05 05226
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014224 030000 L 5562          LDX     =TBUF3                                                05 05227
014225 002000 A 5563          CALL    SGCNV       CONVERT NUMBER TO BINARY                  05 05228
014226 014106 A
014227 001007 A 5564          JOFN*   SG3GAC      *  * RETURN IF NO ERRORS *  *             05 05229
014230 114203 A
                5565 *                                                                      05 05230
014231 012610 A 5566 GAC2     LDA     ERRP        POST "PARAMETER ERROR" MESSAGE            05 05231
014232 001000 A 5567          JMP     GAC2+3                                          C     05 05232
014233 014237 A
                5568 *                                                                      05 05233
014234 002000 A 5569 GAC3     CALL    SGPUR       PURGE TEMP. STACK                         05 05234
014235 014243 A
014236 012607 A 5570          LDA     ERR1                                                  05 05235
014237 002000 A 5571          CALL    SG4MSG      POST 'SYNTAX ERROR' MESSAGE               05 05236
014240 013766 A
014241 001000 A 5572          JMP     SG4IND        AND PROCESS RECOVERY                    05 05237
014242 003470 A
                5573          EJEC                                                          05 05238
                5574 *                                                                      05 05239
                5575 *        SGPUR                                                         05 05240
                5576 *                                                                      05 05241
                5577 *              PURPOSE:  PURGE TEMPORARY STACK AND RETURN TO PROCESS   05 05242
                5578 *                        ERROR RECOVERY DIRECTIVE.                     05 05243
                5579 *                                                                      05 05244
                5580 *              CALLING SEQUENCE:  CALL   SGPUR                         05 05245
                5581 *                                                                      05 05246
                5582 *              RETURN PARAMETERS:  NONE                                05 05247
                5583 *                                                                      05 05248
                5584 *                                                                      05 05249
014243 000000 A 5585 SGPUR    ENTR                                                          05 05250
014244 030000 L 5586          LDX     =SGPCB9                                               05 05251
014245 020000 L 5587          LDA     =TB F2                                                05 05252
014246 002003 A 5588          CALL    SGGET       GET NEXT ITEM FROM TEMPORARY STACK        05 05253
014247 014616 A
014250 001002 A 5589          JAP     SGPUR+1     IF STACK NOT EMPTY                        05 05254
014251 014244 A
014252 001000 A 5590          JMP*    SGPUR       *  * RETURN *  *                          05 05255
014253 114243 A
                5591          EJEC                                                          05 05256
                5592 *                                                                      05 05257
                5593 *        SGMOV                                                         05 05258
                5594 *                                                                      05 05259
                5595 *              PURPOSE:   SGMOV MOVES A CONTIGUOUS BLOCK OF DATA FROM  05 05260
                5596 *                         ONE ADDRESS IN MEMORY TO ANOTHER.            05 05261
                5597 *                                                                      05 05262
                5598 *              CALLING SEQ:  CALL SGMOV                                05 05263
                5599 *                            DATA NUMBER OF WORDS TO MOVE              05 05264
                5600 *                            DATA FROM-ADDRESS                         05 05265
                5601 *                            DATA TO-ADDRESS                           05 05266
                5602 *                                                                      05 05267
                5603 *              EXIT:  RETURN TO CALLING PROGRAM, NO EXIT PARAMETERS    05 05268
                5604 *                                                                      05 05269
                5605 *                                                                      05 05270
014254 034050 A 5606 MOV1     LDX     SGMOV                                                 05 05271
014255 015001 A 5607          LDA     1,X         (AR)= DATA FROM-ADDRESS                   05 05272
014256 145002 A 5608          SUB     2,X         IF TO-ADDR LOWER IN CORE THAN FROM-ADDR,  05 05273
014257 001004 A 5609          JAN     MOVR          MOVE DATA IN REVERSE ORDER.             05 05274
014260 014277 A
                5610 *                                                                      05 05275
                5611 *        FORWARD MOVE (DATA MOVED STARTING WITH LOWEST LOCATION)       05 05276
                5612 *                                                                      05 05277
014261 025001 A 5613          LDB     1,X         (BR)= FROM ADDR                           05 05278
014262 015000 A 5614          LDA     0,X         (AR)= WORD COUNT                          05 05279
014263 035002 A 5615          LDX     2,X         (XR)= TO-ADDR                             05 05280
014264 005311 A 5616 MOV2     DAR                 DECREMENT WORD COUNT                      05 05281
014265 001004 A 5617          JAN     MOVE        JUMP TO CLEAN-UP IF MOVE FINISHED         05 05282
014266 014321 A
014267 054000 A 5618          STA     MOVC        SAVE PRESENT WORD COUNT                   05 05283
014270 016000 A 5619          LDA     0,B                                                   05 05284
014271 055000 A 5620          STA     0,X         MOVE A WORD                               05 05285
014272 005122 A 5621          IBR                                                           05 05286
014273 005144 A 5622          IXR                 INCREMENT INDICES                         05 05287
014274 014003 A 5623          JMP     MOV2                                                  05 05288
014275 001000 A 5624          JMP     MOVE        CONTINUE                                  05 05289
014276 014264 A
                5625 *                                                                      05 05290
                5626 *        REVERSE MOVE (DATA MOVED STARTING WITH HIGHEST LOCATION)      05 05291
                5627 *                                                                      05 05292
014277 015000 A 5628 MOVR     LDA     0,X                                                   05 05293
014300 125001 A 5629          ADD     1,X                                                   05 05294
014301 005010 A 5630          TAB                 (BR)= TOP OF "FROM" AREA                  05 05295
014302 015000 A 5631          LDA     0,X                                                   05 05296
014303 054024 A 5632          STA     MOVC        SAVE WORD COUNT                           05 05297
014304 125002 A 5633          ADD     2,X                                                   05 05298
014305 055014 A 5634          TAX                 (XR)= TOP OF "TO" AREA                    05 05299
014306 014021 A 5635 MOV3     LDA     MOVC                                                  05 05300
014307 005311 A 5636          DAR                 DECREMENT WORD COUNT                      05 05301
014310 001004 A 5637          JAN     MOVE        JUMP TO CLEAN-UP IF MOVE FINISHED         05 05302
014311 014321 A
014312 054015 A 5638          STA     MOVC        SAVE PRESENT WORD COUNT                   05 05303
014313 005322 A 5639          DBR                                                           05 05304
014314 005344 A 5640          DXR                 DECREMENT INDICES                         05 05305
014315 016001 A 5641          LDA     1,B                                                   05 05306
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014316 055000 A 5642          STA     0,X         MOVE A WORD                                  05 05307
014317 001000 A 5643          JMP     MOV3        CONTINUE                                     05 05308
014320 014306 A
                5644 *                                                                         05 05309
014321 044003 A 5645 MOVE     INR     SGMOV       FIX UP RETURN ADDRESS                        05 05310
014322 044002 A 5646          INR     SGMOV                                                    05 05311
014323 044001 A 5647          INR     SGMOV                                                    05 05312
014324 001000 A 5648          JMP     0           RETURN                                       05 05313
014325 000000 A
014325          5649 SGMOV    BSS     0             ENTRY POINT                                05 05314
014326 001003 A 5650          JMP     MOV1                                                     05 05315
014327 014254 A
                5651 *                                                                         05 05316
014330 000000 A 5652 MOVC     DATA    0           CURRENT WORD COUNT REGISTER                  05 05317
                5653 *                                                                         05 05318
                5654          EJEC                                                             05 05319
                5655 *                                                                         05 05320
                5656 *        SGPUT                                                            05 05321
                5657 *                                                                         05 05322
                5658 *        PURPOSE:  SGPUT IS CALLED TO ENTER A STACK ITEM                  05 05323
                5659 *                  INTO A DESIGNATED STACK.                             05 05324
                5660 *                                                                         05 05325
                5661 *        CALLING SEQUENCE:  (XR)= ADDR. OF STACK CONTROL BLOCK            05 05326
                5662 *                           (BR)= ADDR. OF STACK ITEM BUFFER              05 05327
                5663 *                           CALL  SGPUT                                   05 05328
                5664 *                                                                         05 05329
                5665 *        RETURN PARAMETERS:  (AR)= +1  IF ITEM PLACED ON STACK            05 05330
                5666 *                              -1  IF NO ROOM FOR STACK ITEM              05 05331
                5667 *                                                                         05 05332
014331 000000 A 5668 SGPUT    ENTR                                                             05 05333
014332 074040 A 5669          STX     APUT2       SAVE ADDR. OF STACK CONTROL BLOCK            05 05334
014333 064034 A 5670          STB     PUTM3         SAVE ADDR. OF ITEM BUFFER                  05 05335
014334 010544 A 5671          LDA     BSTACK      COMPARE ADDR. OF BASE OF STACKS              05 05336
014335 145002 A 5672          SUB     2,X           AGAINST TOP OF PROGRAM AREA.               05 05337
014336 140655 A 5673          SUB     IPROG                                                    05 05338
014337 001002 A 5674          JAP     APUT1       JUMP IF ROOM FOR NEW STACK ITEM              05 05339
014340 014344 A
014341 005301 A 5675          DECR    1                                                        05 05340
014342 001000 A 5676          JMP*    SGPUT       OTHERWISE RETURN WITH (AR)=-1                05 05341
014343 114331 A
                5677 *                                                                         05 05342
014344          5678 APUT1    BSS     0                                                        05 05343
014344 015002 A 5679          LDA     2,X         GET ENTRY ITEM SIZE                          05 05344
014345 054021 A 5680          STA     PUTM2         AND STORE IN MOVE COUNT                    05 05345
014346 015001 A 5681          LDA     1,X         GET STACK BOTTOM ADDR.,                      05 05346
014347 145002 A 5682          SUB     2,X           SUBTRACT ITEM SIZE,                        05 05347
014350 054020 A 5683          STA     PUTM2+2       AND STORE IN MOVE "TO" ADDR.               05 05348
                5684 *                                                                         05 05349
014351 010544 A 5685          LDA     BSTACK      GET BASE OF LOWEST STACK                     05 05350
014352 054010 A 5686          STA     PUTM1+1       AND STORE AS STACK MOVE "FROM" ADDR.       05 05351
014353 145002 A 5687          SUB     2,X         STORE BASE MINUS ENTRY SIZE                  05 05352
014354 054007 A 5688          STA     PUTM1+2       AS STACK MOVE "TO" ADDR.                   05 05353
014355 015001 A 5689          LDA     1,X         GET WORD COUNT FROM BASE OF LOWEST STACK     05 05354
014356 140544 A 5690          SUB     BSTACK        TO BOTTOM OF CURRENT STACK,                05 05355
014357 054002 A 5691          STA     PUTM1         AND STORE AS STACK MOVE COUNT.             05 05356
014360 002000 A 5692          CALL    SGMOV       MOVE STACKS DOWN                             05 05357
014361 014325 A
014362 000000 A 5693 PUTM1    DATA    0                                                        05 05358
014363 000000 A 5694          DATA    0                                                        05 05359
014364 000000 A 5695          DATA    0                                                        05 05360
014365 002000 A 5696          CALL    SGMOV       MOVE ENTRY IN                                05 05361
014366 014325 A
014367 000000 A 5697 PUTM2    DATA    0                                                        05 05362
014370 000000 A 5698 PUTM3    DATA    0                                                        05 05363
014371 000000 A 5699          DATA    0                                                        05 05364
                5700 *                                                                         05 05365
                5701 *        NOW UPDATE STACK CONTROL BLOCK POINTERS                          05 05366
                5702 *                                                                         05 05367
014372 006030 A 5703          LDXI    0                                                        05 05368
014373 000000 A
014373          5704 APUT2    BES     0                                                        05 05369
014374 005042 A 5705          TXB                   (BR)=(XR)=ADDR. OF BASE OF STACK         05 05370
014375 016000 A 5706          LDQ     0,B                                                      05 05371
014376 143002 A 5707          SUB     2,X                                                      05 05372
014377 056000 A 5708          STQ     0,I           LOWER BASE OF DESIGNATED STACK             05 05373
014400 005122 A 5709 APUT4    IBR                                                              05 05374
014401 005122 A 5710          IBR                   INCREMENT PNTR TO NEXT STACK'S CONTROL     05 05375
014402 005122 A 5711          IBR                                                              05 05376
014403 016000 A 5712          LDQ     0,2                                                      05 05377
014404 001004 A 5713          JAN     APUT5         IF END OF STACK CONTROL BLOCK              05 05378
014405 014415 A
014406 145002 A 5714          SUB     2,X                                                      05 05379
014407 056000 A 5715          STQ     0,2           LOWER STACK BASE                           05 05380
014410 016001 A 5716          LDA     1,B                                                      05 05381
014411 145002 A 5717          SUB     2,X                                                      05 05382
014412 056001 A 5718          STQ     1,B           LOWER STACK BOTTOM                         05 05383
014413 001000 A 5719          JMP     APUT4                                                    05 05384
014414 014400 A
                5720 *                                                                         05 05385
014415 005101 A 5721 APUT5    INCR    1             SET NORMAL RETURN FLAG                     05 05386
014416 001000 A 5722          JMP*    SGPUT         RETURN                                     05 05387
014417 114331 A
                5723          EJEC                                                             05 05388
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                5724 ********************************************************************************  05  05389
                5725 *                                                                                   05  05390
                5726 *                          GET NEXT ITEM ROUTINE                                    05  05391
                5727 *       THIS SUBROUTINE GETS THE NEXT ITEM FROM SGIBUF AND ENTERS                   05  05392
                5728 *       IT IN THE SPECIFIED OUTPUT BUFFER. THE CHARACTERS ARE STORED              05  05393
                5729 *       IN THE OUTPUT BUFFER UNTIL A TERMINATION CHARACTER IS                     05  05394
                5730 *       ENCOUNTERED OR UNTIL THE MAXIMUN NUMBER OF CHARACTERS HAVE                05  05395
                5731 *       BEEN STORED. IN THE LATTER CASE, THE POINTERS ARE INCREMENTED             05  05396
                5732 *       UNTIL A TERMINATION CHARACTER IS ENCOUNTERED, OR UNTIL THE                05  05397
                5733 *       END OF 'SGIBUF' IS REACHED.  LEGAL TERMINATION CHARACTERS                 05  05398
                5734 *       ARE: COMMA, COLON, SEMICOLON, AND EQUAL SIGN.                             05  05399
                5735 *                                                                                 05  05400
                5736 *                                                                                 05  05401
                5737 *       CALLING SEQUENCES:                                                        05  05402
                5738 *                                                                                 05  05403
                5739 *       JSR     SGGFI,X         TO GET THE FIRST CHARACTER FROM 'SGIBUF'          05  05404
                5740 *       DATA    OUTPUT BUFFER ADDRESS                                             05  05405
                5741 *       DATA    MAX. NUM. OF CHAR. TO BE STORED                                   05  05406
                5742 *                                                                                 05  05407
                5743 *       JSR     SGGNI,X         TO GET NEXT CHARACTER FROM 'SGIBUF'               05  05408
                5744 *       DATA    OUTPUT BUFFER ADDRESS                                             05  05409
                5745 *       DATA    MAX. NUM. OF CHAR. TO BE STORED                                   05  05410
                5746 *                                                                                 05  05411
                5747 *                                                                                 05  05412
                5748 *       RETURN PARAMETERS:                                                        05  05413
                5749 *                                                                                 05  05414
                5750 *            (AR)= NUMBER OF CHARACTERS FETCHED                                   05  05415
                5751 *            (BR)= TERMINATION CHARACTER (RIGHT ADJUSTED)                         05  05416
                5752 *                                                                                 05  05417
                5753 *                                                                                 05  05418
                5754 ********************************************************************************  05  05419
                5755 *                                                                                   05  05420
                5756 *                                                                                   05  05421
014420          5757 SGGFI   BSS     0               * * GET FIRST ITEM ENTRY * *                        05  05422
014420 006013 A 5758         LDAI    SGIBUF          GET INPUT BUFFER BASE ADDRESS                       05  05423
014421 000664 A
014422 004241 A 5759         LRLA    1               COMPUTE BYTE ADDRESS                                05  05424
014423 054152 A 5760         STA     SGBPAD          SAVE BASE BYTE ADDR                                 05  05425
014424          5761 SGGNI   BSS     0               * * GET ANOTHER ITEM ENTRY * *                      05  05426
014424 015000 A 5762         LDA     0,X             GET OUTPUT BUFFER BASE ADDRESS                      05  05427
014425 004241 A 5763         LRLA    1               COMPUTE BYTE ADDR                                   05  05428
014426 054146 A 5764         STA     SGOPBA          SAVE OUTPUT BYTE ADDR                               05  05429
014427 015001 A 5765         LDA     1,X             GET MAX NO. OF CHAR. TO BE STORED                   05  05430
014430 054150 A 5766         STA     SGMNOC          SAVE COUNT                                          05  05431
014431 005144 A 5767         IXR                     COMPUTE RETURN ADDR                                 05  05432
014432 005144 A 5768         IXR                                                                         05  05433
014433 074103 A 5769         JTX     SG9825          SAVE RETURN ADDR                                    05  05434
014434 005001 A 5770         TZA                                                                         05  05435
014435 054142 A 5771         STA     SGNOCS          RESET NO. OF CHAR. IN STRING                        05  05436
014436          5772 SG9800  BSS     0                                                                   05  05437
014436 002000 A 5773         CALL    SGGMC           GET NEXT CHAR                                       05  05438
014437 014540 A
014440 014136 A 5774         LDA     SGSVCH          GET THE CHAR                                        05  05439
014441 144131 A 5775         SUB     D015            IS IT END OF DIRECTIVE                              05  05440
014442 001010 A 5776         JAZ     .G9820          YES-RETURN                                          05  05441
014443 014534 A
014444 142601 A 5777         SUB     D37             IS IT A COMMA?                                      05  05442
014445 001010 A 5778         JAZ     SG9820          YES-RETURN                                          05  05443
014446 014534 A
014447 144122 A 5779         SUB     D16             IS IT A COLON?                                      05  05444
014450 001010 A 5780         JAZ     SG9820          YES-RETURN                                          05  05445
014451 014534 A
014452 005011 A 5781         DAR                     IS IT A SEMICOLON?                                  05  05446
014453 001010 A 5782         JAZ     SG9820          YES-RETURN                                          05  05447
014454 014534 A
014455 142530 A 5783         SUB     TWO             IS IT AN EQUAL SIGN?                                05  05448
014456 001010 A 5784         JAZ     SG9820          YES-RETURN                                          05  05449
014457 014534 A
014460 014114 A 5785         LDA     SGOPBA          GET OUTPUT BYTE ADDR                                05  05450
014461 044113 A 5786         INR     SGOPBA          INCREMENT OUTPUT BYTE ADDR                          05  05451
014462 005002 A 5787         TZB                                                                         05  05452
014463 004541 A 5788         LLCR    1               COMPUTE OUTPUT WORD ADDR                            05  05453
014464 005014 A 5789         TAX                     (XR) = OUTPUT WORD ADDR                             05  05454
014465 001225 A 5790         JBNZ    SG9805          JUMP IF TO STORE IN RIGHT BYTE                      05  05455
014466 014472 A
014467 014107 A 5791         LDA     SGSVCH          POSITION TO STORE IN LEFT BYTE                      05  05456
014470 004250 A 5792         LRLA    8                                                                   05  05457
014471 054105 A 5793         STA     SGSVCH                                                              05  05458
014472          5794 SG9805  BSS     0                                                                   05  05459
014472 015000 A 5795         LDA     0,X                                                                 05  05460
014473 001020 A 5796         JBZ     SG9810          JUMP IF TO STORE IN LEFT BYTE                       05  05461
014474 014477 A
014475 152570 A 5797         ANA     LHW             AND OUT LEFT HALF OF WORD                           05  05462
014476 001006 A 5798         DATA    01006           SKIP NEXT INSTRUCTION                               05  05463
014477          5799 SG9810  BSS     0                                                                   05  05464
014477 152571 A 5800         AMP     RHW             AND OUT RIGHT HALF OF WORD                          05  05465
014500 114076 A 5801         ORA     SGSVCH          OR IN SAVED CHARACTER                               05  05466
014501 055000 A 5802         STA     0,X             SET IN OUTPUT BUFFER                                05  05467
014502 044075 A 5803         INR     SGNOCS          INCREMENT NO. OF CHAR IN STRING                     05  05468
014503 014074 A 5804         LDA     SGMNOC                                                              05  05469
014504 144074 A 5805         SUB     SGMNOC          MAX. NO. OF CHAR. STORED                            05  05470
014505 001016 A 5806         JANZ    SG9800          NO - GO GET NEXT CHAR.                              05  05471
014506 014436 A
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014507           5807 SG9815 BSS     0                                                    05 05472
014507 002000 A  5808        CALL    SGGNC    GET NEXT CHARACTER                          05 05473
014510 014540 A
014511 014065 A  5809        LDA     SGSVCH   GET THE CHARACTER                          05 05474
014512 144060 A  5810        SUB     0215     IS IT END OF DIRECTIVE?                     05 05475
014513 001010 A  5811        JAZ     SG9820   YES-RETURN                                  05 05476
014514 014534 A
014515 142601 A  5812        SUB     037      IS IT A COMMA?                              05 05477
014516 001010 A  5813        JAZ     SG9820     YES- RETURN                               05 05478
014517 014534 A
014520 144051 A  5814        SUB     016      IS IT A COLON?                              05 05479
014521 001010 A  5815        JAZ     SG9820     YES- RETURN                               05 05480
014522 014534 A
014523 005311 A  5816        DAR              IS IT A SEMICOLON?                          05 05481
014524 001010 A  5817        JAZ     SG9820     YES- RETURN                               05 05482
014525 014534 A
014526 142530 A  5818        SUB     TWO      IS IT AN EQUAL SIGN?                        05 05483
014527 001010 A  5819        JAZ     SG9820     YES- RETURN                               05 05484
014530 014534 A
014531 044046 A  5820        INR     SGNOCS   INCREMENT NUM OF CHAR IN STRING            05 05485
014532 001000 A  5821        JMP     SG9815     CONTINUE                                  05 05486
014533 014507 A
014534           5822 SG9820 BSS     0                                                    05 05487
014534 024042 A  5823        LDB     SGSVCH   SET (BR)= TERMINATION CHARACTER            05 05488
014535 014042 A  5824        LDA     SGNOCS   SET (AR)= NUMBER OF CHARACTERS             05 05489
014536 001000 A  5825        JMP     0                                                    05 05490
014537 000000 A
014537           5826 SG9825 BES     0        * * RETURN * *                              05 05491
                 5827        EJEC                                                         05 05492
                 5828 *                                                                   05 05493
                 5829 *                                                                   05 05494
                 5830 *       GET NEXT CHARACTER FROM 'SGIBUF'                            05 05495
                 5831 *                                                                   05 05496
                 5832 *                                                                   05 05497
014540 000000 A  5833 SGGNC  ENTR             * ENTRY *                                   05 05498
014541 014034 A  5834        LDA     SGBBAD   GET BASE BYTE ADDR                          05 05499
014542 044033 A  5835        INR     SGBBAD   INCREMENT BASE BYTE ADDR                    05 05500
014543 005002 A  5836        TZB                                                          05 05501
014544 004541 A  5837        LLSR    1        COMPUTE INPUT WORD ADDR                     05 05502
014545 005014 A  5838        TAX              (XR) = INPUT WORD ADDR                      05 05503
014546 006140 A  5839        SUBI    SGIBUF+60  AT END OF BUFFER                        C 05 05504
014547 000760 A
014550 001004 A  5840        JAN     SG9900   NO - CONTINUE                             05 05505
014551 014556 A
014552 014020 A  5841        LDA     0215     GET RETURN CHARACTER                        05 05506
014553 054023 A  5842        STA     SGSVCH                                               05 05507
014554 001000 A  5843        RETU*   SGGNC    * RETURN *                                  05 05508
014555 114540 A
014556           5844 SG9900 BSS     0                                                    05 05509
014556 015000 A  5845        LDA     0,X      GET INPUT WORD                              05 05510
014557 001020 A  5846        JBZ     SG9905   JUMP IF LEFT CHAR.                          05 05511
014560 014563 A
014561 152571 A  5847        ANA     RHW      AND OUT RIGHT BYTE                          05 05512
014562 001006 A  5848        DATA    01006    SKIP NEXT INSTRUCTION                       05 05513
014563           5849 SG9905 BSS     0                                                    05 05514
014563 004350 A  5850        LSRA    8        POSITION LEFT CHAR TO RIGHT BYTE            05 05515
014564 054012 A  5851        STA     SGSVCH   SAVE THE CHARACTER                          05 05516
014565 134006 A  5852        ERA     0240     IS IT A BLANK?                              05 05517
014566 001010 A  5853        JAZ     SGGNC+1  GET NEXT CHARACTER IF BLANK                 05 05518
014567 014541 A
014570 001000 A  5854        RETU*   SGGNC    * RETURN *                                  05 05519
014571 114540 A
                 5855 *                                                                   05 05520
                 5856 *                                                                   05 05521
014572 000016 A  5857 016    DATA    016                                                  05 05522
       002601 A  5858 037    EQU     2M37                                                 05 05523
014573 000215 A  5859 0215   DATA    0215                                                 05 05524
014574 000240 A  5860 0240   DATA    0240                                                 05 05525
014575 000000 A  5861 SGOPBA DATA    0          OUTPUT BYTE ADDR                          05 05526
014576 000000 A  5862 SGBBAD DATA    0          INPUT BASE BYTE ADDR                      05 05527
014577 000000 A  5863 SGSVCH DATA    0          SAVE CHARACTER AREA                       05 05528
014600 000000 A  5864 SGNOCS DATA    0          NUMBER OF CHAR STORED                     05 05529
014601 000000 A  5865 SGMNOC DATA    0          MAX NO. OF CHAR TO BE STORED              05 05530
                 5866        EJEC                                                         05 05531
                 5867 *                                                                   05 05532
                 5868 *       SGCLR                                                       05 05533
                 5869 *                                                                   05 05534
                 5870 *       PURPOSE:  CLEAR READ BUFFER (SGIBUF)                        05 05535
                 5871 *                                                                   05 05536
                 5872 *       CALLING SEQUENCE:  CALL   SGCLR                             05 05537
                 5873 *                                                                   05 05538
                 5874 *       RETURN PARAMETERS:  NONE                                    05 05539
                 5875 *                                                                   05 05540
                 5876 *                                                                   05 05541
014602 000000 A  5877 SGCLR  ENTR             * * ENTRY POINT * *                         05 05542
014603 020000 L  5878        LDB     =*  *                                                05 05543
014604 096030 A  5879        LDXI    SGIBUF   INITIALIZE BUFFER INDEX                     05 05544
014605 000664 A
014606 065000 A  5880 CLR1   STB     0,X        CLEAR A WORD                              05 05545
014607 005145 A  5881        INCR    045      BUMP INDEX                                  05 05546
014610 006140 A  5882        SUBI    SGIBUF+120                                           05 05547
014611 001054 A
014612 001004 A  5883        JAN     CLR1     IF MORE WORDS TO CLEAR                      05 05548
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014613 014606 A
014614 001000 A 5884          JMP*    SGCLR           *  * RETURN IF FINISHED *  *                    05 05549
014615 114602 A
                5885          EJEC                                                                    05 05550
                5886 *                                                                                05 05551
                5887 *        SGGET                                                                   05 05552
                5888 *                                                                                05 05553
                5889 *                PURPOSE:  SGGET IS CALLED TO FETCH A STACK ITEM                 05 05554
                5890 *                          AND PLACE IT IN A SPECIFIED BUFFER AREA.              05 05555
                5891 *                                                                                05 05556
                5892 *                CALLING SEQUENCE:  (XR)= ADDR. OF STACK CONTROL BLOCK           05 05557
                5893 *                                   (BR)= ADDR. OF ITEM BUFFER                   05 05558
                5894 *                                   CALL  SGGET                                  05 05559
                5895 *                                                                                05 05560
                5896 *                RETURN PARAMETERS:  (AR)= +1  IF ITEM FETCHED                   05 05561
                5897 *                                      -1  IF STACK FOUND EMPTY                  05 05562
                5898 *                                                                                05 05563
014616 000000 A 5899 SGGET    ENTR                                                                    05 05564
014617 064047 A 5900          STB     GETM2+2         SAVE BUFFER ADDRESS                             05 05565
014620 015000 A 5901          LDA     0,X             GET BASE ADDR.                                  05 05566
014621 145001 A 5902          SUB     1,X               MINUS BOTTOM ADDR.                            05 05567
014622 001004 A 5903          JAN     AGET1           IF NOT EMPTY STACK                              05 05568
014623 014627 A
014624 005301 A 5904          DECR    1               SET STACK EMPTY FLAG                            05 05569
014625 001000 A 5905          JMP*    SGGET             AND RETURN                                    05 05570
014626 114616 A
                5906 *                                                                                05 05571
014627 015002 A 5907 AGET1    LDA     2,X             GET STACK ITEM LENGTH                           05 05572
014630 054034 A 5908          STA     GETM2             AND STORE IN ITEM MOVE "COUNT"                05 05573
014631 015001 A 5909          LDA     1,X             GET STACK BOTTOM                                05 05574
014632 145002 A 5910          SUB     2,X               MINUS ITEM LENGTH                             05 05575
014633 054032 A 5911          STA     GETM2+1           AND STORE IN ITEM MOVE "FROM ADDR."           05 05576
014634 140544 A 5912          SUB     BSTACK          SUBTRACT BASE ADDR. OF LOWEST STACK             05 05577
014635 054034 A 5913          STA     GETM1             TO GET STACK MOVE "COUNT"                     05 05578
014636 010544 A 5914          LDA     BSTACK          BASE ADDR. OF LOWEST STACK                      05 05579
014637 054033 A 5915          STA     GETM1+1           IS STACK MOVE "FROM ADDR."                    05 05580
014640 125002 A 5916          ADD     2,X             PLUS ITEM LENGTH...                             05 05581
014641 054032 A 5917          STA     GETM1+2           BECOMES STACK MOVE "TO ADDR."                 05 05582
                5918 *                                                                                05 05583
                5919 *        UPDATE BASE AND BOTTOM POINTERS                                         05 05584
                5920 *                                                                                05 05585
014642 005042 A 5921          TXB                                                                     05 05586
014643 016000 A 5922          LDA     0,B                                                             05 05587
014644 125002 A 5923          ADD     2,X                                                             05 05588
014645 056000 A 5924          STA     0,B             UPDATE BASE POINTER FOR DESIGNATED STACK        05 05589
014646 005122 A 5925 AGET2    IBR                                                                     05 05590
014647 005122 A 5926          IBR                                                                     05 05591
014650 005122 A 5927          IBR                                                                     05 05592
014651 016000 A 5928          LDA     0,B             GET NEXT BASE POINTER                           05 05593
014652 001004 A 5929          JAN     AGET3           IF END OF STACK CONTROL BLOCK                   05 05594
014653 014663 A
014654 125002 A 5930          ADD     2,X                                                             05 05595
014655 056000 A 5931          STA     0,B             UPDATE BASE POINTER                             05 05596
014656 016001 A 5932          LDA     1,B                                                             05 05597
014657 125002 A 5933          ADD     2,X                                                             05 05598
014660 056001 A 5934          STA     1,B             UPDATE BOTTOM POINTER                           05 05599
014661 001000 A 5935          JMP     AGET2           CONTINUE                                        05 05600
014662 014646 A
                5936 *                                                                                05 05601
014663        5937 AGET3    BSS     0                                                               05 05602
014663 002000 A 5938          CALL    SGMOV           MOVE STACK ITEM TO BUFFER                       05 05603
014664 014325 A
014665 000000 A 5939 GETM2    DATA    0                                                               05 05604
014666 000000 A 5940          DATA    0                                                               05 05605
014667 000000 A 5941          DATA    0                                                               05 05606
014670 002000 A 5942          CALL    SGMOV           MOVE ALL LOWER STACK ITEMS UP                   05 05607
014671 014325 A
014672 000000 A 5943 GETM1    DATA    0                                                               05 05608
014673 000000 A 5944          DATA    0                                                               05 05609
014674 000000 A 5945          DATA    0                                                               05 05610
014675 005101 A 5946          INCR    1               SET NORMAL RETURN FLAG                          05 05611
014676 001000 A 5947          JMP*    SGGET           RETURN                                          05 05612
014677 114616 A
                5948          EJEC                                                                    05 05613
                5949 *                                                                                05 05614
                5950 *        SGSAE                                                                   05 05615
                5951 *                                                                                05 05616
                5952 *                PURPOSE:  TO SEARCH A DESIGNATED STACK FOR AN ENTRY             05 05617
                5953 *                          WITH NAME MATCHING THE INPUT "KEY".                   05 05618
                5954 *                          OPTION AS TO WHETHER TO MAKE AN ENTRY OR              05 05619
                5955 *                          NOT, IF A MATCH IS NOT FOUND.                         05 05620
                5956 *                                                                                05 05621
                5957 *                CALLING SEQUENCE:  (AR):  =-1  IF SEARCH ONLY                   05 05622
                5958 *                                           =>0  IF SEARCH AND ENTER             05 05623
                5959 *                                   (BR):  ADDR OF NEW ITEM BUFFER               05 05624
                5960 *                                   (XR):  ADDR OF STACK CONTROL BLOCK           05 05625
                5961 *                                   CALL  SGSAE                                  05 05626
                5962 *                                    DATA  SIZE OF KEY(IF 0: SPEC SEARCH)        05 05627
                5963 *                                                                                05 05628
                5964 *                RETURN PARAMETERS:  (XR)= PNTR TO ENTRY (-1 IF SEARCH           05 05629
                5965 *                                          ONLY AND NOT FOUND)                   05 05630
                5966 *                                    (AR)= THREAD/DEFINITION ADDR                05 05631
                5967 *                                                                                05 05632
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                    5968 *                                                                          05 05633
014700 015004 A     5969 SAE8   LDA     4,X                                                         05 05634
014701 136004 A     5970        ERA     4,B                                                         05 05635
014702 150000 L     5971        ANA     =017                                                        05 05636
014703 001016 A     5972        JANZ    SAE1        IF FIRST LDR CODE WORD MIS-MATCH                05 05637
014704 014715 A
014705 015003 A     5973        LDA     3,X                                                         05 05638
014706 136003 A     5974        ERA     3,B                                                         05 05639
014707 001016 A     5975        JANZ    SAE1        IF 2ND LDR CODE WORD MIS-MATCH                  05 05640
014710 014715 A
014711 015002 A     5976        LDA     2,X                                                         05 05641
014712 136002 A     5977        ERA     2,B                                                         05 05642
014713 001010 A     5978        JAZ     SAE3        IF ALL LDR CODE WORDS MATCH                     05 05643
014714 014742 A
                    5979 *                                                                          05 05644
014715 014104 A     5980 SAE1   LDA     SAED2                                                       05 05645
014716 124107 A     5981        ADD     SAED6                                                       05 05646
014717 005014 A     5982 SAE6   TAX                 (XR)=(AR)=ADDR OF NEXT STACK ENTRY              05 05647
014720 054101 A     5983        STA     SAED2       UPDATE STACK POINTER                            05 05648
014721 144103 A     5984        SUB     SAED5                                                       05 05649
014722 001004 A     5985        JAN     SAE2        IF NOT END OF STACK                             05 05650
014723 014762 A
                    5986 *                                                                          05 05651
014724 014074 A     5987        LDA     SAED1       END OF STACK, RETURN IF SEARCH ONLY              05 05652
014725 005014 A     5988        TAX                                                                 05 05653
014726 001004 A     5989        JAN*    SGSAE       *  * RETURN, MATCH NOT FOUND                    05 05654
014727 114744 A
                    5990 *                                                                          05 05655
014730 024072 A     5991        LDB     SAED3       IF SEARCH AND ENTER REQUESTED,                  05 05656
014731 034072 A     5992        LDX     SAED4         MAKE ENTRY.                                   05 05657
014732 002000 A     5993        CALL    SGPUT                                                       05 05658
014733 014331 A
014734 001004 A     5994        JAN     SAE4        POST ERROR IF NO ROOM FOR ENTRY                 05 05659
014735 015014 A
                    5995 *                                                                          05 05660
014736 034065 A     5996        LDX     SAED4       GET ENTRY ADDR IN (XR)                          05 05661
014737 015001 A     5997        LDA     1,X           *                                             05 05662
014740 145002 A     5998        SUB     2,X           *                                             05 05663
014741 005014 A     5999        TAX                   *                                             05 05664
014742 015000 A     6000 SAE3   LDA     0,X           AND FIRST WORD IN (AR)                        05 05665
014743 001000 A     6001        JMP     0             AND RETURN                                    05 05666
014744 000000 A
014744              6002 SGSAE  BES     0           *  * ENTRY POINT *  *                           05 05667
014745 054053 A     6003        STA     SAED1       STORE ENTRY PARAMETERS                          05 05668
014746 064054 A     6004        STB     SAED3                                                       05 05669
014747 074054 A     6005        STX     SAED4                                                       05 05670
                    6006 *                                                                          05 05671
014750 015001 A     6007        LDA     1,X                                                         05 05672
014751 054053 A     6008        STA     SAED5                                                       05 05673
014752 015002 A     6009        LDA     2,X                                                         05 05674
014753 054052 A     6010        STA     SAED6                                                       05 05675
                    6011 *                                                                          05 05676
014754 017000 I     6012        LDA*    SGSAE       STORE KEY SIZE AND SET UP                       05 05677
014755 054051 A     6013        STA     SAED7         RETURN ADDR                                   05 05678
014756 047000 I     6014        INR     SGSAE                                                       05 05679
014757 015000 A     6015        LDA     0,X                                                         05 05680
014760 001000 A     6016        JMP     SAE6                                                        05 05681
014761 014717 A
                    6017 *                                                                          05 05682
                    6018 *                          *  * COMPARISON LOOP *  *                       05 05683
014762 024040 A     6019 SAE2   LDB     SAED3       SET UP INDEX AND COUNTER                        05 05684
014763 014043 A     6020        LDA     SAED7                                                       05 05685
014764 001010 A     6021        JAZ     SAE8        IF SPECIAL SEARCH CALLED FOR                    05 05686
014765 014700 A
014766 054041 A     6022        STA     SAED8                                                       05 05687
014767 015000 A     6023        LDA     0,X                                                         05 05688
014770 136000 A     6024        ERA     0,B                                                         05 05689
014771 152566 A     6025        ANA     BR15        IGNORE SIGN BIT OF FIRST WORD                   05 05690
014772 001016 A     6026        JANZ    SAE1        IF WORDS DO NOT MATCH                           05 05691
014773 014715 A
                    6027 *                                                                          05 05692
014774 014033 A     6028 SAE7   LDA     SAED8                                                       05 05693
014775 005311 A     6029        DAR                                                                 05 05694
014776 054031 A     6030        STA     SAED8       UPDATE MATCH KEY SIZE COUNTER                   05 05695
014777 001010 A     6031        JAZ     SAE5        IF MATCH CHECKS ON ALL WORDS                    05 05696
015000 015011 A
015001 005144 A     6032        IXR                                                                 05 05697
015002 005122 A     6033        IBR                                                                 05 05698
015003 015000 A     6034        LDA     0,X         GET NEXT WORD IN ENTRY                          05 05699
015004 136000 A     6035        ERA     0,B                                                         05 05700
015005 001016 A     6036        JANZ    SAE1        IF WORDS DO NOT MATCH                           05 05701
015006 014715 A
015007 001000 A     6037        JMP     SAE7        IF MORE WORDS TO CHECK                          05 05702
015010 014774 A
015011 034010 A     6038 SAE5   LDX     SAED2       GET ENTRY ADDR IN (XR)                          05 05703
015012 001000 A     6039        JMP     SAE3                                                        05 05704
015013 014742 A
                    6040 *                                                                          05 05705
015014 012621 A     6041 SAE4   LDA     ER11        POST ERROR MESSAGE (FATAL ERROR)                05 05706
015015 002000 A     6042        CALL    SG4PRO                                                      05 05707
015016 013617 A
015017 001000 A     6043        JMP     RELOAD      AND GO RESTART DIRECTIVE PROCESSING             05 05708
015020 015031 A
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                    6044 *                                                                                  05 05709
                    6045 *                                                                                  05 05710
                    6046 *              *  * TEMPORARY DATA CELLS *  *                                      05 05711
                    6047 *                                                                                  05 05712
                    6048 *                                                                                  05 05713
015021 000000 A     6049 SAED1  DATA    0               SEARCH ONLY FLAG                                    05 05714
015022 000000 A     6050 SAED2  DATA    0               STACK POINTER                                       05 05715
015023 000000 A     6051 SAED3  DATA    0               ITEM BUFFER ADDR                                    05 05716
015024 000000 A     6052 SAED4  DATA    0               STACK CONTROL BLOCK ADDR                            05 05717
015025 000000 A     6053 SAED5  DATA    0               END OF STACK ADDR                                   05 05718
015026 000000 A     6054 SAED6  DATA    0               STACK ENTRY SIZE                                    05 05719
015027 000000 A     6055 SAED7  DATA    0               MATCH KEY SIZE                                      05 05720
015030 000000 A     6056 SAED8  DATA    0               MATCH KEY SIZE COUNTER                              05 05721
                    6057        EJEC                                                                        05 05722
                    6058 *                                                                                  05 05723
                    6059 *      RELOAD                                                                      05 05724
                    6060 *                                                                                  05 05725
                    6061 *              PURPOSE:  TO REWIND 'LIB' AND CALL (SGLDR)                          05 05726
                    6062 *                        TO RELOAD THE DIRECTIVE PROCESSOR.                        05 05727
                    6063 *                                                                                  05 05728
                    6064 *              CALLING SEQUENCE:  JMP   RELOAD                                     05 05729
                    6065 *                                                                                  05 05730
                    6066 *              RETURN PARAMETERS:  DOES NOT RETURN                                 05 05731
                    6067 *                                                                                  05 05732
015031              6068 RELOAD DSS     0               * * ENTRY POINT * *                                 05 05733
015031 002000 A     6069        CALL    IOCS            REWIND 'LIB'                                        05 05734
015032 013757 E
015033 002004 A     6070        DATA    REW+LIB
015034 002000 A     6071        CALL    IOCS            AND STATUS 'LIB'                                    05 05735
015035 015032 E                                                                                             05 05736
015036 000004 A     6072        DATA    LIB
015037 015031 A     6073        DATA    RELOAD,LOA1,LOA1,*-6                                                05 05737
015040 015043 A                                                                                             05 05738
015041 015043 A
015042 015034 A
                    6074 *                                                                                  05 05739
015043 006030 A     6075 LOA1   LDXI    LOA2            SET UP POINTER TO NAME (SGEN1)                      05 05740
015044 015047 A
                    6076        EXT     EXIT                                                                05 05741
015045 001000 A     6077        JMP     EXIT            GO TO (SGLDR)                                       05 05742
015046 012114 E
                    6078 *                                                                                  05 05743
015047 055621 A     6079 LOA2   DATA    055621          LOADER CODE ENTRY FOR (SGEN1)                       05 05744
015050 031636 A     6080        DATA    031636                                                              05 05745
015051 000000 A     6081        DATA    0                                                                   05 05746
                    6082 *                                                                                  05 05747
            002000 A 6083 REW   EQU     02000                                                               05 05748
                    6084        EJEC                                                                        05 05749
                    6085 *                                                                                  05 05750
                    6086 *      SGWSO                                                                       05 05751
                    6087 *                                                                                  05 05752
                    6088 *              PURPOSE:  TO OUTPUT A MESSAGE TO THE "OC" DEVICE                    05 05753
                    6089 *                        AND THE "LIS" DEVICE, IF IT IS DIFFERENT                  05 05754
                    6090 *                        FROM 'OC'.                                                05 05755
                    6091 *                                                                                  05 05756
                    6092 *              CALLING SEQUENCE:  (BR)= ADDR OF MESSAGE                            05 05757
                    6093 *                                 CALL  SGWSO                                      05 05758
                    6094 *                                                                                  05 05759
                    6095 *              RETURN PARAMETERS:  (XR)= 0  IF ALL I/O COMPLETED                   05 05760
                    6096 *                                  (XR),BITS#0-3,= 1  IF I/O ERROR                 05 05761
                    6097 *                                                  2  IF I/O EOF                   05 05762
                    6098 *                                                  3  IF I/O BEOD                  05 05763
                    6099 *                                                                                  05 05764
                    6100 *                                                                                  05 05765
015052 035001 A     6101 WSO5   LDX     1,X             GET ABNORMAL I/O STATUS FROM DRIVER                 05 05766
015053 001000 A     6102        JMP     0               * RETURN *                                          05 05767
015054 000000 A
                    6103 *                                                                                  05 05768
015054              6104 SGWSO  BES     0               * ENTRY POINT *                                     05 05769
015055 016000 A     6105        LDA     0,B                                                                 05 05770
015056 054007 A     6106        STA     WSO1            SAVE MESSAGE WORD COUNT                             05 05771
015057 054037 A     6107        STA     WSO2                                                                05 05772
015060 005122 A     6108        IBR                                                                         05 05773
015061 064005 A     6109        STB     WSO3            SAVE MESSAGE STARTING ADDRESS                       05 05774
015062 064035 A     6110        STB     WSO4                                                                05 05775
                    6111 *                                                                                  05 05776
            015066 A 6112 WSO1  EQU     *+3                                                                 05 05777
            015067 A 6113 WSO3  EQU     *+4                                                                 05 05778
015063 002000 A     6114        IMPM    IOCS            WRITE MESSAGE TO 'OC' DEVICE                        05 05779
015064 015035 E
015065 001003 A     6115        DATA    WALF+OC                                                             05 05780
015066 000000 A     6116        DATA    0,0                                                                 05 05781
015067 000000 A
015070 002000 A     6117        JMPM    IOCS                                                                05 05782
015071 015064 E
015072 000003 A     6118        DATA    OC
015073 015052 A     6119        DATA    WSO5,WSO5,WSO5,*-6                                                  05 05784
015074 015052 A
015075 015052 A
015076 015070 A
                    6120 *                                                                                  05 05785
015077 074011 A     6121        STX     WSO6            SAVE OC DRIVER ADDR                                 05 05786
015100 002000 A     6122        JMPM    IOCS                                                                05 05787
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015101 015071 E
015102 000005 A 6123          DATA    LIS                                                    05 05788
015103 015052 A 6124          DATA    WS05,WS05,WS05,*-6                                     05 05789
015104 015052 A
015105 015052 A
015106 015100 A
                6125 *                                                                       05 05790
015107 005041 A 6126          TXA                                                            05 05791
015110 006130 A 6127          ERAI    0                                                      05 05792
015111 000000 A
015111          6128 WS06     BES     0                                                      05 05793
015112 001010 A 6129          JAZ     WS07          IF DC AND LIS ARE SAME DEVICE, RETURN    05 05794
015113 015130 A
       015117 A 6130 WS02     EQU     *+3                                                    05 05795
       015120 A 6131 WS04     EQU     *+4                                                    05 05796
015114 002000 A 6132          JMPM    IOCS          WRITE MESSAGE TO 'LIS' DEVICE            05 05797
015115 015101 E
015116 001005 A 6133          DATA    WALF+LIS                                               05 05798
015117 000000 A 6134          DATA    0,0                                                    05 05799
015120 000000 A
015121 002000 A 6135          JMPM    IOCS                                                   05 05800
015122 015115 E
015123 000005 A 6136          DATA    LIS                                                    05 05801
015124 015052 A 6137          DATA    WS05,WS05,WS05,*-6                                     05 05802
015125 015052 A
015126 015052 A
015127 015121 A
015130 005004 A 6138 WS07     TZX                   SET NORMAL I/O FLAG                      05 05803
015131 001000 A 6139          JMP*    SGWS0         * RETURN *                               05 05804
015132 115054 A
                6140          EJEC                                                           05 05805
                6141 *                                                                       05 05806
                6142 *        SGRSI                                                          05 05807
                6143 *                                                                       05 05808
                6144 *        PURPOSE:  TO INPUT A MESSAGE FROM THE "DIR" DEVICE             05 05809
                6145 *                  AND OUTPUT IT ON THE "OC" DEVICE IF "DIR"            05 05810
                6146 *                  IS NOT TELETYPE. IF THE "LIS" DEVICE IS              05 05811
                6147 *                  DIFFERENT FROM THE "OC" DEVICE, THE                  05 05812
                6148 *                  MESSAGE IS ALSO OUTPUT ON "LIS".                     05 05813
                6149 *                                                                       05 05814
                6150 *        CALLING SEQUENCE:  CALL  SGRSI                                 05 05815
                6151 *                                                                       05 05816
                6152 *        RETURN PARAMETERS:  (XR)= 0  IF ALL I/O COMPLETED              05 05817
                6153 *                            (XR),BITS#0-3,= 1  IF I/O ERROR            05 05818
                6154 *                                            2  IF I/O EOF              05 05819
                6155 *                                            3  IF I/O BEOD             05 05820
                6156 *                                                                       05 05821
                6157 *                                                                       05 05822
015133 035001 A 6158 RSI1     LDX     1,X           GET ABNORMAL I/O STATUS FROM DRIVER      05 05823
015134 001000 A 6159          JMP     0             * RETURN *                               05 05824
015135 000000 A
015135          6160 SGRSI    BES     0             * ENTRY POINT *                          05 05825
015136 002000 A 6161          CALL    SGCLR         CLEAR INPUT BUFFER TO BLANKS             05 05826
015137 014602 A
                6162 *                                                                       05 05827
015140 002000 A 6163 RSI4     JMPM    IOCS          INPUT MESSAGE FROM 'DIR' DEVICE          05 05828
015141 015122 E
015142 000402 A 6164          DATA    RALF+DIR                                               05 05829
015143 000050 A 6165          DATA    40,SGIBUF                                              05 05830
015144 000664 A
015145 002000 A 6166          JMPM    IOCS                                                   05 05831
015146 015141 E
015147 000002 A 6167          DATA    DIR                                                    05 05832
015150 015133 A 6168          DATA    RSI1,RSI1,RSI1,*-6                                     05 05833
015151 015133 A
015152 015133 A
015153 015145 A
015154 015000 A 6169          LDA     0,X                                                    05 05834
015155 001010 A 6170          JAZ     RSI4          IF ZERO WORDS READ                       05 05835
015156 015140 A
                6171 *                                                                       05 05836
015157 015002 A 6172          LDA     2,X                                                    05 05837
015160 130000 L 6173          ERA     ='TY'                                                  05 05838
015161 001016 A 6174          JANZ    RSI5          IF 'DIR' DEVICE NOT TELETYPE             05 05839
015162 015167 A
015163 015003 A 6175          LDA     3,X                                                    05 05840
015164 130000 L 6176          ERA     ='00'                                                  05 05841
015165 001010 A 6177          JAZ     RSI3          IF "DIR" DEVICE IS SAME AS "OC" DEVICE,  05 05842
015166 015174 A
                6178 *                              SKIP OUTPUT ON "OC"                      05 05843
015167 002000 A 6179 RSI5     JMPM    IOCS          OUTPUT MESSAGE TO 'OC' DEVICE            05 05844
015170 015146 E
015171 001003 A 6180          DATA    WALF+OC                                                05 05845
015172 000050 A 6181          DATA    40,SGIBUF                                              05 05846
015173 000664 A
                6182 *                                                                       05 05847
015174 002000 A 6183 RSI3     JMPM    IOCS                                                   05 05848
015175 015170 E
015176 000003 A 6184          DATA    OC                                                     05 05849
015177 015133 A 6185          DATA    RSI1,RSI1,RSI1,*-6                                     05 05850
015200 015133 A
015201 015133 A
015202 015174 A
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015203 074011 A 6186          STX     RSI6                                                    05 05851
                6187 *                                                                        05 05852
015204 002000 A 6188          JMPM    IOCS                                                    05 05853
015205 015175 E
015206 000005 A 6189          DATA    LIS                                                     05 05854
015207 015133 A 6190          DATA    RSI1,RSI1,RSI1,*-6                                      05 05855
015210 015133 A
015211 015133 A
015212 015204 A
015213 005041 A 6191          TXA                                                             05 05856
015214 006130 A 6192          ERAI    0                                                       05 05857
015215 000000 A
015215          6193 RSI6     BES     0                                                       05 05858
015216 001010 A 6194          JAZ     RSI7            IF "LIS" DEVICE SAME AS "OC" DEVICE     05 05859
015217 015234 A
                6195 *                                                                        05 05860
015220 002000 A 6196          JMPM    IOCS            WRITE MESSAGE ON 'LIS' DEVICE           05 05861
015221 015205 E
015222 001005 A 6197          DATA    WALF+LIS                                                05 05862
015223 000050 A 6198          DATA    40,SGIBUF                                               05 05863
015224 000664 A
015225 002000 A 6199          JMPM    IOCS                                                    05 05864
015226 015221 E
015227 000005 A 6200          DATA    LIS                                                     05 05865
015230 015133 A 6201          DATA    RSI1,RSI1,RSI1,*-6                                      05 05866
015231 015133 A
015232 015133 A
015233 015225 A
015234 005004 A 6202 RSI7     TZX                     SET NORMAL I/O FLAG                     05 05867
015235 001000 A 6203          JMP*    SGRSI           * RETURN *                              05 05868
015236 115135 A
       000400 A 6204 RALF     EQU     0400                                                    05 05869
       001000 A 6205 WALF     EQU     01000                                                   05 05870
                6206          EJEC                                                            05 05871
                6207 *                                                                        05 05872
                6208 *        SG4LIS                                                          05 05873
                6209 *                                                                        05 05874
                6210 *        PURPOSE:  TO OUTPUT A MESSAGE TO THE LIS DEVICE                 05 05875
                6211 *                                                                        05 05876
                6212 *        CALLING SEQUENCE:   (BR)= ADDR OF MESSAGE    TO LIST          05 05877
                6213 *                  CALL  SGLIS                        ARBITRARY        05 05878
                6214 *                                                     MESSAGES         05 05879
                6215 *                                                                        05 05880
                6216 *                  CALL  SGLISB       TO LIST 6 WORDS                  05 05881
                6217 *                                     FROM (SGLBUF)                      05 05882
                6218 *                                                                        05 05883
                6219 *        RETURN PARAMETERS:  NONE (WILL NOT RETURN UNTIL MESSAGE         05 05884
                6220 *                             HAS BEEN SUCCESSFULLY OUTPUT)              05 05885
                6221 *                                                                        05 05886
                6222 *                                                                        05 05887
015237 000000 A 6223 SGLISB   ENTR                    *  * ENTRY POINT TO LIST FROM BUFFER *  * 05 05888
015240 017000 I 6224          LDA     SGLISB                                                  05 05889
015241 054025 A 6225          STA     SGLIS           SET UP RETURN ADDR                      05 05890
015242 012574 A 6226          LDA     SIX                                                     05 05891
015243 054011 A 6227          STA     LIST1           SET NUMBER OF WORDS = 6                 05 05892
015244 020000 L 6228          LDB     =SGLBUF         SET BUFFER ADDR                         05 05893
015245 064010 A 6229 LIST5    STB     LIST2             (D (SGDBUF)                           05 05894
                6230 *                                                                        05 05895
                6231 *                                                                        05 05896
015246 012723 A 6232 LIST4    LDA     SGEDRA                                                  05 05897
015247 130000 L 6233          ERA     =0130000                                                05 05898
015250 001010 A 6234          JAZ*    SGLIS           IF NO LISTING REQUESTED, RETURN *  *    05 05899
015251 115267 A
       015255 A 6235 LIST1    EQU     *+3                                                     05 05900
       015256 A 6236 LIST2    EQU     *+4                                                     05 05901
015252 002000 A 6237          CALL    IOCS            POST MESSAGE ON "LIS"                   05 05902
015253 015226 E
015254 001005 A 6238          DATA    WALF+LIS                                                05 05903
015255 000000 A 6239          DATA    0,0                                                     05 05904
015256 000000 A
015257 002000 A 6240          CALL    IOCS                                                    05 05905
015260 015253 E
015261 000005 A 6241          DATA    LIS                                                     05 05906
015262 015275 A 6242          DATA    LIST3,LIST3,LIST3,*-6                                   05 05907
015263 015275 A
015264 015275 A
015265 015257 A
015266 001000 A 6243          JMP     0               *  * RETURN *  *                        05 05908
015267 000000 A
                6244 *                                                                        05 05909
015267          6245 SGLIS    BES     0               *  * ENTRY POINT TO POST GENERAL MESSAGE * 05 05910
015270 016000 A 6246          LDA     0,B                                                     05 05911
015271 057000 I 6247          STA     LIST1           SET UP NUMBER OF WORDS                  05 05912
015272 005122 A 6248          IBR                     SET UP BUFFER ADDR                      05 05913
015273 001000 A 6249          JMP     LIST5           GO POST MESSAGE                         05 05914
015274 015245 A
                6250 *                                                                        05 05915
                6251 *        *  * ERROR MESSAGE *  *                                         05 05916
                6252 *                                                                        05 05917
015275 012621 A 6253 LIST3    LDA     =R11            POST "WRITE ERROR IN SGEN2" MESSAGE     05 05918
015276 002000 A 6254          CALL    SG4PRO                                                  05 05919
015277 013617 A
015300 001000 A 6255          JMP     LIST4           TRY AGAIN                               05 05920
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015301 015246 A
                    6256          EJEC                                                          05 05921
                    6257 *                                                                      05 05922
                    6258 *        SG4UPK                                                        05 05923
                    6259 *                                                                      05 05924
                    6260 *              PURPOSE:  TO UNPACK LOADER CODE ENTRIES AND LIST       05 05925
                    6261 *                        THEM ON THE "LIS" DEVICE.                   05 05926
                    6262 *                                                                      05 05927
                    6263 *              CALLING SEQUENCE:  CALL  SG4UPK                       05 05928
                    6264 *                                 ...WITH LDR CODE ITEM IN (ITEM)    05 05929
                    6265 *                                                                      05 05930
                    6266 *              RETURN PARAMETERS:  NONE                              05 05931
                    6267 *                                                                      05 05932
015302 000000 A     6268 SG4UPK ENTR                  * * ENTRY POINT * *                       05 05933
015303 030000 L     6269        LDX     =ITEM         (XR)= PNTR TO LDR CODE ITEM               05 05934
015304 010000 L     6270        LDA     =SGLBUF                                                 05 05935
015305 054060 A     6271        STA     SPBP          (SPBP)=PNTR TO LIST BUFFER                05 05936
015306 015004 A     6272        LDA     4,X                                                     05 05937
015307 025003 A     6273        LDB     3,X                                                     05 05938
015310 004445 A     6274        LLRL    5                                                       05 05939
015311 002000 A     6275        CALL    SPOT          PACK FIRST TWO CHAR OF NAME               05 05940
015312 015351 A
015313 015003 A     6276        LDA     3,X                                                     05 05941
015314 004441 A     6277        LLRL    1                                                       05 05942
015315 002000 A     6278        CALL    SPOT          PACK SECOND TWO CHAR OF NAME              05 05943
015316 015351 A
015317 004455 A     6279        LLRL    13                                                      05 05944
015320 002000 A     6280        CALL    SPOT          PACK THIRD TWO CHAR OF NAME               05 05945
015321 015351 A
015322 004557 A     6281        LLSR    15                                                      05 05946
015323 001010 A     6282        JAZ     *+3                                                     05 05947
015324 015326 A
015325 010000 L     6283        LDA     =0170                                                   05 05948
015326 122530 A     6284        ADD     TWO                                                     05 05949
015327 002000 A     6285        CALL    SPOT          PACK SPACE AND HIGH ORDER DIGIT OF ADDR   05 05950
015330 015351 A
015331 004551 A     6286        LLSR    9                                                       05 05951
015332 152575 A     6287        ANA     SEVEN                                                   05 05952
015333 004243 A     6288        LRLA    3                                                       05 05953
015334 120000 L     6289        ADD     =0202                                                   05 05954
015335 002000 A     6290        CALL    SPOT          PACK NEXT TWO DIGITS OF ADDR              05 05955
015336 015351 A
015337 004543 A     6291        LLSR    3                                                       05 05956
015340 152575 A     6292        ANA     SEVEN                                                   05 05957
015341 004243 A     6293        LRLA    3                                                       05 05958
015342 120000 L     6294        ADD     =0202                                                   05 05959
015343 002000 A     6295        CALL    SPOT          PACK LAST TWO DIGITS OF ADDR              05 05960
015344 015351 A
015345 002000 A     6296        CALL    SGLISB        OUTPUT ENTRY TO "LIS" DEVICE              05 05961
015346 015237 A
015347 001000 A     6297        JMP*    SG4UPK        * * RETURN * *                            05 05962
015350 115302 A
                    6298 *                                                                      05 05963
                    6299 *              * * SPOT * * STORE PAIR IN OUTPUT BUFFER                05 05964
                    6300 *                                                                      05 05965
015351 000000 A     6301 SPOT   ENTR                                                            05 05966
015352 004543 A     6302        LLSR    2                                                       05 05967
015353 150000 L     6303        ANA     =077                                                    05 05968
015354 004242 A     6304        LRLA    2                                                       05 05969
015355 004446 A     6305        LLRL    6                                                       05 05970
015356 120000 L     6306        ADD     ,,                                                      05 05971
015357 024006 A     6307        LDB     SPBP          STORE CONVERTED CHAR PAIR IN LIST BUFFER, 05 05972
015360 056000 A     6308        STA     0,B           INCREMENT BUFFER POINTER, LOAD UP (AR) AND 05 05973
015361 044004 A     6309        INR     SPBP          (BR), AND RETURN.                         05 05974
015362 015000 A     6310        LDA     0,X                                                     05 05975
015363 025002 A     6311        LDB     2,X                                                     05 05976
015364 001000 A     6312        JMP*    SPOT                                                    05 05977
015365 115351 A
                    6313 *                                                                      05 05978
015366              6314 SPBP   BSS     1                                                       05 05979
            003000 A 6315       END     SGEN2                                                   05 05980
ENTRY NAMES
003000 A SGEN2
EXTERNAL NAMES
015046 E EXIT    015260 E IOCS
SYMBOLS
000551 A $LUB    000550 A $LUN    000576 A $PUB    000551 A $PUN
000663 A AD$CAM  000662 A ADCRDR  013422 A ADDRE   004164 A ADR1
004232 A ADR10   004357 A ADR11   004233 A ADR12   004235 A ADR12A
004243 A ADR12B  004251 A ADR13   004253 A ADR14   004256 A ADR15
004165 A ADR2    004431 A ADR3    004437 A ADR4    004462 A ADR5
004467 A ADR6    004471 A ADR7    004401 A ADR8    004267 A ADR8A
004303 A ADR8B   004333 A ADR8C   004346 A ADR8D   004351 A ADR8E
004354 A ADR8F   004226 A ADR9    014627 A AGET1   014646 A AGET2
014663 A AGET3   000006 A ALT     014344 A APUT1   014373 A APUT2
014400 A APUT4   014415 A APUT5   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      013416 A BA
013437 A BAPT    002527 A BM1     002600 A BM17    002603 A BM177
002605 A BM1777  002572 A BM3     002601 A BM37    002571 A BM377
002575 A BM7     002602 A BM77    002604 A BM777   002547 A BR0
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002550 A BR1     002561 A BR10    002562 A BR11    002563 A BR12
002564 A BR13    002565 A BR14    002566 A BR15    002551 A BR2
002552 A BR3     002553 A BR4     002554 A BR5     002555 A BR6
002556 A BR7     002557 A BR8     002560 A BR9     002527 A BS0
002530 A BS1     002541 A BS10    002542 A BS11    002543 A BS12
002544 A BS13    002545 A BS14    002546 A BS15    002531 A BS2
002532 A BS3     002533 A BS4     002534 A BS5     002535 A BS6
002536 A BS7     002537 A BS8     002540 A BS9     000544 A BSTACK
001130 A BTSIZ   013414 A CBS     012472 A CKSM    010567 A CLK1
010573 A CLK2    010577 A CLK3    010603 A CLK4    010607 A CLK5
011712 A CLD1    011701 A CLD10   011402 A CLD11   011714 A CLD12
011730 A CLD13   011732 A CLD14   011745 A CLD15   011703 A CLD16
011750 A CLD17   011350 A CLD18   011756 A CLD19   011472 A CLD2
011406 A CLD20   011705 A CLD21   011431 A CLD22   011757 A CLD23
011443 A CLD24   011574 A CLD25   011456 A CLD26   011676 A CLD27
011500 A CLD3    011605 A CLD4    011627 A CLD45   011713 A CLD5
011532 A CLD6    011554 A CLD7    011637 A CLD8    011470 A CLD9
014606 A CLR1    012426 A CLUN    014134 A CNV1    014131 A CNV2
014174 A CNV3    014201 A CNVD1   014202 A CNVD2   012562 A COCK
012567 A COCK1   013322 A COMN    006055 A COT1    006056 A COT2
005703 A COT3    006031 A COT4    006050 A COT5    006057 A COT6
006063 A COT7    004141 A CPF10   004130 A CPFTCH  004104 A CPR10
004147 A CPRB    004151 A CPRT    004124 A CPRTN   004150 A CPRX
004152 A CRTAB   013430 A CSIZ    012231 A DAF0    012240 A DAF1
012253 A DAF2    012263 A DAF3    005321 A DAR     012645 A DATA
013434 A DCW     000002 A DIR     002653 A DREC    006104 A DSB1
006243 A DSB10   006123 A DSB101  006157 A DSB102  006526 A DSB103
006536 A DSB104  006540 A DSB105  006532 A DSB106  006530 A DSB11
006443 A DSB12   006445 A DSB13   006404 A DSB14   006453 A DSB16
006432 A DSB18   006230 A DSB19   006515 A DSB2    006525 A DSB20
006400 A DSB200  006457 A DSB201  006527 A DSB204  006306 A DSB22
006307 A DSB23   006531 A DSB26   006374 A DSB27   006271 A DSB28
006165 A DSB3    006516 A DSB4    006517 A DSB5    006534 A DSB6
006523 A DSB7    006524 A DSB8    012505 A DWH1    013621 A EAR1
013753 A EAR10   013760 A EAR11   013740 A EAR12   013744 A EAR2
013717 A EAR3    013726 A EAR4    013751 A EAR5    013637 A EAR6
013630 A EAR7    013706 A EAR8    013672 A EAR9    013435 A ECW
002532 A EIGHT   013400 A END10   012161 A END20   012173 A END40
012165 A END50   013560 A ENT1    013565 A ENT2    013577 A ENT3
013616 A ENT4    013541 A ENT5    003304 A EQDL    003306 A EQDL00
003321 A EQDL03  003323 A EQDL05  003325 A EQDL10  003340 A EQDL15
003400 A EQDL20  003415 A EQDL25  003427 A EQDL50  003430 A EQDL51
003431 A EQDL52  003435 A EQDL53  003436 A EQDL54  003437 A EQDL55
003440 A EQDL56  003441 A EQDL57  003442 A EQDL58  002606 A ER00
002607 A ER01    002610 A ER02    002611 A ER03    002612 A ER04
002613 A ER05    002614 A ER06    002615 A ER07    002616 A ER08
002617 A ER09    002620 A ER10    002621 A ER11    002622 A ER12
002623 A ER13    002624 A ER14    002625 A ER15    002626 A ER20
002627 A ER21    002630 A ER22    002631 A ER23    002632 A ER24
002633 A ER25    002634 A ER26    002635 A ER30    002636 A ER31
002637 A ER32    002640 A ER33    002641 A ER34    002642 A ER40
002643 A ER41    002644 A ER42    002645 A ER43    002646 A ER44
002647 A ER45    002650 A ER46    002651 A ER47    002652 A ER48
000547 A ESCB    015046 E EXIT    013454 A EXT1    013503 A EXT2
012675 A EXT20   013537 A EXT3    013502 A EXT4    013514 A EXT5
013516 A EXT6    013540 A EXT7    013476 A EXT8    002573 A FIVE
002531 A FOUR    005061 A FTG1    005344 A FTG11   005563 A FTG13
005566 A FTG14   005633 A FTG15   005610 A FTG16   005637 A FTG2
005574 A FTG3    005611 A FTG4    005605 A FTG5    005470 A FTGA
005644 A FTG7    005443 A FTG8    005511 A FTG9    005630 A FTGTBL
014231 A GAC2    014234 A GAC3    014223 A GACD1   014217 A GACD2
014672 A GETM1   014665 A GETM2   012413 A GEW1    012432 A GEW2
012315 A GEW3    012344 A GEW4    012351 A GEW5    012334 A GEW6
012434 A GEW7    012372 A GEW8    012421 A GEW9    013324 A GSIZ
003633 A ICR1    003544 A ICR10   003571 A ICR11   004034 A ICR12
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003631 A ICR17   003534 A ICR18   003716 A ICR19   003742 A ICR19A
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004007 A ICR25   003623 A ICR3    004026 A ICR30   004031 A ICR31
004072 A ICR35   004065 A ICR4    003575 A ICR5    004063 A ICR6
003517 A ICR7    003541 A ICR8    003574 A ICR9    002704 A IEND
002054 A INUNIT  013311 A IO1     013242 A IO2     013276 A IO3
013264 A IO7     013312 A IO8     013247 A IO9     015260 E IOCS
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010745 A LCF21   010775 A LCF21A  011010 A LCF21B  011012 A LCF21C
010712 A LCF22   010744 A LCF23   010701 A LCF24   011251 A LCF25
011255 A LCF26   011261 A LCF27   011072 A LCF29   011164 A LCF3
013133 A LCPT    011265 A LCTMP   012500 A LGABS   012136 A LGCALL
012215 A LGDAFT  012306 A LGDFRC  012201 A LGEND   012643 A LGENT
012657 A LGEXT   012350 A LGGEND  012543 A LGLCMC  000664 A LGDMIB
012531 A LGORG   002026 A LGOUTB  012575 A LGPDE   012500 A LGREL
012752 A LGSAE   012507 A LGSTOW  012707 A LGSTR   013072 A LGVRS
013317 A LGXEQ   005160 A LHG1    005431 A LHG10   005431 A LHG12
005221 A LHG13   005240 A LHG14   005236 A LHG15   005310 A LHG2
005245 A LHG3    005410 A LHG4    005414 A LHG5    005364 A LHG6
005346 A LHG7    005420 A LHG8    005424 A LHG9    002570 A LHW
000004 A LIB     000005 A LIS     015251 E LIST1   015256 E LIST2
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004570 A LMI4    004607 A LMI8    015043 A LOA1    015047 A LOA2
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006562 A LUT2    006601 A LUT3    006612 A LUT4    006632 A LUT5
006643 A LUT6    006665 A LUT7    006706 A LUT8    006713 A LUT9
006746 A LUTA    006752 A LUTB    006756 A LUTC    006762 A LUTD
013410 A MA      002655 A MFLAG   013407 A MODE    014254 A MOV1
014264 A MOV2    014306 A MOV3    014330 A MOVC    014321 A MOVE
014277 A MOVR    002526 A MT      003117 A MXFLG   013332 A NAME
002567 A NEG     002576 A NINE    002532 A O10     014572 A O16
014573 A O215    014574 A O240    014177 A O260    014200 A O272
002601 A O37     000003 A OC      002527 A ONE     012541 A ORG1
013403 A OTCB    013406 A OTCV    013405 A OTCW    013404 A OTEM
012617 A PDEO    013436 A PEP     014103 A PKK1    014104 A PKK2
014022 A PKK3    014023 A PKK4    014105 A PKK5    014063 A PKK6
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013326 A PSIZ    013431 A PTM1    000600 A PUT     014362 A PUTM1
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002571 A RHW     000074 A RL      013413 A RLP     013401 A RS
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015215 A RSI6    015234 A RSI7    013402 A RWC     013417 A SA
010476 A SAC1    010501 A SAC2    010437 A SAC3    010450 A SAC4
010464 A SAC5    010502 A SAC6    010505 A SAC7    010506 A SAC8
010511 A SAC9    012732 A SAE0    014715 A SAE1    013005 A SAE10
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014742 A SAE3    012747 A SAE30   015014 A SAE4    012772 A SAE40
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015024 A SAED4   015025 A SAED5   015026 A SAED6   015027 A SAED7
015030 A SAED8   012466 A SEQN    002575 A SEVEN   014203 A SG3GAC
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005670 A SG4CDT  006067 A SG4DSB  005126 A SG4END  013544 A SG4ENT
013440 A SG4EXT  005435 A SG4FTG  003443 A SG4ICR  003470 A SG4IND
010700 A SG4LCF  005136 A SG4LHG  004476 A SG4LMI  012103 A SG4LMP
006763 A SG4LOG  006545 A SG4LUT  013772 A SG4PKK  013617 A SG4PRJ
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012041 A SG4TSL  015302 A SG4UPK  010331 A SG4USA  003000 A SG4VNI
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014563 A SG9905  002662 A SGBADD  002636 A SGBARS  000656 A SGBASE
014576 A SGBBAD  002660 A SGBIAP  002661 A SGBLIT  002657 A SGBSNR
002701 A SGC3AD  002702 A SGCBSN  002676 A SGCHSN  002667 A SGCIDL
002666 A SGCIIL  002672 A SGCKEY  002704 A SGCLK1  002705 A SGCLK2
002706 A SGCLK3  014602 A SGCLR   002671 A SGCLUN  014105 A SGCNV
002700 A SGCPED  002677 A SGCPGM  004101 A SGCPR   002673 A SGCSGN
002675 A SGCXEQ  002712 A SGEDR1  002713 A SGEDR2  002714 A SGEDR3
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002721 A SGEDR8  002722 A SGEDR9  002723 A SGEDRA  003000 A SGENB
003271 A SGEQDL  002670 A SGESE   014616 A SGGET   014420 A SGGPI
014540 A SGGNC   014424 A SGGNI   000664 A SGIBUF  002406 A SGLBUF
015267 A SGLIS   015237 A SGLISB  002724 A SGLUN1  002725 A SGLUN2
002726 A SGLUN3  014601 A SGMNDC  002732 A SGMOD   014323 A SGMOV
002707 A SGMRY1  002710 A SGMRY2  002711 A SGMRY3  002737 A SGMRY5
014600 A SGNDCS  002026 A SGOBUF  002663 A SGOBSZ  014575 A SGOPBA
002216 A SGPBUF  014243 A SGPUR   014331 A SGPUT   002665 A SGRPED
002664 A SGRPGM  015135 A SGRSI   014744 A SGSAE   000536 A SGSC10
000541 A SGSC11  000544 A SGSC12  000500 A SGSCB0  000503 A SGSCB1
000506 A SGSCB2  000511 A SGSCB3  000514 A SGSCB4  000517 A SGSCB5
000522 A SGSCB6  000525 A SGSCB7  000530 A SGSCB8  000533 A SGSCB9
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007711 A SGVTN4  007715 A SGVTN5  007721 A SGVTN6  007725 A SGVTN7
007731 A SGVTN8  007735 A SGVTN9  007671 A SGVTNL  007672 A SGVTST
007673 A SGVTT   007145 A SGVTX3  007533 A SGVTX6  007452 A SGVTX7
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103000 A SKRR    013424 A SNAM    015366 A SPBP    015351 A SPOT
011761 A SR05    011764 A SR10    011774 A SR15    012013 A SR20
012023 A SR30    012036 A SRCNT   012034 A SREND   012037 A SRINC
012035 A SRITM   012033 A SRSTR   012040 A SRTMP   012524 A STDW1
012526 A STDW2   012710 A STR0    012711 A STR1    012712 A STR2
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010631 A TBC4    010620 A TBC5    010635 A TBC6    010633 A TBC7
010616 A TBC8    010666 A TBC9    002502 A TBUF1   002514 A TBUF2
002521 A TBUF3   002216 A TBUF4   004621 A TDF1    005054 A TDF10
005031 A TDF2    005110 A TDF3    005112 A TDF4    005117 A TDF5
005121 A TDF6    004734 A TDF8A   004761 A TDF8B   004764 A TDF8C
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010417 A USA3    010336 A USA4    010351 A USA4A   010352 A USA5
010363 A USA6    010375 A USA7    010407 A USA8    000657 A V$BVN
000661 A V$CRDR  000660 A V$LIT   000001 A V75     013411 A VDATA
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013220 A VMCT    013210 A VMRCT   013200 A VMRT    013110 A VMS1
013157 A VMS2    013123 A VMS3    013170 A VMS4    013105 A VMS5
013152 A VMS6    013142 A VMS7    013215 A VMWCT   013175 A VMWRT
003003 A VNI1    003016 A VNI2    003004 A VNI3    003052 A VNI4
003126 A VNICP   003067 A VNIL1   003076 A VNIL11  003100 A VNIL2
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003262 A VNIT6   003264 A VNIT7   003266 A VNIT8   003120 A VNITIP
003133 A VNITP   003134 A VNITSP  003140 A VNITST  003112 A VNIZ
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015052 A WSO5    015111 A WSO6    015130 A WSO7    000001 A X
002526 A ZERO
  0 ERRORS ASSEMBLY COMPLETE
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 71  $LUB       72
  0  ADR2      432
 93  BTSIZ      94
  0  CBS       406   408
334  FOUR      410
241  IEND      404
  0  IOCS       14
203  ISTART    401
 95  ITEM      414   435
108  MT        295   296   297   298   299   300   301   302   303
               304   305   306   307   308   309   310   311   312
               313   314   315   316   317   318   319   320   321
               322   323   324   325   326   327   328   329   330
               331   332   333   334   335   336   337   338   339
               340   341   342   343   344   345   346   347   348
               349   350
461  MXFLG     449
  0  SG4ENT    427
  0  SG4ICR    459
  0  SG4PKK    422
230  SGCLUN    411
398  SGEN2      13
  0  SGEQDL    438   443   450   451
  0  SGGET     415   420   436
 94  SGIBUF    105
 99  SGLBUF    100
 96  SGOBUF     97   106
 98  SGPBUF    104
  0  SGPUR     458
 61  SGSC12     64
 49  SGSCB6    413   424   426   429
 51  SGSCB7    418
 53  SGSCB8    434
101  TBUF1     419   423   428
  0  V$SGEN     11
 12  V75       284
402  VNI1      405
413  VNI2      416
418  VNI3      431
434  VNI4      421   437
468  VNICP     441
448  VNIL11    442
450  VNIL2     447
480  VNIN1     462
489  VNIN10    472
490  VNIN11    474
491  VNIN12    475
492  VNIN13    476
493  VNIN14    478
481  VNIN2     463
482  VNIN3     464
483  VNIN4     465
484  VNIN5     466
485  VNIN6     468
486  VNIN7     469
487  VNIN8     470
488  VNIN9     471
460  VNIT      425   430
494  VNIT1     439
496  VNIT2     444
498  VNIT3     451
500  VNIT4     455
462  VNITIP    446
474  VNITSP    453
478  VNITST    457
  1  VORTEX    254   275
 19  X         402   422
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                      94 *                                                                      02 00094
                      95 *                  *  *  *  DATA BUFFERS  *  *  *                      02 00095
                      96 *                                                                      02 00096
000664                97 SGIBUF  BSS      120             INPUT BUFFER                          02 00097
       000664 A       98 SGOBUF  EQU      SGIBUF          OUTPUT BUFFER                         02 00098
001054                99 SGVBUF  BSS      120             VIRTUAL MEMORY BUFFER                 02 00099
       001130 A      100 BTSIZ   EQU      600                                          E2505    02 00100
001244               101 SGPBUF  BSS      BTSIZ            PST BUFFER                           02 00101
002374               102 SGLBUF  BSS      60              LIST BUFFER                           02 00102
002470               103 ITEM    BSS      10              STACK ITEM BUFFER                     02 00103
002502               104 TBUF1   BSS      10              DATA MANIPULATION BUFFER              02 00104
002514               105 TBUF2   BSS      10              DATA MANIPULATION BUFFER              02 00105
                     106         EJEC                                                           02 00106
       002526 A      107 MT      EQU      *                                                     02 00107
002526 000000 A      108         DATA     000000                                                02 00108
002527 000001 A      109         DATA     000001                                                02 00109
002530 000002 A      110         DATA     000002                                                02 00110
002531 000004 A      111         DATA     000004                                                02 00111
002532 000010 A      112         DATA     000010                                                02 00112
002533 000020 A      113         DATA     000020                                                02 00113
       002534 A      114 KD32    EQU      *                                            V2       02 00114
002534 000040 A      115         DATA     000040                                                02 00115
002535 000100 A      116         DATA     000100                                                02 00116
002536 000200 A      117         DATA     000200                                                02 00117
002537 000400 A      118         DATA     000400                                                02 00118
       002540 A      119 BS9     EQU      *                                            V2       02 00119
002540 001000 A      120         DATA     001000                                                02 00120
002541 002000 A      121         DATA     002000                                                02 00121
002542 004000 A      122         DATA     004000                                                02 00122
002543 010000 A      123         DATA     010000                                                02 00123
002544 020000 A      124         DATA     020000                                                02 00124
002545 040000 A      125         DATA     040000                                                02 00125
002546 100000 A      126         DATA     0100000                                               02 00126
002547 177776 A      127         DATA     0177776                                               02 00127
002550 177775 A      128         DATA     0177775                                               02 00128
002551 177773 A      129         DATA     0177773                                               02 00129
002552 177767 A      130         DATA     0177767                                               02 00130
002553 177757 A      131         DATA     0177757                                               02 00131
002554 177737 A      132         DATA     0177737                                               02 00132
002555 177677 A      133         DATA     0177677                                               02 00133
002556 177577 A      134         DATA     0177577                                               02 00134
002557 177377 A      135         DATA     0177377                                               02 00135
002560 176777 A      136         DATA     0176777                                               02 00136
002561 175777 A      137         DATA     0175777                                               02 00137
002562 173777 A      138         DATA     0173777                                               02 00138
002563 167777 A      139         DATA     0167777                                               02 00139
002564 157777 A      140         DATA     0157777                                               02 00140
002565 137777 A      141         DATA     0137777                                               02 00141
002566 077777 A      142         DATA     0077777                                               02 00142
002567 177777 A      143         DATA     0177777                                               02 00143
002570 177400 A      144         DATA     0177400                                               02 00144
002571 000377 A      145         DATA     0000377                                               02 00145
002572 000003 A      146         DATA     000003                                                02 00146
002573 000005 A      147         DATA     000005                                                02 00147
002574 000006 A      148         DATA     000006                                                02 00148
002575 000007 A      149         DATA     000007                                                02 00149
002576 000011 A      150         DATA     000011                                                02 00150
002577 000012 A      151         DATA     000012                                                02 00151
002600 000017 A      152         DATA     00017                                                 02 00152
002601 000037 A      153         DATA     00037                                                 02 00153
002602 000077 A      154         DATA     00077                                                 02 00154
002603 000177 A      155         DATA     00177                                                 02 00155
002604 000777 A      156         DATA     00777                                                 02 00156
002605 001777 A      157         DATA     01777                                                 02 00157
                     158         EJEC                                                           02 00158
                     159 *                                                                      02 00159
                     160 *                            *  * ERROR MESSAGE CODE NUMBERS *  *      02 00160
                     161 *                                                                      02 00161
                     162 *                                                                      02 00162
002606 130260 A      163 ER00    DATA     '00'                                                  02 00163
002607 130261 A      164 ER01    DATA     '01'                                                  02 00164
002610 130262 A      165 ER02    DATA     '02'                                                  02 00165
002611 130263 A      166 ER03    DATA     '03'                                                  02 00166
002612 130264 A      167 ER04    DATA     '04'                                                  02 00167
002613 130265 A      168 ER05    DATA     '05'                                                  02 00168
002614 130266 A      169 ER06    DATA     '06'                                                  02 00169
002615 130267 A      170 ER07    DATA     '07'                                                  02 00170
002616 130270 A      171 ER08    DATA     '08'                                                  02 00171
002617 130271 A      172 ER09    DATA     '09'                                                  02 00172
002620 130660 A      173 ER10    DATA     '10'                                                  02 00173
002621 130661 A      174 ER11    DATA     '11'                                                  02 00174
002622 130662 A      175 ER12    DATA     '12'                                                  02 00175
002623 130663 A      176 ER13    DATA     '13'                                                  02 00176
002624 130664 A      177 ER14    DATA     '14'                                                  02 00177
002625 130665 A      178 ER15    DATA     '15'                                                  02 00178
002626 131260 A      179 ER20    DATA     '20'                                                  02 00179
002627 131261 A      180 ER21    DATA     '21'                                                  02 00180
002630 131262 A      181 ER22    DATA     '22'                                                  02 00181
002631 131263 A      182 ER23    DATA     '23'                                                  02 00182
002632 131264 A      183 ER24    DATA     '24'                                                  02 00183
002633 131265 A      184 ER25    DATA     '25'                                                  02 00184
002634 131266 A      185 ER26    DATA     '26'                                                  02 00185
002635 131660 A      186 ER30    DATA     '30'                                                  02 00186
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002636 131661 A  187 ER31    DATA   '31'                                                       02 00187
002637 131662 A  188 ER32    DATA   '32'                                                       02 00188
002640 131663 A  189 ER33    DATA   '33'                                                       02 00189
002641 131664 A  190 ER34    DATA   '34'                                                       02 00190
002642 132260 A  191 ER40    DATA   '40'                                                       02 00191
002643 132261 A  192 ER41    DATA   '41'                                                       02 00192
002644 132262 A  193 ER42    DATA   '42'                                                       02 00193
002645 132263 A  194 ER43    DATA   '43'                                                       02 00194
002646 132264 A  195 ER44    DATA   '44'                                                       02 00195
002647 132265 A  196 ER45    DATA   '45'                                                       02 00196
002650 132266 A  197 ER46    DATA   '46'                                                       02 00197
002651 132267 A  198 ER47    DATA   '47'                                                       02 00198
002652 132270 A  199 ER48    DATA   '48'                                                       02 00199
                 200         EJEC                                                              02 00200
002653           201 ISTART  BSS    0             *  * START OF COMMON AREA INITIALIZED *   *  02 00201
                 202 *                                                                         02 00202
                 203 *              *   *   *  ERROR RECOVERY TABLE  *   *   *                 02 00203
                 204 *                                                                         02 00204
002653 000000 A  205 DREC    DATA   0                  RECOVERY FLAG                           02 00205
002654 000000 A  206 INUNIT  DATA   0                  CURRENT INPUT UNIT                      02 00206
002655 000000 A  207 MFLAG   DATA   0                  RECOVERY MODE FLAG                      02 00207
                 208 *                                                                         02 00208
                 209         EJEC                                                              02 00209
                 210 *                                                                         02 00210
                 211 *              LOAD MODULE GENERATOR INTERFACE TABLE                      02 00211
                 212 *                                                                         02 00212
                 213 *                  THIS TABLE CONTAINS INPUT PARAMETERS                   02 00213
                 214 *                  ESSENTIAL TO LOAD MODULE GENERATOR OPERATION           02 00214
                 215 *                                                                         02 00215
                 216 *                                                                         02 00216
002656 000000 A  217 SGBARS  DATA   0                  BASE ADDRESS OF ROOT SEGMENT            02 00217
002657 000000 A  218 SGBSNR  DATA   0                  BASE SECTOR NUMBER OF ROOT SEGMENT      02 00218
002660 000000 A  219 SGBIAP  DATA   0                  BASE ADDRESS OF SG$IAD                  02 00219
002661 000000 A  220 SGBLIT  DATA   0                  BASE ADDRESS OF SG$LIT                  02 00220
002662 000000 A  221 SGBAOD  DATA   0                  BASE ADDRESS OF OVERLAY DIRECTORY       02 00221
002663 000000 A  222 SGODSZ  DATA   0                  OVERLAY DIRECTORY SIZE                  02 00222
002664 000000 A  223 SGRPGM  DATA   0                  SG$PGM FOR ROOT SEGMENT                 02 00223
002665 000000 A  224 SGRPED  DATA   0                  SG$PED FOR ROOT SEGMENT                 02 00224
002666 000000 A  225 SGCIIL  DATA   0                  SG$IIL - CURRENT INDIRECT LITERAL PNTR  02 00225
002667 000000 A  226 SGCIDL  DATA   0                  SG$IDL - CURRENT DIRECT LITERAL PNTR    02 00226
002670 000000 A  227 SGERSE  DATA   0                  PNTR INTO LOADER TABLE STACK FOR ROOT SEG 02 00227
002671 000000 A  228 SGCLUN  DATA   0                  LOGICAL UNIT NUMBER FOR CURRENT SEGMENT 02 00228
002672 000000 A  229 SGCKEY  DATA   0                  PROTECT KEY FOR CURRENT SEGMENT BUILD   02 00229
002673 000000 A  230 SGCSGN  DATA   0                  SEGMENT NUMBER OF CURRENT SEGMENT       02 00230
002674 000000 A  231 SGTALT  DATA   0                  TASK AND LOAD TYPE OF CURRENT SEGMENT   02 00231
002675 000000 A  232 SGCXEQ  DATA   0                  SG$XEQ - EXECUTION ADDR OF CURRENT SEGMENT 02 00232
002676 000000 A  233 SGCHSN  DATA   0                  SG$HSN - HIGHEST SECTOR NUM CURRENT SEG 02 00233
002677 000000 A  234 SGCPGM  DATA   0                  SG$PGM FOR CURRENT SEGMENT              02 00234
002700 000000 A  235 SGCPED  DATA   0                  SG$PED FOR CURRENT SEGMENT              02 00235
002701 000000 A  236 SGCBAD  DATA   0                  BASE ADDRESS OF CURRENT SEGMENT         02 00236
002702 000000 A  237 SGCBSN  DATA   0                  BASE SECTOR NUMBER OF CURRENT SEGMENT   02 00237
002703 000000 A  238 SGSOBP  DATA   0                  OUTPUT BUFFER POINTER                   02 00238
                 239         EJEC                                                              02 00239
                 240 *              *   *   *  MISC. DATA STORE  *   *   *                     02 00240
                 241 *                                                                         02 00241
002704 000000 A  242 SGCLK1  DATA   0                  *                                       02 00242
002705 000000 A  243 SGCLK2  DATA   0                  *   REAL-TIME CLOCK PARAMETERS          02 00243
002706 000000 A  244 SGCLK3  DATA   0                  *                                       02 00244
                 245 *                                                                         02 00245
002707           246 SGMRY1  BSS    1                  *                                 V2    02 00246
002710           247 SGMRY2  BSS    1                  * MAIN MEMORY PARAMETERS          V2    02 00247
002711           248 SGMRY3  BSS    1                                                    V2    02 00248
                 249         IFF    VORTEX-2                                             V2    02 00249
                 250 SGMRY4  BSS    1                                                    V2    02 00250
                 251 *                                                                         02 00251
002712 000000 A  252 SGEDR1  DATA   0                  *                                       02 00252
002713 000000 A  253 SGEDR2  DATA   0                  *                                       02 00253
002714 000000 A  254 SGEDR3  DATA   0                  *                                       02 00254
002715 000000 A  255 SGEDR4  DATA   0                  *   END DIRECTIVE PARAMETERS            02 00255
002716 000000 A  256 SGEDR5  DATA   0                  *                                       02 00256
002717 000000 A  257 SGEDR6  DATA   0                  *                                       02 00257
002720 000000 A  258 SGEDR7  DATA   0                  *                                       02 00258
002721 000000 A  259 SGEDR8  DATA   0                  *                                       02 00259
002722 000000 A  260 SGEDR9  DATA   0                  *                                       02 00260
002723 000000 A  261 SGEDRA  DATA   0                  *                                       02 00261
                 262 *                                                                         02 00262
002724 000000 A  263 SGLUN1  DATA   0                  *   TOTAL NUMBER OF LOGICAL UNITS       02 00263
002725 000000 A  264 SGLUN2  DATA   0                  *                                       02 00264
002726 000000 A  265 SGLUN3  DATA   0                  *                                       02 00265
                 266 *                                                                         02 00266
002727 000000 A  267 SGTMP1  DATA   0                  *                                       02 00267
002730 000000 A  268 SGTMP2  DATA   0                  *   GENERAL PURPOSE TEMPORARY STORAGE   02 00268
002731 000000 A  269 SGTMP3  DATA   0                  *                                       02 00269
                 270         IFF    VORTEX-1                                             V2    02 00270
                 271         GOTO   1                                                    V2    02 00271
                 272 *                                                                   V2    02 00272
                 273 V$BFC   DATA   0                  BASE ADDRESS OF FOREGROUND COMMON V2    02 00273
                 274 V$BTB   DATA   0                  BASE ADDRESS OF USER BLOCK        V2    02 00274
                 275 V$GFCB  DATA   0                  BASE ADDRESS OF GLOBAL FCB'S      V2    02 00275
                 276 V$IRT   DATA   0                  TOP ADDRESS OF RESIDENT TASKS     V2    02 00276
                 277 1       CONT                                                        V2    02 00277
002732           278 SGMOD   BSS    5                  RMD MODEL INDIC.,0=MODEL A,B      -35   02 00278
                 279 *      WORD 0 = ADDRESS OF *+1                                            02 00279
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                    280 *                 WORDS 1-4 INDIC. FOR EACH RMD SPECIFIED ON SYS DIR.      02 00280
002737              281 IEND     BSS      0               *  * END OF COMMON AREA INITIALIZED *  * 02 00281
                    282          EJEC                                                              02 00282
                    283 ********************************************************************** 02 00283
                    284 *                                                                      02 00284
                    285 ****     MASK TABLE DESCRIPTION                                      *** 02 00285
                    286 *                                                                      02 00286
                    287 ********************************************************************** 02 00287
    002526 A        289 ZERO     EQU      MT              ZERO WORD                            02 00289
    002527 A        290 BS0      EQU      MT+1            BIT MASK CONTENTS 000001             02 00290
    002530 A        291 BS1      EQU      MT+2                              000002             02 00291
    002531 A        292 BS2      EQU      MT+3                              000004             02 00292
    002532 A        293 BS3      EQU      MT+4                              000010             02 00293
    002533 A        294 BS4      EQU      MT+5                              000020             02 00294
    002533 A        295 K16      EQU      MT+5                                              V2 02 00295
    002534 A        296 BS5      EQU      MT+6                              000040             02 00296
    002535 A        297 BS6      EQU      MT+7                              000100             02 00297
    002536 A        298 BS7      EQU      MT+8                              000200             02 00298
    002537 A        299 BS8      EQU      MT+9                              000400             02 00299
    002540 A        300 BS9      EQU      MT+10                             001000             02 00300
    002541 A        301 BS10     EQU      MT+11                             002000             02 00301
    002542 A        302 BS11     EQU      MT+12                             004000             02 00302
    002543 A        303 BS12     EQU      MT+13                             010000             02 00303
    002544 A        304 BS13     EQU      MT+14                             020000             02 00304
    002545 A        305 BS14     EQU      MT+15                             040000             02 00305
    002546 A        306 BS15     EQU      MT+16                            0100000             02 00306
    002547 A        307 BR0      EQU      MT+17           BIT MASK CONTENTS  0177776           02 00307
    002550 A        308 BR1      EQU      MT+18                              0177775           02 00308
    002551 A        309 BR2      EQU      MT+19                              0177773           02 00309
    002552 A        310 BR3      EQU      MT+20                              0177767           02 00310
    002553 A        311 BR4      EQU      MT+21                              0177757           02 00311
    002554 A        312 BR5      EQU      MT+22                              0177737           02 00312
    002555 A        313 BR6      EQU      MT+23                              0177677           02 00313
    002556 A        314 BR7      EQU      MT+24                              0177577           02 00314
    002557 A        315 BR8      EQU      MT+25                              0177377           02 00315
    002560 A        316 BR9      EQU      MT+26                              0176777           02 00316
    002561 A        317 BR10     EQU      MT+27                              0175777           02 00317
    002562 A        318 BR11     EQU      MT+28                              0173777           02 00318
    002563 A        319 BR12     EQU      MT+29                              0167777           02 00319
    002564 A        320 BR13     EQU      MT+30                              0157777           02 00320
    002565 A        321 BR14     EQU      MT+31                              0137777           02 00321
    002566 A        322 BR15     EQU      MT+32                              0077777           02 00322
    002567 A        323 NEG      EQU      MT+33           SET ALL BITS                         02 00323
    002570 A        324 LHW      EQU      MT+34           LEFT HALF WORD MASK 0177400          02 00324
    002571 A        325 RHW      EQU      MT+35           RIGHT HALF WORD MASK    0377         02 00325
    002527 A        326 ONE      EQU      MT+1            CONTAINS NUMBER  1                   02 00326
    002530 A        327 TWO      EQU      MT+2            CONTAINS NUMBER  2                   02 00327
    002572 A        328 THREE    EQU      MT+36           CONTAINS NUMBER  3                   02 00328
    002531 A        329 FOUR     EQU      MT+3            CONTAINS NUMBER  4                   02 00329
    002573 A        330 FIVE     EQU      MT+37           CONTAINS NUMBER  5                   02 00330
    002574 A        331 SIX      EQU      MT+38           CONTAINS NUMBER  6                   02 00331
    002575 A        332 SEVEN    EQU      MT+39           CONTAINS NUMBER  7                   02 00332
    002532 A        333 EIGHT    EQU      MT+4            CONTAINS NUMBER  8                   02 00333
    002576 A        334 NINE     EQU      MT+40           CONTAINS NUMBER  9                   02 00334
    002577 A        335 TEN      EQU      MT+41           CONTAINS NUMBER 10                   02 00335
    002527 A        336 BM1      EQU      MT+1            BIT MASK WORD 00001                  02 00336
    002572 A        337 BM3      EQU      MT+36           BIT MASK WORD  00003                 02 00337
    002575 A        338 BM7      EQU      MT+39           BIT MASK WORD  00007                 02 00338
    002600 A        339 BM17     EQU      MT+42           BIT MASK WORD  00017                 02 00339
    002601 A        340 BM37     EQU      MT+43           BIT MASK WORD  00037                 02 00340
    002602 A        341 BM77     EQU      MT+44           BIT MASK WORD  00077                 02 00341
    002603 A        342 BM177    EQU      MT+45           BIT MASK WORD  00177                 02 00342
    002571 A        343 BM377    EQU      MT+35           BIT MASK WORD  00377                 02 00343
    002604 A        344 BM777    EQU      MT+46           BIT MASK WORD  00777                 02 00344
    002605 A        345 BM1777   EQU      MT+47           BIT MASK WORD  01777                 02 00345
                    346          EJEC                                                              02 00346
                    347 ********************************************************************** 02 00347
                    348 *                                                                      02 00348
                    349 ****     BIT TEST BIT DESIGNATION                                    *** 02 00349
                    350 *                                                                      02 00350
                    351 ********************************************************************** 02 00351
    000040 A        353 RA0      EQU      040             BT JUMPS WHEN A REGISTER IS 0        02 00353
    000000 A        354 RA1      EQU      000             BT JUMPS WHEN A REGISTER IS 1        02 00354
    000060 A        355 RB0      EQU      060             BT JUMPS WHEN B REGISTER IS 0        02 00355
    000020 A        356 RB1      EQU      020             BT JUMPS WHEN B REGISTER IS 1        02 00356
                    358 ********************************************************************** 02 00358
                    359 *                                                                      02 00359
                    360 **       THE BIT CHECKED                                                   02 00360
                    361 *                                                                      02 00361
                    362 ********************************************************************** 02 00362
    000000 A        364 B0       EQU      0                                                    02 00364
    000001 A        365 B1       EQU      1                                                    02 00365
    000002 A        366 B2       EQU      2                                                    02 00366
    000003 A        367 B3       EQU      3                                                    02 00367
    000004 A        368 B4       EQU      4                                                    02 00368
    000005 A        369 B5       EQU      5                                                    02 00369
    000006 A        370 B6       EQU      6                                                    02 00370
    000007 A        371 B7       EQU      7                                                    02 00371
    000010 A        372 B8       EQU      8                                                    02 00372
    000011 A        373 B9       EQU      9                                                    02 00373
    000012 A        374 B10      EQU      10                                                   02 00374
    000013 A        375 B11      EQU      11                                                   02 00375
    000014 A        376 B12      EQU      12                                                   02 00376
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        000015 A   377 B13     EQU     13                                                             02 00377
        000016 A   378 B14     EQU     14                                                             02 00378
        000017 A   379 B15     EQU     15                                                             02 00379
                   380         EJEC                                                                   02 00380
003000             381         ORG     03000                                                   -35    02 00381
                   382 ****************************************************************************** 02 00382
                   383 *                                                                              02 00383
                   384 *                                  SG5RTC                                      02 00384
                   385 *                                                                              02 00385
                   386 * PURPOSE: SG5RTC LOADS THE VORTEX NUCLEUS WITH THE RESIDENT FORE-             02 00386
                   387 *          GROUND TASKS AND GENERATES THE 'CORE RESIDENT DIRECTORY'.           02 00387
                   388 *                                                                              02 00388
                   389 * CALLING SEQUENCE: CALL    SG5RTC                                             02 00389
                   390 *                                                                              02 00390
                   391 ****************************************************************************** 02 00391
        003000 A   392 SGEN4   EQU     *                                                              02 00392
        003000 A   393 SG5RTC  EQU     *                                                              02 00393
                   394 **************************                                                     02 00394
                   395 * REWIND ROTATING MEMORY *                                                     02 00395
                   396 **************************                                                     02 00396
003000 002000 A    397         CALL    IOCS                                                           02 00397
003001 000000 E
003002 002007 A    398         DATA    002000+RMD                                                     02 00398
                   399 *************                                                                  02 00399
                   400 * INPUT PST *                                                                  02 00400
                   401 *************                                                                  02 00401
003003 002000 A    402         CALL    IOCS                                                           02 00402
003004 003001 E
003005 040407 A    403         DATA    040400+RMD                                                     02 00403
003006 001130 A    404         DATA    BTSIZ        WORD COUNT                                -35     02 00404
003007 001244 A    405         DATA    SGPBUF       BUFFER ADDRESS                                    02 00405
003010 015003 A    406         LDA     3,X          X=DST ADDR, WORD 3 = DEVICE NAME            E.2********
003011 152571 A    407         ANA     RHW          ISOLATE DEVICE TYPE                         E.2********
003012 006140 A    408         SUBI    0302                                                     E.2********
003013 000302 A
003014 001002 A    409         JAP     RTC0         IF MODEL B,C, OR D                          E.2********
003015 003017 A
003016 005001 A    410         TZA                                                              E.2********
003017 052733 A    411 RTC0    STA     SGMOD+1      SET DEVICE TYPE  (0=A/B, 1=C, 2=D)          E.2********
                   412 ****************                                                               02 00406
                   413 * CHECK STATUS *                                                               02 00407
                   414 ****************                                                               02 00408
        003020 A   415 RTC005  EQU     *                                                              02 00409
003020 002000 A    416         CALL    IOCS                                                           02 00410
003021 003004 E
003022 000007 A    417         DATA    RMD                                                            02 00411
003023 003506 A    418         DATA    RTC300       ERR                                               02 00412
003024 003506 A    419         DATA    RTC300       EOF                                               02 00413
003025 003506 A    420         DATA    RTC300       BEOD                                              02 00414
003026 003020 A    421         DATA    RTC005       BUSY                                              02 00415
003027 011244 A    422         LDA     SGPBUF       SAVE NO. OF WORDS IN BAD TRK TABL   -35           02 00416
003030 004350 A    423         LSRA    8                                                -35           02 00417
003031 057000 I    424         STA     *ADTK                                            -35           02 00418
003032 001010 A    425         JAZ     RTC001       JMP, IF NO BAD TRKS                 E2505         02 00419
003033 003044 A
003034 015003 A    426         LDA     3,X          LOOK AT MODEL LETTER IN             E2505         02 00420
003035 152571 A    427         ANA     RHW            CONTROLLER TABLE                  E2505         02 00421
003036 140000 L    428         SUB     =304                                             E2505         02 00422
003037 001016 A    429         JANZ    RTC001       JUMP IF NOT MODEL 'D'               E2505         02 00423
003040 003044 A
003041 006010 A    430         LDAI    508          MODEL 'D' HAS 508 WORDS IN BTT      E2505         02 00424
003042 000774 A
003043 057000 I    431         STA     *ADTK                                            E2505         02 00425
        003044 A   432 RTC001  EQU     *                                                E2505         02 00426
003044 011244 A    433         LDA     SGPBUF                                                         02 00427
003045 152571 A    434         ANA     RHW          SET NO. OF WORDS / SECTOR ONLY                    02 00428
003046 051244 A    435         STA     SGPBUF                                                         02 00429
                   436 * BUILD PST ENTRY FOR VORTEX NUCLEUS *                                         02 00430
003047 012527 A    437         LDA     ONE          START TRACK NUMBER                                02 00431
003050 053513 A    438         STA     RTCVNE                                                         02 00432
003051 011246 A    439         LDA     SGPBUF+2     END+1 TRACK NUMBER                                02 00433
003052 053516 A    440         STA     RTCVNE+3                                                       02 00434
003053 010000 L    441         LDA     =RTCVNE                                                        02 00435
003054 053520 A    442         STA     SGPSTE       SET VORTEX NUCLEUS PST ENTRY ADDRESS              02 00436
                   443 * BUILD VIRTUAL MEMORY FOR VORTEX NUCLEUS *                                    02 00437
003055 012530 A    444         LDA     TWO                                              -35           02 00438
003056 022733 A    445         LDB     SGMOD+1      CHECK SYS RMD MODEL TYPE.           -35           02 00439
003057 001020 A    446         JBZ     RTC008       JUMP IF A,B, OR NOT C,D           E2505           02 00440
003060 003066 A
003061 012531 A    447         LDA     FOUR         TYPE C                              -35           02 00441
003062 005322 A    448         DBR                  'C'?                                E2505         02 00442
003063 001020 A    449         JBZ     RTC008       YES                                 E2505         02 00443
003064 003066 A
003065 012574 A    450         LDA     SIX          NO, 'D'                             E2505         02 00444
003066 052657 A    451 RTC008  STA     SGRSNR       SET BASE SECTOR FOR VORTEX NUCLEUS E2505          02 00445
003067 005001 A    452         TZA                                                                    02 00446
003070 052656 A    453         STA     SGBARS       SET BASE ADDRESS FOR VORTEX NUCLEUS               02 00447
003071 005301 A    454         DECR    A                                                              02 00448
003072 057000 I    455         STA     CBS          INDICATE VIRTUAL MEMORY NOT YET USED              02 00449
003073 005001 A    456         TZA                                                                    02 00450
003074 057000 I    457         STA     CBS+1                                                          02 00451
                   458 * SET ADDRESS OF BOTTOM OF LAST TASK *                                         02 00452
003075 006010 A    459         LDAI    0414         ABSOLUTE ADDRESS OF 'V$BVN'                       02 00453
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003076 000414 A
003077 057000 I   460          STA     MA                                                    02 00454
003100 006505 A   461          JSR     VMRRT,X       GET VALUE OF 'V$BVN'                    02 00455
003101 004360 A
003102 017000 I   462          LDA     VDATA                                                 02 00456
                  463          IFT     VORTEX-2                                        V2    02 00457
                  464          GOTO    1                                               V2    02 00458
                  465          STA     V$BVN         SAVE BASE OF NUCLEUS ADDRESS      V2    02 00459
                  466          LDA     PS10          SET PHYSICAL BASE ADDRESS TO 02000  V2  02 00460
                  467 1        CONT                                                    V2    02 00461
003103 050661 A   468          STA     V$CRDR                                                02 00462
                  469 ************************
                  470 * GET RESIDENT TASK NAME *
                  471 ************************
        003104 A  472 RTC010   EQU     *                                                     02 00466
003104 030000 L   473          LDX     =SGSCB5                                               02 00467
003105 020000 L   474          LDB     =ITEM                                                 02 00468
003106 002000 A   475          CALL    SGGET                                                 02 00469
003107 004507 A
003110 001004 A   476          JAN     RTC200        JUMP IF NO MORE NAMES                   02 00470
003111 003320 A
        003112 A  477 RTC015   EQU     *                                                     02 00471
                  478 ******************************
                  479 * SEARCH DIRECTORY FOR NAME *
                  480 ******************************
003112 006505 A   481          JSR     SGSSDR,X                                              02 00475
003113 003546 A
003114 002470 A   482          DATA    ITEM                                                  02 00476
003115 000002 A   483          DATA    2             'FL' LIBRARY                            02 00477
003116 001001 A   484          JOF     RTC020        JUMP IF NAME FOUND                      02 00478
003117 003136 A
                  485 ********************************                                      02 00479
                  486 * OUTPUT 'NOT FOUND' MESSAGE *                                       02 00480
                  487 ********************************                                      02 00481
003120 002000 A   488          CALL    SGMOV         MOVE NAME TO OUTPUT BUFFER              02 00482
003121 004731 A
003122 000004 A   489          DATA    4             COUNT                                   02 00483
003123 002470 A   490          DATA    ITEM          FROM                                    02 00484
003124 003522 A   491          DATA    SGNFND        TO                                      02 00485
        003125 A  492 RTC017   EQU     *                                                     02 00486
003125 006505 A   493          JSR     SGSWAR,X                                              02 00487
003126 003700 A
003127 000005 A   494          DATA    LIS           LUN                                     02 00488
003130 003522 A   495          DATA    SGNFND        BUFFER ADDRESS                          02 00489
003131 000011 A   496          DATA    9             COUNT                                   02 00490
003132 001004 A   497          JAN     RTC017        JUMP IF WRITE ERROR                     02 00491
003133 003125 A
003134 001000 A   498          JMP     RTC010                                                02 00492
003135 003104 A
        003136 A  499 RTC020   EQU     *                                                     02 00493
                  500 ********************************                                      02 00494
                  501 * COPY LOAD MODULE TO NUCLEUS *                                      02 00495
                  502 ********************************                                      02 00496
                  503 * INPUT PSEUDO TIDB *                                               02 00497
003136 016004 A   504          LDA     4,2           GET START FILE ADDRESS                  02 00498
003137 053145 A   505          STA     RTC030                                                02 00499
003140 005111 A   506          IAR                                                           02 00500
003141 053517 A   507          STA     RTCCIA        SAVE CURRENT INPUT FILE ADDRESS         02 00501
003142 010000 L   508          LDA     =SGPBUF+5                                             02 00502
003143 006505 A   509          JSR     SGSRRM,X                                              02 00503
003144 003740 A
003145            510 RTC030   BSS     1             RELATIVE SECTOR NUMBER                  02 00504
                  511          IFF     VORTEX-2                                        V2    02 00505
                  512          DATA    9                                               V2    02 00506
                  513          IFF     VORTEX-1                                        V2    02 00507
003146 000007 A   514          DATA    7             WORD COUNT                              02 00508
003147 002502 A   515          DATA    TBUF1         BUFFER ADDRESS                          02 00509
003150 001004 A   516          JAN     SGERR         JUMP IF READ ERROR                      02 00510
003151 003000 A
                  517 * COMPUTE TASK START ADDRESS *                                       02 00511
003152 010661 A   518          LDA     V$CRDR                                                02 00512
                  519          IFT     VORTEX-1                                        V2    02 00513
                  520          GOTO    1                                               V2    02 00514
003153 142510 A   521          SUB     TBUF1+6                                               02 00515
003154 050661 A   522          STA     V$CRDR                                                02 00516
                  523 1        CONT                                                    V2    02 00517
003155 057000 I   524          STA     MA            SET FOR VIRTUAL MEMORY STORE            02 00518
                  525 * COMPUTE TASK ENTRY ADDRESS *                                       02 00519
                  526          IFF     VORTEX-2                                        V2    02 00520
                  527          LDA     TBUF1+1                                         V2    02 00521
                  528          IFF     VORTEX-1                                        V2    02 00522
003156 122503 A   529          ADD     TBUF1+1                                               02 00523
003157 052473 A   530          STA     ITEM+3                                                02 00524
                  531          IFT     VORTEX-2                                        V2    02 00525
                  532          GOTO    1                                               V2    02 00526
                  533          LDA     V$CRDR        GET TASK 1ST ADDRESS              V2    02 00527
                  534          LSRA    9             CONVERT TO PAGE                   V2    02 00528
                  535          STA     ITEM+4                                          V2    02 00529
                  536          LDA     TBUF1+2                                         V2    02 00530
                  537          STA     ITEM+5                                          V2    02 00531
                  538          LDA     TBUF1+7                                         V2    02 00532
                  539          STA     ITEM+6                                          V2    02 00533
                  540          LDA     V$CRDR        GET TASK ADDRESS                  V2    02 00534
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                    541          LLSR    9                CONVERT TO PAGE                                  V2  02 00535
                    542          ADD     *BUF1+2          BUMP PAGE NUMBER                                 V2  02 00536
                    543          LRLA    9                                                                 V2  02 00537
                    544          STA     V$CRDR           UPDATE BASE                                      V2  02 00538
                    545          BAR                                                                       V2  02 00539
                    546          SUB     V$BVN                                                             V2  02 00540
                    547          JAP     RTC231           ERROR ON MEMORY OVERFLOW                         V2  02 00541
                    548 1        CONT                                                                      V2  02 00542
                    549 * SAVE ENTRY ADDR & NAME OF TASK *                                                     02 00543
003160 030000 L     550          LDX     =SGSCB9                                                           02 00544
003161 020000 L     551          LDB     =ITEM                                                             02 00545
003162 002000 A     552          CALL    SGPUT                                                             02 00546
003163 004571 A
       003164 A     553 RTC040   EQU     *                                                                 02 00547
                    554 * READ A SECTOR OF DATA *                                                          02 00548
003164 013517 A     555          LDA     RTCCIA           GET CURRENT INPUT FILE ADDRESS                   02 00549
003165 053171 A     556          STA     RTC050                                                            02 00550
003166 010000 L     557          LDA     =SGPBUF+5                                                         02 00551
003167 006505 A     558          JSR     SG5RRM,X                                                          02 00552
003170 003740 A
003171              559 RTC050   BSS     1                RELATIVE SECTOR NUMBER                           02 00553
003172 000170 A     560          DATA    120              WORD COUNT                                       02 00554
003173 000664 A     561          DATA    SGIBUF           BUFFER ADDRESS                                   02 00555
003174 001004 A     562          JAN     SGEN4            JUMP IF READ ERROR                               02 00556
003175 003000 A
003176 043517 A     563          INR     RTCCIA           INCREMENT CURRENT INPUT FILE ADDRESS             02 00557
                    564 * OUTPUT DATA TO VORTEX NUCLEUS *                                                  02 00558
003177 005002 A     565          TZB                                                                       02 00559
       003200 A     566 RTC060   EQU     *                                                                 02 00560
003200 006016 A     567          LDAE    SGIBUF,B                                                          02 00561
003201 000664 A
003202 057000 I     568          STA     VDATA                                                             02 00562
003203 006505 A     569          JSR     VMWRT,X          OUTPUT WORD                                      02 00563
003204 004365 A
003205 047000 I     570          INR     MA               INCREMENT MEMORY ADDRESS                         02 00564
003206 005122 A     571          IBR                      INCREMENT DATA POINTER                           02 00565
003207 005021 A     572          TBA                                                                       02 00566
003210 142505 A     573          SUB     TBUF1+3          SUBTRACT ROOT SEGMENT SIZE                       02 00567
                    574          IFF     VORTEX-2                                                      V202 02 00568
                    575          JAZ     RTC010                                                        V  02 00569
                    576          IFF     VORTEX-1                                                      V202 02 00570
003211 001010 A     577          JAZ     RTC070           JUMP IF ALL WORDS STORED                         02 00571
003212 003224 A
003213 005021 A     578          TBA                                                                       02 00572
003214 140000 L     579          SUB     =120                                                              02 00573
003215 001016 A     580          JANZ    RTC060           JUMP IF NOT AT END OF BUFFER                     02 00574
003216 003200 A
003217 012505 A     581          LDA     TBUF1+3                                                           02 00575
003220 140000 L     582          SUB     =120             DECREMENT ROOT SEGMENT SIZE                      02 00576
003221 052505 A     583          STA     TBUF1+3                                                           02 00577
003222 001000 A     584          JMP     RTC040           READ NEXT SECTOR                                 02 00578
003223 003164 A
                    585          IFF     VORTEX-2                                                      V2  02 00579
                    586          GOTO    1                                                             V2  02 00580
       003224 A     587 RTC070   EQU     *                                                                 02 00581
                    588 * INPUT RELO FIX-UP DATA *                                                         02 00582
003224 013517 A     589          LDA     RTCCIA           GET CURRENT INPUT FILE ADDRESS                   02 00583
003225 053231 A     590          STA     RTC080                                                            02 00584
003226 010000 L     591          LDA     =SGPBUF+5                                                         02 00585
003227 006505 A     592          JSR     SG5RRM,X                                                          02 00586
003230 003740 A
003231              593 RTC080   BSS     1                RELATIVE SECTOR NUMBER                           02 00587
003232 000170 A     594          DATA    120              WORD COUNT                                       02 00588
003233 000664 A     595          DATA    SGIBUF           BUFFER ADDRESS                                   02 00589
003234 001004 A     596          JAN     SGEN4            JUMP IF READ ERROR                               02 00590
003235 003000 A
003236 043517 A     597          INR     RTCCIA                                                            02 00591
                    598 * FIX-UP RELO BITS *                                                               02 00592
003237 005004 A     599          TZX                                                                       02 00593
       003240 A     600 RTC090   EQU     *                                                                 02 00594
003240 006015 A     601          LDAE    SGIBUF,X         GET WORD FROM RELO FIX-UP DATA                   02 00595
003241 000664 A
003242 001002 A     602          JAP     RTC110           JUMP IF RELO BITS                                02 00596
003243 003260 A
003244 005211 A     603          CPA                      CONVERT TO RELATIVE ADDRESS                      02 00597
003245 005012 A     604          TAB                                                                       02 00598
003246 005111 A     605          TAR                                                                       02 00599
003247 001004 A     606          JAN     RTC010           JUMP IF DONE WITH RELO FIX-UP                    02 00600
003250 003104 A
003251 005021 A     607          TBA                                                                       02 00601
003252 120661 A     608          ADD     V$CRDR           COMPUTE ACTUAL ADDRESS                           02 00602
003253 057000 I     609          STA     MA                                                                02 00603
       003254 A     610 RTC100   EQU     *                                                                 02 00604
003254 005144 A     611          IXR                                                                       02 00605
003255 005041 A     612          TXA                                                                       02 00606
003256 140000 L     613          SUB     =120                                                              02 00607
003257 001010 A     614          JAZ     RTC070           JUMP IF END OF THIS 120 WORD BUFFER              02 00608
003260 003224 A
003261 001000 A     615          JMP     RTC090                                                            02 00609
003262 003240 A
       003263 A     616 RTC110   EQU     *                                                                 02 00610
003263 073315 A     617          STX     RTC170           SAVE BUFFER POINTER                              02 00611
003264 030000 L     618          LDX     =15                                                               02 00612
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003265 073305 A   619          STX     RTC140          SET BIT COUNTER                                  02 00613
       003266 A   620 RTC120   EQU     *                                                                02 00614
003266 004241 A   621          LRLA    1               MOVE RELO BIT TO BIT POSITION 15                 02 00615
003267 053311 A   622          STA     RTC150          SAVE RELO BITS                                   02 00616
003270 001002 A   623          JAP     RTC130          JUMP IF NOT TO BE RELOCATED                      02 00617
003271 003301 A
003272 006505 A   624          JSR     VMRRT,X         GET WORD TO BE RELOCATED                         02 00618
003273 004360 A
003274 017000 I   625          LDA     VDATA                                                            02 00619
003275 120661 A   626          ADD     V$CRDR          RELOCATE IT                                      02 00620
003276 057000 I   627          STA     VDATA                                                            02 00621
003277 006505 A   628          JSR     VMWRT,X         PUT RELOCATED WORD BACK                          02 00622
003300 004365 A
       003301 A   629 RTC130   EQU     *                                                                02 00623
003301 047000 I   630          INR     MA              INCREMENT POINTER TO NEXT WORD                   02 00624
003302 013305 A   631          LDA     RTC140                                                           02 00625
003303 005311 A   632          DAR                     DECREMENT BIT COUNTER                            02 00626
003304 006050 A   633          STAI    0                                                                02 00627
003305 000000 A
       003305 A   634 RTC140   EQU     *-1                                                              02 00628
003306 001010 A   635          JAZ     RTC160          JUMP IF ALL 15 BITS PROCESSED                    02 00629
003307 003314 A
003310 006010 A   636          LDAI    0               GET RELO BITS                                    02 00630
003311 000000 A
       003311 A   637 RTC150   EQU     *-1                                                              02 00631
003312 001000 A   638          JMP     RTC120                                                           02 00632
003313 003266 A
       003314 A   639 RTC160   EQU     *                                                                02 00633
003314 006030 A   640          LDXI    0               GET BUFFER POINTER                               02 00634
003315 000000 A
       003315 A   641 RTC170   EQU     *-1                                                              02 00635
003316 001000 A   642          JMP     RTC100                                                           02 00636
003317 003254 A
               643 1          CONT                                                             V2      02 00637
       003320 A   644 RTC200   EQU     *                                                                02 00638
               645 * BUILD CORE RESIDENT DIRECTORY *                                                   02 00639
003320 005001 A   646          TZA                                                                      02 00640
003321 057000 I   647          STA     VDATA           '0' DENOTES END OF DIRECTORY                     02 00641
003322 010661 A   648          LDA     V$CRDR                                                           02 00642
               649          IFT     VORTEX-2                                                 V2      02 00643
               650          GOTO    1                                                        V2      02 00644
               651          STA     V$TRT           MARK TOP OF RESIDENT TASKS               V2      02 00645
               652          LDA     V$BVN           GET BOTTOM OF NUCLEUS                    V2      02 00646
               653 1        CONT                                                             V2      02 00647
003323 005311 A   654          DAR                                                                      02 00648
003324 050661 A   655          STA     V$CRDR                                                           02 00649
003325 057000 I   656          STA     MA                                                               02 00650
003326 006505 A   657          JSR     VMWRT,X         OUTPUT END OF CORE RESIDENT DIRECTORY            02 00651
003327 004365 A
       003330 A   658 RTC210   EQU     *                                                                02 00652
               659 * GET CORE RESIDENT DIRECTORY ENTRY *                                               02 00653
003330 030000 L   660          LDX     =SGSCB9                                                          02 00654
003331 020000 L   661          LDB     =ITEM                                                            02 00655
003332 002000 A   662          CALL    SGGET                                                            02 00656
003333 004507 A
003334 001004 A   663          JAN     RTC230          JUMP IF NO MORE ENTRIES                          02 00657
003335 003355 A
               664 * PUT ENTRY IN VIRTUAL CORE *                                                       02 00658
               665          IFF     VORTEX-2                                                 V2      02 00659
               666          LDB     SEVEN                                                    V2      02 00660
               667          IFF     VORTEX-1                                                 V2      02 00661
003336 022531 A   668          LDB     FOUR                                                             02 00662
       003337 A   669 RTC220   EQU     *                                                                02 00663
003337 005322 A   670          DBR                     DECREMENT DATA POINTER                           02 00664
003340 010661 A   671          LDA     V$CRDR                                                           02 00665
003341 005311 A   672          DAR                     DECREMENT MEMORY POINTER                         02 00666
003342 050661 A   673          STA     V$CRDR                                                           02 00667
003343 057000 I   674          STA     MA              SET MEMORY ADDRESS                               02 00668
003344 006016 A   675          LDBE    ITEM,B          GET DATA TO BE STORED                            02 00669
003345 002470 A
003346 057000 I   676          STA     VDATA                                                            02 00670
003347 006505 A   677          JSR     VMWRT,X         STORE DATA IN VIRTUAL MEMORY                     02 00671
003350 004365 A
003351 001020 A   678          JBZ     RTC210          JUMP IF ALL OF ENTRY STORED                      02 00672
003352 003330 A
003353 001000 A   679          JMP     RTC220          JMP TO STORE NEXT WORD                           02 00673
003354 003337 A
       003355 A   680 RTC230   EQU     *                                                                02 00674
               681          IFT     VORTEX-2                                                 V2      02 00675
               682          GOTO    1                                                        V2      02 00676
               683          LDA     V$CRDR                                                   V2      02 00677
               684          SUB     V$TRT                                                    V2      02 00678
               685          JAP     RTC007          MEMORY OVERFLOW ?                        V2      02 00679
               686 RTC231   LDAI    '32'            YES                                      V2      02 00680
               687          CALL    SRSEAR          POST 'SD32' ERROR                        V2      02 00681
               688          JMP     RTC301          RELOAD                                   V2      02 00682
               689 1        CONT                                                             V2      02 00683
       003355 A   690 RTC007   EQU     *                                                        V2      02 00684
               691 * SET 'V$CRDR' IN VIRTUAL MEMORY *                                                  02 00685
003355 010662 A   692          LDA     ADCRDR          GET ADDRESS OF WHERE TO STORE 'V$CRDR'           02 00686
003356 057000 I   693          STA     MA                                                               02 00687
003357 010661 A   694          LDA     V$CRDR          GET 'V$CRDR'                                     02 00688
003360 057000 I   695          STA     VDATA                                                            02 00689
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003361 006505 A  696          JSR     VMWRT,X      STORE 'V$CRDR'                                  02 00690
003362 004365 A
                 697 **********************************                                            02 00691
                 698 * BUILD CORE ALLOCATION MASK TABLE *                                          02 00692
                 699 **********************************                                            02 00693
                 700          IFF     VORTEX-2                                                 V2  02 00694
                 701          GOTO    1                                                        V2  02 00695
003363 010663 A  702          LDA     AD$CAM                                                       02 00696
003364 122531 A  703          ADD     FOUR                                                         02 00697
003365 057000 I  704          STA     MA           SET TABLE ADDRESS                               02 00698
003366 012566 A  705          LDA     BR15                                                         02 00699
003367 053521 A  706          STA     RTCCMA       SET CURRENT MEMORY ADDRESS = 32K                02 00700
       003370 A  707 RTC232   EQU     *                                                            02 00701
003370 022546 A  708          LDB     BS15         (B) = 0100000                                   02 00702
003371 005004 A  709          TZX                  (X) = 0                                         02 00703
       003372 A  710 RTC234   EQU     *                                                            02 00704
003372 013521 A  711          LDA     RTCCMA                                                       02 00705
003373 140661 A  712          SUB     V$CRDR                                                       02 00706
003374 001004 A  713          JAN     RTC236       JUMP IF 512-WORD BLOCK BELOW 'V$CRDR'           02 00707
003375 003377 A
003376 005064 A  714          MERG    064          SET NONALLOCATABLE BIT                          02 00708
       003377 A  715 RTC236   EQU     *                                                            02 00709
003377 013521 A  716          LDA     RTCCMA                                                       02 00710
003400 142540 A  717          SUB     BS9                                                          02 00711
003401 053521 A  718          STA     RTCCMA       DECREMENT CURRENT MEMORY ADDR BY 512 WORDS      02 00712
003402 005001 A  719          TZA                                                                  02 00713
003403 004477 A  720          LLRL    31           SHIFT ALLOCATION BIT OVER                       02 00714
003404 001010 A  721          JAZ     RTC234       JUMP IF NOT END OF 8K                           02 00715
003405 003372 A
003406 077000 I  722          STX     VDATA        SET WORD TO BE STORED                           02 00716
003407 017000 I  723          LDA     MA                                                           02 00717
003410 005311 A  724          DAR                  DECREMENT VIRTUAL MEMORY ADDRESS OF TABLE       02 00718
003411 057000 I  725          STA     MA                                                           02 00719
003412 006505 A  726          JSR     VMWRT,X      STORE WORD                                      02 00720
003413 004365 A
003414 013521 A  727          LDA     RTCCMA                                                       02 00721
003415 001002 A  728          JAP     RTC232       JUMP IF MORE MEMORY TO CHECK                    02 00722
003416 003370 A
003417 017000 I  729          LDA     VDATA                                                        02 00723
003420 112527 A  730          ORA     ONE          SET FIRST 512-WORDS FOR NONALLOCATABLE          02 00724
003421 057000 I  731          STA     VDATA                                                        02 00725
003422 006505 A  732          JSR     VMWRT,X      STORE WORD                                      02 00726
003423 004365 A
003424 006505 A  733          JSR     IOW,X        OUTPUT LAST PAGE OF VIRTUAL MEMORY              02 00727
003425 004464 A
003426 004432 A  734          DATA    CBS+1                                                        02 00728
                 735 1        CONT                                                             V2  02 00729
                 736          IFT     VORTEX-2                                                 V2  02 00730
                 737          GOTO    1                                                        V2  02 00731
                 738 ***************                                                           V2  02 00732
                 739 * INITIALIZE *                                                            V2  02 00733
                 740 ***************                                                           V2  02 00734
                 741          JSR     RTCOL,X      SPACE                                       V2  02 00735
                 742          DATA    RTCM11                                                   V2  02 00736
                 743          DATA    1                                                        V2  02 00737
                 744          JSR     RTCOL,X      OUTPUT HEADER LINE NUMBER 1                 V2  02 00738
                 745          DATA    RTCM1                                                    V2  02 00739
                 746          DATA    023                                                      V2  02 00740
                 747          JSR     RTCOL,X      SPACE                                       V2  02 00741
                 748          DATA    RTCM11                                                   V2  02 00742
                 749          DATA    1                                                        V2  02 00743
                 750          JSR     RTCOL,X      OUTPUT HEADER LINE NUMBER 2                 V2  02 00744
                 751          DATA    RTCM2                                                    V2  02 00745
                 752          DATA    016                                                      V2  02 00746
                 753          JSR     RTCOL,X      SPACE                                       V2  02 00747
                 754          DATA    RTCM11                                                   V2  02 00748
                 755          DATA    1                                                        V2  02 00749
                 756          LDAI    V$GFC                                                    V2  02 00750
                 757          STA     MA                                                       V2  02 00751
                 758          JSR     VMRRT,X                                                  V2  02 00752
                 759          LDA     VDATA        GET V$GFCB                                  V2  02 00753
                 760          STA     V$GFCB                                                   V2  02 00754
                 761          LDAI    V$BT                                                     V2  02 00755
                 762          STA     MA                                                       V2  02 00756
                 763          JSR     VMRRT,X                                                  V2  02 00757
                 764          LDA     VDATA        GET V$BTBM                                  V2  02 00758
                 765          STA     V$BTB                                                    V2  02 00759
                 766          LDAI    V$BF                                                     V2  02 00760
                 767          STA     MA                                                       V2  02 00761
                 768          JSR     VMRRT,X                                                  V2  02 00762
                 769          LDA     VDATA        GET V$BFC                                   V2  02 00763
                 770          STA     V$BFC                                                    V2  02 00764
                 771          LDAI    V$TF                                                     V2  02 00765
                 772          STA     MA                                                       V2  02 00766
                 773          JSR     VMRRT,X                                                  V2  02 00767
                 774          LDA     VDATA        GET V$TFC                                   V2  02 00768
                 775          STA     V$TFC                                                    V2  02 00769
                 776          LDAI    V$PGT        GET ADDRESS OF V$PAGE                       V2  02 00770
                 777          STA     MA                                                       V2  02 00771
                 778          JSR     VMRRT,X      READ VIRTUAL MEMORY                         V2  02 00772
                 779          LDA     VDATA        GET ADDRESS OF V$PAGE                       V2  02 00773
                 780          IAR                  BUMP OVER 1ST WORD                          V2  02 00774
                 781          STA     RTCAVP       SAVE                                        V2  02 00775
```

```
                782 TZA     TZA
                783         STA     RTCPN           INITIALIZE PAGE NO
                784         LDA     SGMRY4          GET PHYSICAL MEMORY SIZE IN K
                785         SUB     KD32            SUBTRACT OFF 1ST 32K
                786         XAN     TZA
                787         LRLA    1               CONVERT TO PAGES
                788         STA     RTCAP           INITIALIZE AVAILABLE PAGE COUNT
                789         LDAI    V$MIM
                790         STA     MA
                791         JSR     VMRRI,X
                792         LDA     VDATA           GET ADDRESS OF PAGE 0 MAP IMAGE
                793         STA     V$MIMG          SAVE
                794 ********************
                795 * PROCESS PAGE 0 *
                796 ********************
                797         JSR     RTCOL,X         OUTPUT PAGE 0 LINE
                798         DATA    RTCM3
                799         DATA    020
                800         TZA
                801         STA     RTCPF           SET PAGE FLAG
                802         INCR    1               SET MAP 0 FLAG
                803         STA     RTCM0F
                804         CALL    RTCFP           FLAG PAGE 0 AS NOT AVAILABLE
                805         TZA
                806         STA     RTCM0F          TURN OFF MAP 0 FLAG
                807 ********************************
                808 * PROCESS RESIDENT TASK AREA *
                809 ********************************
                810         LDA     V$CRDR
                811         IAR
                812         SUB     V$BVN
                813         JAZ     RTCX1           ANY RESIDENT TASKS ?
                814         INR     RTCPF           YES. FLAG PAGE 1 AVAILABLE
                815         INCR    03
                816         LDXI    RTCM6
                817         CALL    RTCCR           OUTPUT UNALLOCATED LINE
                818         JSR     RTCOL,X
                819         DATA    RTCM6
                820         DATA    014
                821         CALL    RTCFP           FLAG PAGE AS UNALLOCATED
                822         LDA     V$CRDR
                823         STA     RTCMA           INITIALIZE ADDRESS
                824         TZA
                825         STA     RTCPF           RESIDENT TASK SPACE IS UNAVAILABLE
                826 RTCL1   EQU     *
                827         JMPM    RTCGV           GET DATA FROM VIRTUAL MEMORY
                828         JAZ     RTCX1           EXIT AT END OF CORE RESIDENT DIRECTORY
                829         STA     RTCM5+016       MOVE 1ST WORD OF NAME
                830         JMPM    RTCGV
                831         STA     RTCM5+017       MOVE 2ND WORD
                832         JMPM    RTCGV
                833         STA     RTCM5+020       MOVE 3RD WORD
                834         JMPM    RTCGV           GOBBLE ENTRY ADDRESS
                835         JMPM    RTCGV           GET STARTING PAGE NUMBER
                836         SUB     RTCPN
                837         JAZ     RTC1            CHECK VALIDITY
                838 RTC2    LDAI    '35'
                839         CALL    SG5EAR          OUTPUT ERROR MESSAGE
                840         JMP     RELOAD          EXIT
                841 RTC1    JMPM    RTCGV           GET PAGE COUNT
                842         STA     RTCPC           SAVE
                843         LDB     RTCPN            GET BASE PAGE NUMBER
                844         LDXI    RTCM5            POINT X AT MESSAGE
                845         JMPM    RTCCR            CONVERT RANGE TO ASCII/STORE
                846         JSR     RTCOL,X         OUTPUT RESIDENT TASK LINE
                847         DATA    RTCM5
                848         DATA    021
                849         JMPM    RTCGV           GOBBLE LAST WORD
                850 RTCL2   EQU     *
                851         JMPM    RTCFP            FLAG PAGE AS OCCUPIED
                852         LDA     RTCPC
                853         DAR                     DROP PAGE COUNT
                854         STA     RTCPC
                855         JAN?    RTCL2            FLAG ALL PAGES IN TASK
                856         JMP     RTCL1           CONTINUE
                857 ********************************************************
                858 * PROCESS MEMORY FROM RESIDENT TASKS TO NUCLEUS *
                859 ********************************************************
                860 RTCX1   EQU     *
                861         INCR    1
                862         STA     RTCPF           SET PAGES AVAILABLE
                863         LDA     V$CRDR          GET RESIDENT DIRECTORY BASE
                864         LSRA    9               CONVERT TO PAGE
                865         SUB     RTCPN
                866         JAN     RTC2            ERROR IF RESIDENT TASK BEYOND DIRECT
                867         JAZ     RTCX2           EXIT AT END
                868         STA     RTCPC           SAVE PAGE COUNT
                869         LDB     RTCPN
                870         LDXI    RTCM6
                871         CALL    RTCCR           LOAD ASCII RANGE STRING
                872         JSR     RTCOL,X         OUTPUT UNALLOCATED LINE
                873         DATA    RTCM6
                874         DATA    014
```

```
875 RTCL3   EQU     *
876         CALL    RTCFP           FLAG PAGE AS UNALLOCATED
877         LDA     RTCPC
878         DAR                     DROP PAGE COUNT
879         STA     RTCPC
880         JANZ    RTCL3           LOOP TILL DONE
881 ********************
882 * PROCESS NUCLEUS *
883 ********************
884 RTCX2   EQU     *
885         TZA
886         STA     RTCPF           FLAG ALL NUCLEUS PAGES UNAVAILABLE
887         INCR    1
888         STA     RTCM0F          ALL NUCLEUS IS IN MAP ZERO
889         LDA     V$BTB           GET USER BLOCK ADDRESS
890         TZB
891         LLSR    9               CONVERT TO PAGE
892         SUB     RTCPN           GET PAGE COUNT
893         JBZ     *+3             BUMP FOR ODD PAGES
894         IAR
895         STA     RTCPC           SAVE
896         LDB     RTCPN           GET STARTING PAGE NUMBER
897         LDXI    RTCM7
898         CALL    RTCCR           GET ASCII RANGE STRING
899         JSR     RTCOL,X         OUTPUT NUCLEUS PROGRAM LINE
900         DATA    RTCM7
901         DATA    922
902 **********************
903 * PROCESS USER BLOCK *
904 **********************
905         LDB     V$BTB
906         LSRB    9               GET BASE PAGE NUMBER OF NUCLEUS TABLES
907         TBA
908         LRLA    9               CONVERT TO BASE ADDRESS
909         STA     RTCPC           SAVE
910         LDA     V$GFCB
911         SUB     RTCPC           GET SIZE IN WORDS
912         STB     RTCPC           SAVE BASE PAGE
913         TZB
914         LLSR    9               GET PAGE COUNT
915         JBZ     *+3
916         IAR                     BUMP ON ODD PAGE
917         LDB     RTCPC
918         LDXI    RTCM8
919         CALL    RTCCR           CONVERT TO RANGE STRING
920         JSR     RTCOL,X         OUTPUT NUCLEUS TABLE LINE
921         DATA    RTCM8
922         DATA    923
923 ****************************
924 * PROCESS GLOBAL FCB BLOCK *
925 ****************************
926         LDB     V$GFCB
927         LSRB    9               GET GLOBAL FCB PAGE NUMBER
928         TBA
929         LDXI    RTCM9
930         CALL    RTCCR           LOAD ASCII RANGE STRING
931         JSR     RTCOL,X         OUTPUT GLOBAL FCB LINE
932         DATA    RTCM9
933         DATA    916
934 ********************************
935 * PROCESS FOREGROUND COMMON BLOCK *
936 ********************************
937 PTCX6   EQU     *
938         LDA     SGMRY2
939         JAZ     RTCX7           ANY FOREGROUND COMMON ?
940         LDB     V$BFC           YES
941         LSRB    9               GET BASE PAGE NUMBER
942         TBA
943         LRLA    9               GET BASE ADDRESS
944         STA     RTCPC           SAVE
945         LDA     V$TOP
946         IAR                     GET TOP ADDRESS OF FOREGROUND COMMON
947         SUB     RTCPC
948         STB     RTCPC           SAVE BASE PAGE
949         TZB
950         LLSR    9               GET PAGE COUNT
951         JBZ     *+2
952         IAR                     BUMP FOR ODD PAGE
953         LDB     RTCPC           LOAD BASE PAGE
954         LDXI    RTCM10
955         CALL    RTCCR           LOAD ASCII RANGE STRING
956         JSR     RTCOL,X         OUTPUT COMMON LINE
957         DATA    RTCM10
958         DATA    923
959 RTCX7   EQU     *
960 RTCL9   LDB     =GMRY4
961         TBA
962         SUB     KD32
963         JAN     *+3             .LT. 32K ?
964         LDB     KT32            NO
965         TBA
966         LRLA    1               GET PAGE COUNT
967         SUB     RTCPN
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                          DAR                                                      V2   02 00962
                          JAN      RTCX8          TEST FOR END                     V2   02 00963
                          CALL     RTCFP          FLAG PAGE                        V2   02 00964
                          JMP      RTCL6          LOOP TILL DONE                   V2   02 00965
                 ****************************                                      V2   02 00966
                 * PROCESS MEMORY BEYOND 32K *                                     V2   02 00967
                 ****************************                                      V2   02 00968
                 RTCX8    EQU      *                                               V2   02 00969
                          LDA      SGMRY4                                          V2   02 00970
                          SUB      KD32           GET REMAINING K COUNT            V2   02 00971
                          JAN      RTCX9                                           V2   02 00972
                          JAZ      RTCX9                                           V2   02 00973
                          LRLA     1              CONVERT TO PAGES     T           V2   02 00974
                          LDB      RTCPN                                           V2   02 00975
                          LDXI     RTCM6                                           V2   02 00976
                          CALL     RTCCR          LOAD ASCII RANGE STRING          V2   02 00977
                          JSR      RTCOL,X        OUTPUT UNALLOCATED LINE          V2   02 00978
                          DATA     RTCM6                                           V2   02 00979
                          DATA     014                                             V2   02 00980
                 RTCX9    EQU      *                                               V2   02 00981
                          JSR      RTCOL,X        SPACE                            V2   02 00982
                          DATA     RTCM11                                          V2   02 00983
                          DATA     1                                               V2   02 00984
                          LDAI     /SNP                                            V2   02 00985
                          STA      MA                                              V2   02 00986
                          LDA      RTCAP          GET COUNT OF AVAILABLE PAGES     V2   02 00987
                          STA      VDATA                                           V2   02 00988
                          JSR      VMWRT,X        WRITE INTO VIRTUAL LOW CORE      V2   02 00989
                          JSR      IOW,X          OUTPUT LAST PAGE OF VIRTUAL MEMORY V2 02 00990
                          DATA     CBS+1                                           V2   02 00991
                 1        CONT                                                     V2   02 00992
                 **********************************                                     02 00993
                 * OUTPUT 'VORTEX SYSTEM READY' *                                       02 00994
                 **********************************                                     02 00995
003427 006505 A           JSR      SG5WAR,X                                             02 00996
003430 003700 A
003431 000003 A           DATA     DC             LUN                                   02 00997
003432 003533 A           DATA     SGVRDY         BUFFER ADDRESS                        02 00998
003433 000013 A           DATA     11             WORD COUNT                            02 00999
003434 073446 A           STX      RTC250         SAVE DST ADDRESS                      02 01000
003435 002000 A           CALL     IOCS                                                 02 01001
003436 003021 E
003437 000005 A           DATA     LIS,RTC240,RTC240,RTC240,RTC240                      02 01002
003440 003444 A
003441 003444 A
003442 003444 A
003443 003444 A
       003444 A  RTC240   EQU      *                                                    02 01003
003444 005041 A           TXA                                                           02 01004
003445 006130 A           ERAI     0                                                    02 01005
003446 000000 A
       003446 A  RTC250   EQU      *-1                                                  02 01006
003447 001010 A           JAZ      RTC260         JUMP IF DC =LIS                       02 01007
003450 003456 A
003451 006505 A           JSR      SG5WAR,X                                             02 01008
003452 003700 A
003453 000005 A           DATA     LIS            LUN                                   02 01009
003454 003533 A           DATA     SGVRDY         BUFFER ADDRESS                        02 01010
003455 000013 A           DATA     11             WORD COUNT                            02 01011
       003456 A  RTC260   EQU      *                                                    02 01012
                 *********************                                                  02 01013
                 * LOAD INITIALIZER *                                                   02 01014
                 *********************                                                  02 01015
003456 005102 A           INCR     02                                          -35      02 01016
003457 012733 A           LDA      SGMOD+1        CHECK SYS RMD MODEL TYPE     -35      02 01017
003460 001010 A           JPZ      RTC270         RMD MODEL A,B OR NOT C,D     E2505    02 01018
003461 003467 A
003462 022572 A           LDB      THREE          MODEL C                      -35      02 01019
003463 005311 A           DAR                                                  E2505    02 01020
003464 001010 A           JAZ      RTC270         'C'                          E2505    02 01021
003465 003467 A
003466 022573 A           LDB      FIVE           'D'                          E2505    02 01022
003467 063476 A  RTC270   STB      RTLOAD         SECTOR ADDR. WHERE VORTEX NUCLEUS  E2505 02 01023
003470 002000 A           CALL     IOCS           REWIND RMD                            02 01024
003471 003436 E
003472 002007 A           DATA     002000+RMD                                           02 01025
003473 002000 A           CALL     IOCS           SKIP SECTORD                          02 01026
003474 003471 E
003475 003007 A           DATA     003000+RMD                                           02 01027
       003476 A  RTLOAD   EQU      *                                           -35      02 01028
003476 000003 A           DATA     3              FIRST 3 ARE FOR PST /BAD TRK TABLE -35 02 01029
003477 002000 A           CALL     IOCS           READ ROTATING MEMORY                  02 01030
003500 003474 E
003501 040407 A           DATA     040400+RMD                                           02 01031
003502 001130 A           DATA     600            WORD COUNT                            02 01032
003503 000000 A           DATA     0              BUFFER ADDRESS                        02 01033
003504 001000 A           JMP      0600           EXECUTE INITIALIZER                   02 01034
003505 000600 A
       003506 A  RTC300   EQU      *                                                    02 01035
                 ********************                                                   02 01036
                 * PST READ ERROR *                                                     02 01037
                 ********************                                                   02 01038
003506 012623 A           LDA      ER13                                                 02 01039
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003507 002000 A 1046 RTC301 CALL     SG5EAR                                                    V202 01040
003510 003642 A
003511 001000 A 1047        JMP      RELOAD       RESTART DIRECTIVE PROCESSING                   02 01041
003512 004735 A
               1048        IFT      VORTEX-2                                                V2   02 01042
               1049        GOTO     1                                                       V2   02 01043
               1050 ********************************                                       V2   02 01044
               1051 * SET/RESET MEMORY FLAGS IN V$PAGE *                                     V2   02 01045
               1052 ********************************                                       V2   02 01046
               1053 RTCFP  ENTR                                                            V2   02 01047
               1054        TZB                                                             V2   02 01048
               1055        LDA      RTCPN        GET PAGE NUMBER                           V2   02 01049
               1056        LLSR     4                                                       V2   02 01050
               1057        LSRB     12                                                      V2   02 01051
               1058        ADD      RTCAVP       GET ADDRESS OF V$PAGE FLAG WORD           V2   02 01052
               1059        STA      MA                                                      V2   02 01053
               1060        COMP     021                                                     V2   02 01054
               1061        ADD      K16                                                     V2   02 01055
               1062        TAB                                                             V2   02 01056
               1063        JSR      VMRRT,X                                                 V2   02 01057
               1064        LDA      VDATA        GET V$PAGE FLAG WORD                       V2   02 01058
               1065        ANAE     BR0,B        CLEAR PAGE FLAG BIT                        V2   02 01059
               1066        LDX      RTCPF                                                   V2   02 01060
               1067        JXZ      RTCFP1       IS PAGE FLAG TO BE SET ?                   V2   02 01061
               1068        ORAE     BS0,B        YES. SET IT                                V2   02 01062
               1069 RTCFP1 STA      VDATA                                                   V2   02 01063
               1070        JSR      VMWRT,X      RESTORE FLAG WORD IN V$PAGE                V2   02 01064
               1071        LDA      RTCPF                                                   V2   02 01065
               1072        JAZ      *+3          IS PAGE AVAILABLE ?                        V2   02 01066
               1073        INR      RTCAP        YES. BUMP AVAILABLE PAGE COUNT             V2   02 01067
               1074        LDA      RTCPN        SET A=UNASSIGNED PAGE                      V2   02 01068
               1075        LDB      RTCM0F                                                  V2   02 01069
               1076        JBZ      *+3          IS PAGE IN MAP ZERO ?                      V2   02 01070
               1077        ORA      BS0          YES. SET READ/WRITE                        V2   02 01071
               1078        STA      VDATA                                                   V2   02 01072
               1079        LDA      V$MIMG                                                  V2   02 01073
               1080        ADD      RTCPN                                                   V2   02 01074
               1081        STA      MA                                                      V2   02 01075
               1082        JSR      VMWRT,X      WRITE PAGE ZERO MAP WORD                   V2   02 01076
               1083        INR      RTCPN        BUMP PAGE NUMBER                           V2   02 01077
               1084        JMP*     RTCFP        EXIT                                       V2   02 01078
               1085 1      CONT                                                            V2   02 01079
003513         1086 RTCVNE BSS      4            PST ENTRY FOR VORTEX NUCLEUS                  02 01080
003517         1087 RTCCIA BSS      1            CURRENT INPUT FILE ADDRESS FROM 'FL'          02 01081
003520         1088 SGPSTE BSS      1            PST ENTRY ADDRESS                             02 01082
003521         1089 RTCCMA BSS      1            CURRENT MEMORY ADDRESS                        02 01083
003522 120240 A 1090 SGNFND DATA     '              NOT FOUND'                                  02 01084
003523 120240 A
003524 120240 A
003525 120240 A
003526 120316 A
003527 147724 A
003530 120306 A
003531 147725 A
003532 147304 A
               1091        IFF      VORTEX-2                                                V2   02 01085
               1092 SGVRDY DATA     'VORTEX II SYSTEM READY'                                V2   02 01086
               1093        IFF      VORTEX-1                                                V2   02 01087
003533 120240 A 1094 SGVRDY DATA     '   VORTEX SYSTEM READY '                                  02 01088
003534 153317 A
003535 151324 A
003536 142730 A
003537 120323 A
003540 154723 A
003541 152303 A
003542 146640 A
003543 151305 A
003544 140704 A
003545 154640 A
               1095        IFT      VORTEX-2                                                V2   02 01089
               1096        GOTO     1                                                       V2   02 01090
               1097 RTCAP  DATA     0            AVAILABLE PAGE COUNT                       V2   02 01091
               1098 RTCAVP DATA     0            V$PAGE ADDRESS                             V2   02 01092
               1099 RTCM0F DATA     0            MAP ZERO FLAG                              V2   02 01093
               1100 RTCMA  DATA     0            CURRENT VIRTUAL ADDRESS                    V2   02 01094
               1101 RTCPC  DATA     6*0          PAGE COUNT                                 V2   02 01095
               1102 RTCPF  DATA     0            PAGE FLAG                                  V2   02 01096
               1103 RTCPN  DATA     0            CURRENT PAGE NO                            V2   02 01097
               1104 V$MIMG DATA     0            ADDRESS OF MAP 0 IMAGE                     V2   02 01098
               1105 V$TFC  DATA     0            TOP OF FOREGROUND COMMON                   V2   02 01099
               1106 ********************************                                       V2   02 01100
               1107 * CONVERT NUMERICS TO ASCII RANGE STRING *                              V2   02 01101
               1108 ********************************                                       V2   02 01102
               1109 RTCCR  ENTR                                                            V2   02 01103
               1110        STA      RTCCRA       SAVE REGS                                 V2   02 01104
               1111        STB      RTCCRB                                                 V2   02 01105
               1112        STX      RTCCRX                                                 V2   02 01106
               1113        DAR                                                             V2   02 01107
               1114        JANZ     RTCCR1       SINGLE PAGE ?                             V2   02 01108
               1115        LDB      ASCBL        YES                                       V2   02 01109
               1116        STB      P+X          BLANK OUT 1ST FIELD IN BUFFER             V2   02 01110
               1117        STB      P+3                                                    V2   02 01111
               1118        STB      P+4                                                    V2   02 01112
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1119                JMP     RTCCR2                                          V2  02 01113
1120 RTCCR1         TBA                     GET LEADING PAGE NUMBER         V2  02 01114
1121                JMPM    RTCCN           CONVERT TO ASCII STRING         V2  02 01115
1122                ORA     RTCCBL                                          V2  02 01116
1123                LDX     RTCCRX                                          V2  02 01117
1124                STA     2,X             STORE IN 1ST FIELD IN BUFFER    V2  02 01118
1125                STB     3,X                                             V2  02 01119
1126                LDA     RTCCDB                                          V2  02 01120
1127                STA     4,X             STORE IN BUFFER                 V2  02 01121
1128 RTCCR2         LDA     RTCCRB                                          V2  02 01122
1129                ADD     RTCCRA                                          V2  02 01123
1130                DAR                     GET LAST PAGE NUMBER            V2  02 01124
1131                JMPM    RTCCN           CONVERT TO ASCII STRING         V2  02 01125
1132                LDX     RTCCRX                                          V2  02 01126
1133                ORA     4,X                                             V2  02 01127
1134                STA     4,X             STORE IN BUFFER                 V2  02 01128
1135                STB     5,X                                             V2  02 01129
1136                JMP*    RTCCR                                           V2  02 01130
1137 ********************************                                        V2  02 01131
1138 * CONVERT NUMERIC TO ASCII OCTAL *                                      V2  02 01132
1139 ********************************                                        V2  02 01133
1140 RTCCN          ENTR                                                    V2  02 01134
1141                TZB                                                     V2  02 01135
1142                TZX                                                     V2  02 01136
1143                LLSR    6                                               V2  02 01137
1144                XANZ    RTCCNL          TEST FOR 1ST DIGIT NON-ZERO     V2  02 01138
1145                LRLA    5                                               V2  02 01139
1146                LLRL    3                                               V2  02 01140
1147                XANZ    RTCCNL          TEST FOR 2ND DIGIT NON-ZERO     V2  02 01141
1148                ORAE    RTCCBL,X        CONVERT 1ST 2 CHARS TO ASCII    V2  02 01142
1149                LSRB    5                                               V2  02 01143
1150                LLRL    3                                               V2  02 01144
1151                ORA     RTCCBL+1                                        V2  02 01145
1152                LLRL    16              POSITION STRING                 V2  02 01146
1153                ANA     RHW             CLEAR HIGH BYTE                 V2  02 01147
1154                JMP*    RTCCN           EXIT                            V2  02 01148
1155 RTCCRA         DATA    0               SAVE A                          V2  02 01149
1156 RTCCRB         DATA    0               SAVE B                          V2  02 01150
1157 RTCCRX         DATA    0               SAVE X                          V2  02 01151
1158 RTCCDB         DATA    '_ '                                            V2  02 01152
1159 RTCCNT         DATA    0,0             TEMP STORE                      V2  02 01153
1160 RTCCBL         DATA    '  '            BLANKS                          V2  02 01154
1161                DATA    ' 0'                                            V2  02 01155
1162                DATA    '00'                                            V2  02 01156
1163 RTCCNL         IXR                                                     V2  02 01157
1164 ********************************************                            V2  02 01158
1165 * GET WORD FROM VIRTUAL ADDRESS RTCMA *                                 V2  02 01159
1166 ********************************************                            V2  02 01160
1167 RTCGV          ENTR                                                    V2  02 01161
1168                LDA     RTCMA                                           V2  02 01162
1169                STA     MA               LOAD VIRTUAL MEMORY ADDRESS     V2  02 01163
1170                IAR                     BUMP ADDRESS                    V2  02 01164
1171                STA     RTCMA                                           V2  02 01165
1172                JSR     VMRRT,X          READ WORD FROM VIRTUAL MEMORY   V2  02 01166
1173                LDA     VDATA            GET IN A-REG FOR EXIT          V2  02 01167
1174                JMP*    RTCGV            EXIT                           V2  02 01168
1175 ************************************************                        V2  02 01169
1176 * OUTPUT PHYSICAL MAP LINE TO DC AND LO *                               V2  02 01170
1177 ************************************************                        V2  02 01171
1178 RTCOL          LDA     0,X             GET BUFFER ADDRESS              V2  02 01172
1179                STA     RTCOLD+3        STORE IN DC CALL SEQ            V2  02 01173
1180                STA     RTCOLL+3        STORE IN LO CALL SEQ            V2  02 01174
1181                LDA     1,X             GET WORD COUNT      0           V2  02 01175
1182                STA     RTCOLD+4        STORE IN DC CALL SEQ            V2  02 01176
1183                STA     RTCOLL+4        STORE IN LO CALL SEQ            V2  02 01177
1184                IXR                                                     V2  02 01178
1185                IXR                                                     V2  02 01179
1186                STX     RTCOLX          STORE EXIT                      V2  02 01180
1187                LDA     SGEDRA                                          V2  02 01181
1188                SRA     =0130000                                        V2  02 01182
1189                JAZ*    RTCOLX          EXIT IF LISTING SUPPRESSED      V2  02 01183
1190 RTCOLD         JSR     SG$WAR,X        OUTPUT TO DC                    V2  02 01184
1191                DATA    DC                                              V2  02 01185
1192                DATA    0               BUFFER ADDRESS                  V2  02 01186
1193                DATA    0               WORD COUNT                      V2  02 01187
1194                STX     RTCOLD          SAVE DST ADDRESS OF DC DEVICE   V2  02 01188
1195                CALL    IOCS            GET DST ADDRESS OF LO DEVICE    V2  02 01189
1196                DATA    LO,RTCOLE,RTCOLE,RTCOLE,RTCOLE                  V2  02 01190
1197 RTCOLE         TXA                     ,                               V2  02 01191
1198                ERA     RTCOLD                                          V2  02 01192
1199                JAZ*    RTCOLX          EXIT IF DC=LO                   V2  02 01193
1200 RTCOLL         JSR     SG$WAR,X        OUTPUT TO LO                    V2  02 01194
1201                DATA    LO                                              V2  02 01195
1202                DATA    0               BUFFER ADDRESS                  V2  02 01196
1203                DATA    0               WORD COUNT                      V2  02 01197
1204 RTCOLY         CALL    IOCS                                            V2  02 01198
1205                DATA    LO                                              V2  02 01199
1206                DATA    RTCOLZ,RTCOLZ,RTCOLZ,RTCOLY                     V2  02 01200
1207 RTCOLZ         JMP*    RTCOLX          EXIT                            V2  02 01201
1208 RTCOLD         DATA    0               DST ADDRESS OF DC DEVICE        V2  02 01202
1209 RTCOLX         DATA    0               RETURN ADDRESS                  V2  02 01203
1210 ***************                                                        V2  02 01204
1211 * MESSAGE TEXT *                                                       V2  02 01205
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                     1212 ****************                                                  V2   02 01206
                     1213 RTCM1   DATA     ' VORTEX II PHYSICAL MEMORY ALLOCATION'          V2   02 01207
                     1214 RTCM2   DATA     ' PAGES(OCTAL)    ALLOCATED TO'                  V2   02 01208
                     1215 RTCM3   DATA     '                0 PAGE 0 SYSTEM DATA'           V2   02 01209
                     1216 RTCM5   DATA     '                  RESIDENT TASK         '       V2   02 01210
                     1217 RTCM6   DATA     '                  UNALLOCATED'                  V2   02 01211
                     1218 RTCM7   DATA     '                  NUCLEUS PROGRAM MODULE'       V2   02 01212
                     1219 RTCM8   DATA     '                  NUCLEUS TABLE MODULE'         V2   02 01213
                     1220 RTCM9   DATA     '                  GLOBAL FCB PAGE'              V2   02 01214
                     1221 RTCM10  DATA     '                  FOREGROUND BLANK COMMON'      V2   02 01215
                     1222 RTCM11  DATA     '  '               SPACE                         V2   02 01216
                     1223 1       CONT                                                      V2   02 01217
                     1224         EJEC                                                           02 01218
                     1225 ***************************************************************        02 01219
                     1226 *                                                                      02 01220
                     1227 *                              SG5SDR                                  02 01221
                     1228 *                                                                      02 01222
                     1229 * PURPOSE: SGSSDR SEARCHES THE FILE-NAME DIRECTORY FOR THE NAME        02 01223
                     1230 *          SUPPLIED.                                                   02 01224
                     1231 *                                                                      02 01225
                     1232 * CALLING SEQUENCE: JSR     SG5SDR,X                                   02 01226
                     1233 *                   DATA    ADDRESS OF NAME                            02 01227
                     1234 *                   DATA    RELATIVE POINTER INTO PST                  02 01228
                     1235 *                                                                      02 01229
                     1236 * ENTRANCE PARAMETERS: (SGPBUF) = PST                                  02 01230
                     1237 *                                                                      02 01231
                     1238 * EXIT PARAMETERS: OVERFLOW SET; NAME FOUND, (B) = BUFFER ADDRESS      02 01232
                     1239 *                  OVERFLOW RESET; NAME NOT FOUND                      02 01233
                     1240 *                                                                      02 01234
                     1241 ***************************************************************        02 01235
          003546 A 1242 SG5SDR EQU      *                                                        02 01236
                     1243 ***************************                                            02 01237
                     1244 * COMPUTE PST ENTRY ADDRESS *                                          02 01238
                     1245 ***************************                                            02 01239
003546 073641 A 1246         STX     SDRRTA         SAVE RETURN ADDRESS                          02 01240
003547 025001 A 1247         LDB     1,X            GET RELATIVE POINTER                         02 0124'
003550 010000 L 1248         LDA     =SGPBUF-1                                                   02 01242
003551 162572 A 1249         MUL     THREE                                                       02 01243
003552 063556 A 1250         STB     SDR008         SAVE PST ENTRY ADDRESS                       02 01244
                     1251 ***************************                                            02 01245
                     1252 * INPUT FILE-NAME DIRECTORY *                                          02 01246
                     1253 ***************************                                            02 01247
003553 012527 A 1254         LDA     ONE            GET FILE-NAME DIRECTORY ADDRESS              02 01248
          003554 A 1255 SDR005 EQU      *                                                        02 01249
003554 053561 A 1256         STA     SDR010         SET IN READ CALL                             02 01250
003555 006010 A 1257         LDAI    0                                                           02 01251
003556 000000 A
          003556 A 1258 SDR008 EQU      *-1                                                      02 01252
003557 006505 A 1259         JSR     SG5RRM,X                                                    02 01253
003560 003740 A
003561 000000 A 1260 SDR010 DATA     0              SECTOR NUMBER                                02 01254
003562 000170 A 1261         DATA    120            WORD COUNT                                   02 01255
003563 000664 A 1262         DATA    SGIBUF         BUFFER ADDRESS                               02 01256
003564 001004 A 1263         JAN     SDR050         JUMP IF READ ERROR                           02 01257
003565 003631 A
                     1264 *****************                                                      02 01258
                     1265 * COMPARE NAMES *                                                      02 01259
                     1266 *****************                                                      02 01260
003566 010664 A 1267         LDA     SGIBUF                                                      02 01261
003567 001010 A 1268         JAZ     SDR050         JUMP IF NO ENTRIES                           02 01262
003570 003631 A
003571 012573 A 1269         LDA     FIVE                                                        02 01263
003572 120000 L 1270         ADD     =SGIBUF        COMPUTE FIRST ENTRY ADDRESS                  02 01264
003573 005012 A 1271         TAB                                                                 02 01265
003574 033641 A 1272         LDX     SDRRTA                                                      02 01266
003575 035000 A 1273         LDX     0,X            GET ADDRESS OF NAME                          02 01267
          003576 A 1274 SDR020 EQU      *                                                        02 01268
003576 016000 A 1275         LDA     0,B                                                         02 01269
003577 001010 A 1276         JAZ     SDR030         JUMP IF ENTRY DELETED                        02 01270
003600 003616 A
003601 001002 A 1277         JAP     SDR040         JUMP IF END OF DIRECTORY                     02 01271
003602 003623 A
003603 135000 A 1278         ERA     0,X                                                         02 01272
003604 001016 A 1279         JANZ    SDR030         JUMP IF FIRST TWO DON'T COMPARE              02 01273
003605 003616 A
003606 016001 A 1280         LDA     1,B                                                         02 01274
003607 135001 A 1281         ERA     1,X                                                         02 01275
003610 001016 A 1282         JANZ    SDR030         JUMP IF SECOND TWO DON'T COMPARE             02 01276
003611 003616 A
003612 016002 A 1283         LDA     2,B                                                         02 01277
003613 135002 A 1284         ERA     2,X                                                         02 01278
003614 001010 A 1285         JAZ     SDR060         JUMP IF ENTRY FOUND                          02 01279
003615 003635 A
          003616 A 1286 SDR030 EQU      *                                                        02 01280
                     1287 ****************************                                           02 01281
                     1288 * UPDATE DIRECTORY POINTER *                                           02 01282
                     1289 ****************************                                           02 01283
003616 005021 A 1290         TBA                                                                 02 01284
003617 122574 A 1291         ADD     SIX                                                         02 01285
003620 005012 A 1292         TAB                                                                 02 01286
003621 001000 A 1293         JMP     SDR020                                                      02 01287
003622 003576 A
          003623 A 1294 SDR040 EQU      *                                                        02 01288
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                 1295 ***********************                                       02 01289
                 1296 * AT END OF DIRECTORY *                                       02 01290
                 1297 ***********************                                       02 01291
003623 005311 A 1298        DAR                                                     02 01292
003624 001010 A 1299        JAZ     SDR050       JUMP IF NAME NOT FOUND             02 01293
003625 003631 A
003626 005111 A 1300        IAR                                                     02 01294
003627 001000 A 1301        JMP     SDR005       JUMP TO INPUT NEXT FILE-NAME DIRECTORY 02 01295
003630 003554 A
       003631 A 1302 SDR050 EQU     *                                               02 01296
                 1303 *******************                                           02 01297
                 1304 * NAME NOT FOUND *                                            02 01298
                 1305 *******************                                           02 01299
003631 007400 A 1306        ROF                                                     02 01300
003632 033641 A 1307        LDX     SDRRTA                                          02 01301
003633 006705 A 1308        IJMP    2,X          RETURN                             02 01302
003634 000002 A
       003635 A 1309 SDR060 EQU     *                                               02 01303
                 1310 **************                                                02 01304
                 1311 * NAME FOUND *                                                02 01305
                 1312 **************                                                02 01306
003635 007401 A 1313        SOF                                                     02 01307
003636 033641 A 1314        LDX     SDRRTA                                          02 01308
003637 006705 A 1315        IJMP    2,X          RETURN                             02 01309
003640 000002 A
003641           1316 SDRRTA BSS     1            RETURN ADDRESS                     02 01310
                 1317        EJEC                                                   02 01311
                 1318 ********************************************************************** 02 01312
                 1319 *                                                             02 01313
                 1320 *                               SG5EAR                        02 01314
                 1321 *                                                             02 01315
                 1322 * PURPOSE: SG5EAR OUTPUTS THE APPROPRIATE ERROR MESSAGE AND ATTEMPTS- 02 01316
                 1323 *          RECOVERY.                                          02 01317
                 1324 *                                                             02 01318
                 1325 * CALLING SEQUENCE: CALL   SG5EAR                             02 01319
                 1326 *                                                             02 01320
                 1327 * ENTRANCE PARAMETERS: (A) = TWO ASCII CHARACTERS OUTPUT ALONG WITH 02 01321
                 1328 *                            'SGXX'.                          02 01322
                 1329 *                                                             02 01323
                 1330 * EXIT PARAMETERS: NONE                                       02 01324
                 1331 *                                                             02 01325
                 1332 ********************************************************************** 02 01326
003642 000000 A 1333 SG5EAR ENTR                                                    02 01327
                 1334 **************************                                    02 01328
                 1335 * OUTPUT ERROR MESSAGE *                                      02 01329
                 1336 **************************                                    02 01330
003643 053677 A 1337        STA     SGEMSG+1     SET ERROR IN OUTPUT BUFFER         02 01331
       003644 A 1338 EAR010 EQU     *                                               02 01332
003644 002000 A 1339        CALL    IOCS         OUTPUT ERROR TO 'OC'               02 01333
003645 003500 E
003646 001003 A 1340        DATA    OC+01000     LUN                                02 01334
003647 000002 A 1341        DATA    2            WORD COUNT                         02 01335
003650 003676 A 1342        DATA    SGEMSG       LOCATION                           02 01336
       003651 A 1343 EAR020 EQU     *                                               02 01337
003651 002000 A 1344        CALL    IOCS         CHECK STATUS                       02 01338
003652 003645 E
003653 000003 A 1345        DATA    OC           LUN                                02 01339
003654 003644 A 1346        DATA    EAR010       ERR                                02 01340
003655 003644 A 1347        DATA    EAR010       EOF                                02 01341
003656 003644 A 1348        DATA    EAR010       BEOD                               02 01342
003657 003651 A 1349        DATA    EAR020       BUSY                               02 01343
       003660 A 1350 EAR030 EQU     *                                               02 01344
003660 002000 A 1351        CALL    IOCS         OUTPUT ERROR TO 'LO'               02 01345
003661 003652 E
003662 001005 A 1352        DATA    LIS+01000    LUN                                02 01346
003663 000002 A 1353        DATA    2            WORD COUNT                         02 01347
003664 003676 A 1354        DATA    SGEMSG       LOCATION                           02 01348
       003665 A 1355 EAR040 EQU     *                                               02 01349
003665 002000 A 1356        CALL    IOCS         CHECK STATUS                       02 01350
003666 003661 E
003667 000005 A 1357        DATA    LIS          LUN                                02 01351
003670 003660 A 1358        DATA    EAR030       ERR                                02 01352
003671 003660 A 1359        DATA    EAR030       EOF                                02 01353
003672 003660 A 1360        DATA    EAR030       BEOD                               02 01354
003673 003665 A 1361        DATA    EAR040       BUSY                               02 01355
003674 001000 A 1362        JMP*    SG5EAR       RETURN                             02 01356
003675 103642 A
003676 151707 A 1363 SGEMSG DATA    'SG  '                                          02 01357
003677 120240 A
                 1364        EJEC                                                   02 01358
                 1365 ********************************************************************** 02 01359
                 1366 *                                                             02 01360
                 1367 *                               SG5WAR                        02 01361
                 1368 *                                                             02 01362
                 1369 * PURPOSE: SG5WAR OUTPUTS A RECORD TO THE DEVICE SPECIFIED.   02 01363
                 1370 *                                                             02 01364
                 1371 * CALLING SEQUENCE: JSR    SG5WAR,X                           02 01365
                 1372 *                   DATA   LUN                                02 01366
                 1373 *                   DATA   BUFFER ADDRESS                     02 01367
                 1374 *                   DATA   WORD COUNT                         02 01368
                 1375 *                                                             02 01369
                 1376 ********************************************************************** 02 01370
       003700 A 1377 SG5WAR EQU     *                                               02 01371
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                    1378 ********************
                    1379 * BUILD I/O CALL *
                    1380 ********************
003700  015000  A 1381          LDA     0,X             GET LUN                                 02 01372
003701  053722  A 1382          STA     WARSLU          SET IN STATUS CALL                      02 01373
003702  112540  A 1383          ORA     BS9             SET WRITE ALPHAMERIC MODE               02 01374
003703  053715  A 1384          STA     WARLUN          SET IN CALL                             02 01375
003704  015001  A 1385          LDA     1,X             GET BUFFER ADDRESS                      02 01376
003705  053717  A 1386          STA     WARLOC          SET IN CALL                             02 01377
003706  015002  A 1387          LDA     2,X             GET WORD COUNT                          02 01378
003707  053716  A 1388          STA     WARWDC          SET IN CALL                             02 01379
003710  005041  A 1389          TXA                                                             02 01380
003711  122572  A 1390          ADD     THREE           COMPUTE RETURN ADDRESS                  02 01381
003712  053731  A 1391          STA     WAR030                                                  02 01382
                    1392 ********************                                                  02 01383
                    1393 * OUTPUT RECORD *                                                    02 01384
                    1394 ********************                                                  02 01385
        003713  A 1395 WAR010  EQU     *                                                       02 01386
003713  002000  A 1396          CALL    IOCS                                                    02 01387
003714  003666  E
003715  000000  A 1397 WARLUN  DATA    0               LUN                                     02 01388
003716  000000  A 1398 WARWDC  DATA    0               WORD COUNT                              02 01389
003717  000000  A 1399 WARLOC  DATA    0               LOCATION                                02 01390
                    1400 ********************                                                  02 01391
                    1401 * CHECK I/O STATUS *                                                02 01392
                    1402 ********************                                                  02 01393
        003720  A 1403 WAR020  EQU     *                                                       02 01394
003720  002000  A 1404          CALL    IOCS                                                    02 01395
003721  003714  E
003722  000000  A 1405 WARSLU  DATA    0               LUN                                     02 01396
003723  003732  A 1406          DATA    WAR040          ERR                                     02 01397
003724  003732  A 1407          DATA    WAR040          EOF                                     02 01398
003725  003732  A 1408          DATA    WAR040          BEOD                                    02 01399
003726  003720  A 1409          DATA    WAR020          BUSY                                    02 01400
003727  005101  A 1410          INCR    A                                                       02 01401
        003730  A 1411 WAR025  EQU     *                                                       02 01402
003730  001000  A 1412          JMP     0               RETURN                                  02 01403
003731  000000  A
        003731  A 1413 WAR030  EQU     *-1                                                     02 01404
        003732  A 1414 WAR040  EQU     *                                                       02 01405
003732  012625  A 1415          LDA     ER15                                                    02 01406
003733  002000  A 1416          CALL    SG5EAR          OUTPUT WRITE ERROR                      02 01407
003734  003642  A
003735  005301  A 1417          DECR    A                                                       02 01408
003736  001000  A 1418          JMP     WAR025                                                  02 01409
003737  003730  A
                    1419          EJEC                                                        02 01410
                    1420 ********************************************************************** 02 01411
                    1421 *                                                                    02 01412
                    1422 *                          SG5RRM                                    02 01413
                    1423 *                                                                    02 01414
                    1424 * PURPOSE: SG5RRM INPUTS THE NUMBER OF WORDS SPECIFIED FROM THE      02 01415
                    1425 *          ROTATING MEMORY DEVICE.                                   02 01416
                    1426 *                                                                    02 01417
                    1427 * CALLING SEQUENCE: JSR     SG5RRM,X                                02 01418
                    1428 *                   DATA    SECTOR NUMBER                           02 01419
                    1429 *                   DATA    WORD COUNT                              02 01420
                    1430 *                   DATA    BUFFER ADDRESS                          02 01421
                    1431 *                                                                    02 01422
                    1432 * ENTRANCE PARAMETERS: (A) = PST ENTRY ADDRESS                       02 01423
                    1433 *                                                                    02 01424
                    1434 ********************************************************************** 02 01425
        003740  A 1435 SG5RRM  EQU     *                                                       02 01426
003740  053746  A 1436          STA     RRM002          SET PST ENTRY ADDRESS IN CALL           02 01427
003741  074044  A 1437          STX     PRMRTA          SAVE RETURN ADDRESS                     02 01428
003742  015000  A 1438          LDA     0,X             GET RELATIVE SECTOR NUMBER              02 01429
003743  053747  A 1439          STA     RRM004          SET RELATIVE SECTOR NUMBER IN CALL      02 01430
003744  006505  A 1440          JSR     SG5BTT,X        CONVERT TO ACTUAL SECTOR NUMBER         02 01431
003745  004116  A
003746          1441 RRM002  BSS     1               PST ENTRY ADDRESS                       02 01432
003747          1442 RRM004  BSS     1               RELATIVE SECTOR NUMBER                  02 01433
003750  001004  A 1443          JAN     RRM050          JUMP IF ERROR                           02 01434
003751  004001  A
003752  002000  A 1444          CALL    RRM5KP          SKIP TO PROPER SECTOR                   02 01435
003753  004056  A
                    1445 ********************                                                  02 01436
                    1446 * READ ROTATING MEMORY *                                            02 01437
                    1447 ********************                                                  02 01438
003754  034031  A 1448          LDX     PRMRTA                                                  02 01439
003755  015001  A 1449          LDA     1,X                                                     02 01440
003756  053764  A 1450          STA     RRM020          SET WORD COUNT IN CALL                  02 01441
003757  015002  A 1451          LDA     2,X                                                     02 01442
003760  053765  A 1452          STA     RRM030          SET BUFFER ADDRESS IN CALL              02 01443
003761  002000  A 1453          CALL    IOCS                                                    02 01444
003762  003721  E
003763  040407  A 1454          DATA    240400+RMD                                              02 01445
003764  000000  A 1455 RRM020  DATA    0                                                       02 01446
003765  000000  A 1456 RRM030  DATA    0                                                       02 01447
                    1457 ********************                                                  02 01448
                    1458 * CHECK STATUS *                                                    02 01449
                    1459 ********************                                                  02 01450
        003766  A 1460 RRM040  EQU     *                                                       02 01451
003766  002000  A 1461          CALL    IOCS                                                    02 01452
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003767 003762 E
003770 000007 A 1462           DATA    RMD                                                    02 01456
003771 004001 A 1463           DATA    RRM050          ERR                                    02 01457
003772 004001 A 1464           DATA    RRM050          EOF                                    02 01458
003773 004001 A 1465           DATA    RRM050          BEOD                                   02 01459
003774 003766 A 1466           DATA    RRM040          BUSY                                   02 01460
003775 015000 A 1467           LDA     0,X             GET WORD COUNT                         02 01461
       003776 A 1468 RRM045    EQU     *                                                      02 01462
003776 034007 A 1469           LDX     RRMRTA                                                 02 01463
003777 006705 A 1470           IJMP    3,X             RETURN                                 02 01464
004000 000003 A
       004001 A 1471 RRM050    EQU     *                                                      02 01465
                1472 ************                                                             02 01466
                1473 * I/O ERROR *                                                           02 01467
                1474 ************                                                             02 01468
004001 012623 A 1475           LDA     ER13                                                   02 01469
004002 002000 A 1476           CALL    SG5EAR          READ ERROR                             02 01470
004003 003642 A
004004 001000 A 1477           JMP     RELOAD          RESTART DIRECTIVE PROCESSING           02 01471
004005 004735 A
004006          1478 RRMRTA    BSS     1               RETURN ADDRESS                         02 01472
                1479           EJEC                                                           02 01473
                1480 ********************************************************************** 02 01474
                1481 *                                                                        02 01475
                1482 *                          SG5WRM                                        02 01476
                1483 *                                                                        02 01477
                1484 * PURPOSE: SG5WRM OUTPUTS THE NUMBER OF WORDS SPECIFIED TO THE           02 01478
                1485 *          ROTATING MEMORY DEVICE.                                       02 01479
                1486 *                                                                        02 01480
                1487 * CALLING SEQUENCE: JSR    SG5WRM,X                                     02 01481
                1488 *                   DATA   SECTOR NUMBER                                02 01482
                1489 *                   DATA   WORD COUNT                                   02 01483
                1490 *                   DATA   BUFFER ADDRESS                               02 01484
                1491 *                                                                        02 01485
                1492 * ENTRANCE PARAMETERS: (A) = PST ENTRY ADDRESS                           02 01486
                1493 *                                                                        02 01487
                1494 ********************************************************************** 02 01488
       004007 A 1495 SG5WRM    EQU     *                                                      02 01489
004007 054005 A 1496           STA     WRM002          SET PST ENTRY ADDRESS IN CALL          02 01490
004010 074044 A 1497           STX     WRMRTA          SAVE RETURN ADDRESS                    02 01491
004011 015000 A 1498           LDA     0,X             GET RELATIVE SECTOR NUMBER             02 01492
004012 054003 A 1499           STA     WRM004          SET RELATIVE SECTOR NUMBER IN CALL     02 01493
004013 006505 A 1500           JSR     SG5BTT,X        CONVERT TO ACTUAL SECTOR NUMBER        02 01494
004014 004116 A
004015          1501 WRM002    BSS     1               PST ENTRY ADDRESS                      02 01495
004016          1502 WRM004    BSS     1               RELATIVE SECTOR NUMBER                 02 01496
004017 001004 A 1503           JAN     WRM050          JUMP IF ERROR                          02 01497
004020 004050 A
004021 002000 A 1504           CALL    RRMSKP                                  -35            02 01498
004022 004056 A
                1505 **********************                                                   02 01499
                1506 * WRITE ROTATING MEMORY *                                               02 01500
                1507 **********************                                                   02 01501
004023 034031 A 1508           LDX     WRMRTA                                                 02 01502
004024 015001 A 1509           LDA     1,X                                                    02 01503
004025 054005 A 1510           STA     WRM020          SET WORD COUNT IN CALL                 02 01504
004026 015002 A 1511           LDA     2,X                                                    02 01505
004027 054004 A 1512           STA     WRM030          SET BUFFER ADDRESS IN CALL             02 01506
004030 002000 A 1513           CALL    IOCS                                                   02 01507
004031 003767 E
004032 041007 A 1514           DATA    041000+RMD                                             02 01508
004033 000000 A 1515 WRM020    DATA    0                                                      02 01509
004034 000000 A 1516 WRM030    DATA    0                                                      02 01510
                1517 ****************                                                         02 01511
                1518 * CHECK STATUS *                                                        02 01512
                1519 ****************                                                         02 01513
       004035 A 1520 WRM040    EQU     *                                                      02 01514
004035 002000 A 1521           CALL    IOCS                                                   02 01515
004036 004031 E
004037 000007 A 1522           DATA    RMD                                                    02 01516
004040 004050 A 1523           DATA    WRM050          ERR                                    02 01517
004041 004050 A 1524           DATA    WRM050          EOF                                    02 01518
004042 004050 A 1525           DATA    WRM050          BEOD                                   02 01519
004043 004035 A 1526           DATA    WRM040          BUSY                                   02 01520
004044 005101 A 1527           INCR    A                                                      02 01521
       004045 A 1528 WRM045    EQU     *                                                      02 01522
004045 034007 A 1529           LDX     WRMRTA                                                 02 01523
004046 006705 A 1530           IJMP    3,X             RETURN                                 02 01524
004047 000003 A
       004050 A 1531 WRM050    EQU     *                                                      02 01525
                1532 ************                                                             02 01526
                1533 * I/O ERROR *                                                           02 01527
                1534 ************                                                             02 01528
004050 012623 A 1535           LDA     ER13                                                   02 01529
004051 002000 A 1536           CALL    SG5EAR          WRITE ERROR                            02 01530
004052 003642 A
004053 001000 A 1537           JMP     RELOAD          RESTART DIRECTIVE PROCESSING           02 01531
004054 004735 A
004055          1538 WRMRTA    BSS     1               RETURN ADDRESS                         02 01532
                1539 *                                                                        02 01533
                1540 *                                                                        02 01534
                1541 *       PURPOSE  RRMSKP WILL REWIND THAN SKIP FORWARD TO THE     -35     02 01535
                1542 *                 SECTOR COUNT SPECIFIED IN THE A,B REGS.       -3      02 01536
```

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                    1543 *
                    1544 *       CALLING SEQ.  CALL   RRMSKP                                  -35      02 01537
                    1545 *                                                                    -35      02 01538
                    1546 *       ENTRANCE PARAMETER   A,B REGS. CONTAIN SECTOR COUNT          -35      02 01539
                    1547 *                                                                    -35      02 01540
                    1548 *                                                                    -35      02 01541
                    1549         EJEC                                                         -35      02 01542
004056 000000 A     1550 RRMSKP  ENTR                                                         -35      02 01543
004057 054027 A     1551         STA     RRM016          SAVE COUNT                           -35      02 01544
004060 064006 A     1552         STB     RRM010                                               -35      02 01545
004061 002000 A     1553         CALL    IOCS            REW                                  -35      02 01546
004062 004036 E
004063 002007 A     1554         DATA    02000+RMD                                            -35      02 01547
004064 002000 A     1555         CALL    IOCS            NOW SKIP FORWARD                     -35      02 01548
004065 004062 E
004066 003007 A     1556         DATA    03000+RMD                                            -35      02 01549
004067 000000 A     1557 RRM010  DATA    0                                                    -35      02 01550
004070 014016 A     1558         LDA     RRM016                                               -35      02 01551
004071 054007 A     1559         STA     RRM012                                               -35      02 01552
004072 001010 A     1560         JAZ*    RRMSKP          NO. OF SECTORS NOT GTR THAN 32K      -35      02 01553
004073 104056 A
004074 005311 A     1561         DAR                                                          -35      02 01554
004075 054011 A     1562         STA     RRM016          STORE FOR SKIP LOOP                  -35      02 01555
004076 002000 A     1563         CALL    IOCS            STORE FOR SKIP LOOP                  -35      02 01556
004077 004065 E
004100 003007 A     1564         DATA    03000+RMD       SKIP FORWARD                         -35      02 01557
004101 000000 A     1565 RRM012  DATA    0               NO. OF MULTIPLES OF 32K              -35      02 01558
004102 002000 A     1566         CALL    IOCS                                                 -35      02 01559
004103 004077 E
004104 003007 A     1567         DATA    03000+RMD                                            -35      02 01560
004105 077777 A     1568 RRM014  DATA    077777          SECTOR COUNT 32K-1                   -35      02 01561
004106 006010 A     1569         LDAT    *                                                    -35      02 01562
004107 004106 A
                    1570 RRM016  EQU     *-1                                                  -35      02 01563
004110 001010 A     1571         JAZ*    RRMSKP                                               -35      02 01564
004111 104036 A
004112 005311 A     1572         DAR                                                          -35      02 01565
004113 057000 I     1573         STA     RRM016                                               -35      02 01566
004114 001000 A     1574         JMP     RRM012+1        JMP TO SKIP                          -35      02 01567
004115 004102 A
                    1575         EJEC                                                                  02 01568
                    1576 ********************************************************************        02 01569
                    1577 *                                                                           02 01570
                    1578 *                              SG5BTT                                       02 01571
                    1579 *                                                                           02 01572
                    1580 * PURPOSE: SG5BTT CONVERTS A RELATIVE SECTOR NUMBER IN A PARTITION         02 01573
                    1581 *          TO AN ABSOLUTE SECTOR NUMBER ON THE RMD, SKIPPING ALL            02 01574
                    1582 *          BAD TRACKS.                                                      02 01575
                    1583 *                                                                           02 01576
                    1584 * CALLING SEQUENCE: JSR     SG5BTT,X                                       02 01577
                    1585 *                   DATA    PST ENTRY ADDRESS                              02 01578
                    1586 *                   DATA    RELATIVE SECTOR NUMBER IN PARTITION            02 01579
                    1587 *                                                                           02 01580
                    1588 * ENTRANCE PARAMETERS: PST IN (SGPBUF)                                     02 01581
                    1589 *                                                                           02 01582
                    1590 ********************************************************************        02 01583
004116 A            1591 SG5BTT  EQU     *               ENTRY                                    02 01584
004116 074155 A     1592         STX     BTTRTA          SAVE RETURN ADDRESS                      02 01585
004117 035000 A     1593         LDX     0,X             PARTITION ENTRY ADDR.                    02 01586
004120 015000 A     1594         LDA     0,X             GET PARTITION START TRK NO.              02 01587
004121 054154 A     1595         STA     BTTTNO                                                   02 01588
                    1596 ************************                                                02 01589
                    1597 * CHECK FOR BAD TRACK TABLE *                                           02 01590
                    1598 ************************                                                02 01591
004122 014156 A     1599         LDA     BBD,K           NO. OF WORDS IN BAD TRK TABLE        -35 02 01592
004123 001010 A     1600         JAZ     BTT030          JUMP IF NO BAD TRACK TABLE               02 01593
004124 004161 A
                    1601 ************************************                                    02 01594
                    1602 * COMPUTE ADDRESS OF TRACK IN BTT *                                    02 01595
                    1603 ************************************                                    02 01596
004125 024150 A     1604         LDB     BTTTNO                                                   02 01597
004126 005322 A     1605         DBR                                                              02 01598
004127 005001 A     1606         TZA                                                              02 01599
004130 170000 L     1607         DIV     =16             COMPUTE RELATIVE POSITION IN BTT         02 01600
004131 005014 A     1608         TAX                     SAVE RELATIVE POSITION IN BTT ENTRY      02 01601
004132 005021 A     1609         TBA                                                              02 01602
004133 120000 L     1610         ADD     =SGPBUF+64      START OF BAD TRK TABLE               -35 02 01603
004134 054143 A     1611         STA     BTT+DR          SAVE ADDRESS OF BTT ENTRY                02 01604
004135 005144 A     1612         TXR                                                              02 01605
004136 A            1613 BTT010  EQU     *                                                        02 01606
                    1614 ************************                                                02 01607
                    1615 * CHECK FOR NEXT GOOD TRACK *                                          02 01608
                    1616 ************************                                                02 01609
004136 005041 A     1617         TXA                                                              02 01610
004137 006120 A     1618         ADDI    04337                                                    02 01611
004140 004337 A
004141 054002 A     1619         STA     BTT020                                                   02 01612
004142 024135 A     1620         LDB     BTT+DR                                                   02 01613
004143 016000 A     1621         LDA     0,B                                                      02 01614
004144 004340 A     1622 BTT020  LSRA    0               SHIFT TO BIT 0                           02 01615
004145 006440 A     1623         BT      BAD,BTT030      JMP IF TRK GOOD                          02 01616
004146 004161 A
004147 044126 A     1624         INR     BTTTNO          UPDATE TRK COUNT.                        02 01617
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004150 005144 A 1625          IXR                                                  02 01619
004151 005041 A 1626          TXA                                                  02 01620
004152 140000 L 1627          SUB     =17                                          02 01621
004153 001004 A 1628          JAN     BTT010          JUMP IF NOT DONE CHECKING ENTRY  02 01622
004154 004136 A
004155 032527 A 1629          LDX     ONE                                          02 01623
004156 044121 A 1630          INR     BTTADR                                       02 01624
004157 001000 A 1631          JMP     BTT010          CHECK NEXT ENTRY             02 01625
004160 004136 A
       004161 A 1632 BTT030   EQU     *                                            02 01626
004161 034112 A 1633          LDX     BTTRTA                                       02 01627
004162 025001 A 1634          LDB     1,X             GET RELATIVE SECTOR NUMBER   02 01628
004163 005322 A 1635          DBR                                                  02 01629
004164 005001 A 1636          TZA                                                  02 01630
004165 171244 A 1637          DIV     SGPBUF          DIVIDE BY NO. OF SECTORS / TRK  02 01631
004166 054106 A 1638          STA     BTTRSN                                       02 01632
004167 005021 A 1639          TBA                     B= RELATIVE TRK NO.IN PARTITION  02 01633
004170 124105 A 1640          ADD     BTTTNO          ADD BASE TRK NO. OF PARTITION.  02 01634
004171 054105 A 1641          STA     BTTTNO+1        SAVE ACTUAL TRK NO. REQUIRED.  02 01635
                 1642 *                                                            02 01636
                 1643 *                                                            02 01637
                 1644 * NOW   ADJUST  FOR BAD TRACKS.                              02 01638
                 1645 *                                                            02 01639
       004172 A 1646 SGBDT    EQU     *               ADJUST FOR BAD TRACKS WITHIN  02 01640
004172 012740 A 1647          LDA     IEND+1           RANGE IN BTTTNO AND BTTTNO+1  02 01641
004173 001010 A 1648          JAZ     BTT040          NO BAD TRACKS.               02 01642
004174 004255 A
004175 035000 A 1649          LDX     0,X             PST ENTRY ADDR.              02 01643
004176 015002 A 1650          LDA     2,X             NO. OF BAD TRKS IN PARTITION.  02 01644
004177 001010 A 1651          JAZ     BTT040          NONE.                        02 01645
004200 004255 A
004201 010000 L 1652          LDA     =SGPBUF+64                                   02 01646
004202 054020 A 1653          STA     SGBD03+1        BAD TRK TABLE ADDR.          02 01647
004203 014073 A 1654          LDA     BTTTNO+1        TRK NO. REQUIRED.            02 01648
004204 144071 A 1655          SUB     BTTTNO          TRUE PARTITION               02 01649
004205 005014 A 1656          TAX                     NO.OF TRKS TO TEST -1        02 01650
004206 014067 A 1657          LDA     BTTTNO          START TRK.                   02 01651
004207 005311 A 1658          DAR                                                  02 01652
004210 005012 A 1659          TAB                                                  02 01653
004211 004144 A 1660          LSRB    4               B= INDEX INTO BAD TRK TABLE  02 01654
004212 152600 A 1661          ANA     BM17            NOW 0-15                     02 01655
004213 054040 A 1662          STA     SGBD09          SAVE COUNT                   02 01656
004214 124032 A 1663          ADD     SGBD07+1        LSRA INSTRUCTION             02 01657
004215 054003 A 1664          STA     SGBD05                                       02 01658
004216 014025 A 1665          LDA     SGBD07-2        =077760                      02 01659
004217 124034 A 1666          ADD     SGBD09                                       02 01660
004220 152566 A 1667          ANA     BR15                                         02 01661
004221 054032 A 1668          STA     SGBD09                                       02 01662
004222 006016 A 1669 SGBD03   LDAE    *,B             GET BAD TRK TABLE WORD.      02 01663
004223 004222 A
004224 004340 A 1670 SGBD05   LSRA    0               MODIFIED ABOVE.              02 01664
004225 006440 A 1671          BT      BA0+0,SGBD06    1= BAD TRK                   02 01665
004226 004232 A
004227 044047 A 1672          INR     BTTTNO+1        INCREMENT TO NEXT TRACK      02 01666
004230 001000 A 1673          JMP     SGBD06+3                                     02 01667
004231 004235 A
004232 001040 A 1674 SGBD06   JXZ     BTT040          ALL TRKS CHECKED. CK IF WITHIN PART.  02 01668
004233 004255 A
004234 005344 A 1675          DXR                     DECREMENT NO. OF TRKS TO TEST.  02 01669
004235 007400 A 1676          ROF                                                  02 01670
004236 044015 A 1677          INR     SGBD09          BIT COUNT                    02 01671
004237 004341 A 1678          LSRA    1                                            02 01672
004240 001007 A 1679          JOFN    SGBD05+1        TEST NEXT TRK                02 01673
004241 004225 A
004242 005122 A 1680          IBR                     IF OVERFLOW ON, GET NEXT BAD TRK WD  02 01674
004243 006010 A 1681          LDAI    077760                                       02 01675
004244 077760 A
004245 054006 A 1682          STA     SGBD09                                       02 01676
004246 006010 A 1683 SGBD07   LDAI    04340           LSRA  0                      02 01677
004247 004340 A
004250 006057 A 1684          STAE    SGBD05                                       02 01678
004251 004221 A
004252 001001 A 1685          JOF     SGBD03          ALWAYS JMP.RESET OVERFLOW.   02 01679
004253 004222 A
004254 000000 A 1686 SGBD09   DATA    0               BIT COUNT FOR BAD TRK WORD.  02 01680
                 1687 *                                                            02 01681
       004255 A 1688 BTT040   EQU     *                                            02 01682
                 1689 ********************************                            02 01683
                 1690 * CHECK FOR END OF PARTITION *                               02 01684
                 1691 ********************************                            02 01685
004255 034016 A 1692          LDX     BTTRTA          GET RETURN ADDRESS           02 01686
004256 025000 A 1693          LDB     0,X             GET PST INFO ADDRESS         02 01687
004257 014017 A 1694          LDA     BTTTNO+1                                     02 01688
004260 146003 A 1695          SUB     3,B             SUBTRACT END OF PARTITION    02 01689
004261 001002 A 1696          JAP     BTT050          JUMP IF PAST END OF PARTITION  02 01690
004262 004271 A
                 1697 ********************************                            02 01691
                 1698 * COMPUTE ACTUAL SECTOR NUMBER *                            02 01692
                 1699 ********************************                            02 01693
004263 024013 A 1700          LDB     BTTTNO+1        GET ACTUAL TRK NUMBER.       02 01694
004264 005322 A 1701          DBR                                                  02 01695
004265 014007 A 1702          LDA     BTTRSN          GET RELATIVE SECTOR NO. IN TRACK  02 01696
004266 161244 A 1703          MUL     SGPBUF          MULTIPLY BY NO. OF SECTORS / TRACK  02 01697
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004267 006705 A 1704          IJMP    2,X          RETURN                                          02 01698
004270 000002 A
       004271 A 1705 BTT050 EQU     *                                                            02 01699
                1706 **********************                                                      02 01700
                1707 * RETURN WITH ERROR *                                                      02 01701
                1708 **********************                                                      02 01702
004271 005301 A 1709          DECR    A                                                         02 01703
004272 006703 A 1710          IJMP    2,X          RETURN                                       02 01704
004273 000002 A
004274          1711 BTTRTA   BSS     1            RETURN ADDRESS                               02 01705
004275          1712 BTTRSN   BSS     1            RELATIVE SECTOR NUMBER IN TRACK              02 01706
004276          1713 BTTTNO   BSS     2            ACTUAL TRK NUMBER                            02 01707
004300          1714 BTTADR   BSS     1            ADDRESS OF BTT ENTRY                         02 01708
004301 000000 A 1715 BADTK    DATA    0            NO. OF WORDS IN BAD TRK TABLE      -35       02 01709
                1716          EJEC                                                              02 01710
                1717 *                                                                          02 01711
                1718 *        SGVMS                                                             02 01712
                1719 *                                                                          02 01713
                1720 *              PURPOSE:  SGVMS READS DATA FROM AND STORES DATA INTO        02 01714
                1721 *                        VIRTUAL MEMORIES CREATED ON THE SYSTEM            02 01715
                1722 *                        WORKING FILE OF MASS MEMORY.                      02 01716
                1723 *                                                                          02 01717
                1724 *              CALLING SEQ.:  JSR VMRRT,X   READS FROM ROOT SEGMENT       02 01718
                1725 *                                                                          02 01719
                1726 *                             JSR VMWRT,X   WRITES INTO ROOT SEGMENT       02 01720
                1727 *                                                                          02 01721
                1728 *                             JSR VMRCT,X   READS FROM CURRENT SEGMENT     02 01722
                1729 *                                                                          02 01723
                1730 *                             JSR VMWCT,X   WRITES INTO CURRENT SEGMENT    02 01724
                1731 *                                                                          02 01725
                1732 *              EXIT:  RETURNS TO CALLING ROUTINE; (AR) AND (BR) RESTORE    02 01726
                1733 *                                                                          02 01727
004302 000000 A 1734 SGVMS    ENTR                                                              02 01728
004303 014121 A 1735          LDA     MA           (AR)= VIRTUAL MEMORY ADDRESS                 02 01729
004304 144126 A 1736          SUB     BA                                                        02 01730
004305 005016 A 1737          NERG    016          (AR)=(XR)=(BR)=(MA)-(BA)                     02 01731
004306 005001 A 1738          TZA                                                               02 01732
004307 170000 L 1739          DIV     =120                                                      02 01733
004310 064116 A 1740          STB     PN           (BR)=(PN)=NUM OF VIRTUAL MEMORY PAGE         02 01734
004311 005221 A 1741          COMP    021                                                       02 01735
004312 005112 A 1742          INCR    012          (BR)=-(PN)                                   02 01736
004313 005041 A 1743          TXA                                                               02 01737
004314 160000 L 1744          MUL     =120                                                      02 01738
004315 064112 A 1745          STB     RLP          (RLP)=(MA)-(BA)-((PN)X120)                   02 01739
                1746 *                                                                          02 01740
004316 014110 A 1747 VMS1     LDA     PN                                                        02 01741
004317 124114 A 1748          ADD     BA                                                        02 01742
004320 144111 A 1749          SUB     CBS+1                                                     02 01743
004321 001010 A 1750          JAZ     VMS2         JUMP TO READ/WRITE IF CORRECT PAGE IN CORE   02 01744
004322 004342 A
004323 014105 A 1751          LDA     CBS                                                       02 01745
004324 001004 A 1752          JAN     VMS3         SKIP WRITE OF OLD PAGE IF FIRST OPERATION    02 01746
004325 004331 A
004326 006505 A 1753          JSR     JOW,X        WRITE OLD PAGE BUFFER CONTENTS TO VIR. MEM   02 01747
004327 004464 A
004330 004432 A 1754          DATA    CBS+1        SYSTEM WORKING FILE LOGICAL UNIT             02 01748
                1755 *                                                                          02 01749
004331 014075 A 1756 VMS3     LDA     PN                                                        02 01750
004332 054076 A 1757          STA     CPS                                                       02 01751
004333 124100 A 1758          ADD     SA                                                        02 01752
004334 054075 A 1759          STA     CBS+1        SET NEW PAGE BUFFER STATUS                   02 01753
                1760 *                                                                          02 01754
004335 006505 A 1761 VMS6     JSR     IOR,X        READ REQUIRED PAGE OF MEMORY INTO BUFFER     02 01755
004336 004441 A
004337 004432 A 1762          DATA    CBS+1                                                     02 01756
004340 001000 A 1763          JMP     VMS1         JUMP TO READ OR WRITE WORD                   02 01757
004341 004316 A
                1764 *                                                                          02 01758
                1765 *        READ/WRITE OPERATION                                              02 01759
                1766 *                                                                          02 01760
004342 024065 A 1767 VMS2     LDB     RLP          (BR)=RELATIVE POINTER INTO PAGE              02 01761
004343 034060 A 1768          LDX     MODE                                                      02 01762
004344 001046 A 1769          JXNZ    VMS4                                                      02 01763
004345 004353 A
                1770 *                             * READ OPERATION *                           02 01764
004346 006016 A 1771          LDAE    SGVBUF,B                                                  02 01765
004347 001054 A
004350 054053 A 1772          STA     VDATA        (VDATA)=DESIRED WORD                         02 01766
004351 001000 A 1773          JMP*    SGVMS                                                     02 01767
004352 104302 A
                1774 *                             * WRITE OPERATION *                          02 01768
004353 014052 A 1775 VMS4     LDA     VDATA                                                     02 01769
004354 006056 A 1776          STAE    SGVBUF,B     STORE (VDATA) INTO CURRENT PAGE BUFFER       02 01770
004355 001054 A
004356 001000 A 1777          JMP*    SGVMS        RETURN                                       02 01771
004357 104302 A
                1778 *                                                                          02 01772
                1779 *        NORMAL ENTRY POINTS FOR SGVMS                                     02 01773
                1780 *                                                                          02 01774
                1781 *              READ FROM ROOT SEGMENT                                      02 01775
                1782 *                                                                          02 01776
004360 074043 A 1783 VMRRT    STX     VM2          SAVE RETURN ADDRESS                          02 01777
004361 005004 A 1784          TZX                                                               02 01778
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004362 074041 A 1785          STX     MODE          SET READ/WRITE MODE TO READ                    02 01779
004363 001000 A 1786          JMP     VMRT                                                         02 01780
004364 004370 A
                1787 *                                                                             02 01781
                1788 *        WRITE INTO ROOT SEGMENT                                              02 01782
                1789 *                                                                             02 01783
004365 074035 A 1790 VMWRT    STX     VM2           SAVE RETURN ADDRESS                            02 01784
004366 005104 A 1791          INCR    04                                                           02 01785
004367 074034 A 1792          STX     MODE          SET READ/WRITE MODE TO WRITE                   02 01786
004370 054044 A 1793 VMRT     STA     VMAS                                                         02 01787
004371 064044 A 1794          STB     VMBS          SAVE REGISTERS                                 02 01788
004372 012656 A 1795          LDA     SGBARS                                                       02 01789
004373 054037 A 1796          STA     BA            (BA)= BASE ADDRESS/ROOT SEG. VIRTUAL MEMOR     02 01790
004374 012657 A 1797          LDA     SGBSNR                                                       02 01791
004375 054036 A 1798          STA     SA            (SA)= BASE SECTOR NUM/ROOT SEG. VIRTUAL ME     02 01792
004376 001000 A 1799          JMP     VM1                                                          02 01793
004377 004416 A
                1800 *                                                                             02 01794
                1801 *        READ FROM CURRENT SEGMENT                                            02 01795
                1802 *                                                                             02 01796
004400 074022 A 1803 VMRCT    STX     VM2           SAVE RETURN ADDRESS                            02 01797
004401 005004 A 1804          T2X                                                                  02 01798
004402 074021 A 1805          STX     MODE          SET READ/WRITE MODE TO READ                    02 01799
004403 001000 A 1806          JMP     VMCT                                                         02 01800
004404 004410 A
                1807 *                                                                             02 01801
                1808 *        WRITE INTO CURRENT MODE                                              02 01802
                1809 *                                                                             02 01803
004405 074015 A 1810 VMWCT    STX     VM2           SAVE RETURN ADDRESS                            02 01804
004406 005104 A 1811          INCR    04                                                           02 01805
004407 074014 A 1812          STX     MODE          SET READ/WRITE MODE TO WRITE                   02 01806
004410 054024 A 1813 VMCT     STA     VMAS                                                         02 01807
004411 064024 A 1814          STB     VMBS          SAVE REGISTERS                                 02 01808
004412 012701 A 1815          LDA     SCCBAD                                                       02 01809
004413 054017 A 1816          STA     BA            (BA)= BASE ADDR/CURRENT SEG. VIRTUAL MEMOR     02 01810
004414 012702 A 1817          LDA     SGCBSN                                                       02 01811
004415 054016 A 1818          STA     SA            (SA)= BASE SECTOR/CURRENT SEG. VIRTUAL MEM     02 01812
                1819 *                                                                             02 01813
                1820 *                                                                             02 01814
004416 002000 A 1821 VM1      CALL    SGVMS         OPERATE ON VIRTUAL MEMORY                      02 01815
004417 004302 A
004420 014014 A 1822          LDA     VMAS                                                         02 01816
004421 024014 A 1823          LDB     VMBS          RESTORE REGISTERS                              02 01817
004422 001000 A 1824          JMP     0                                                            02 01818
004423 000000 A
004423          1825 VM2      BES     0             RETURN                                         02 01819
                1826 *        VIRTUAL MEMORY DATA REGISTERS                                        02 01820
                1827 *                                                                             02 01821
004424 000000 A 1828 MODE     DATA    0             =1 FOR WRITE; =0 FOR READ                      02 01822
004425 000000 A 1829 MA       DATA    0             MEMORY ADDRESS REGISTER                        02 01823
004426 000000 A 1830 VDATA    DATA    0             MEMORY BUFFER REGISTER                         02 01824
004427 000000 A 1831 PN       DATA    0             COMPUTED PAGE NUMBER                           02 01825
004430 000000 A 1832 RLP      DATA    0             COMPUTED PAGE RELATIVE POINTER                 02 01826
004431 000000 A 1833 CRS      DATA    0             NUM OF V.M. PAGE CURRENTLY IN VMBUF            02 01827
004432 000000 A 1834          DATA    0             SECTOR NUM OF V.M. PAGE CURRENTLY IN VMBUF     02 01828
004433 000000 A 1835 BA       DATA    0             BASE ADDR/CURRENT SEG. OF VIRTUAL MEMORY       02 01829
004434 000000 A 1836 SA       DATA    0             BASE SECTOR/CURRENT SEG. OF VIRTUAL MEMORY     02 01830
004435 000000 A 1837 VMAS     DATA    0             (AR) TEMP. STORE.                              02 01831
004436 000000 A 1838 VMBS     DATA    0             (BR) TEMP. STORE.                              02 01832
004437 000000 A 1839 ADDRE    DATA    0                                                            02 01833
004440 000000 A 1840 LITS     DATA    0             LITERAL POUTINE TEMPORARY STORE                02 01834
                1641          EJEC                                                                 02 01835
                1842 *                                                                             02 01836
                1843 *        SPECIAL READ/WRITE ROUTINE FOR VIRTUAL MEMORY.                       02 01837
                1844 *                                                                             02 01838
                1845 *              PURPOSE:  TO READ DATA FROM SPECIFIED SECTOR OF SYSTEM         02 01839
                1846 *                        WORKING FILE TO "LGOUTB".                            02 01840
                1847 *                    TO WRITE DATA FROM "LGOUTB" TO SPECIFIED                 02 01841
                1848 *                      SECTOR OF SYSTEM WORKING FILE.                         02 01842
                1849 *                                                                             02 01843
                1850 *              CALLING SEQ.:  JSR  IOR,X    * READS 120 WORDS FROM            02 01844
                1851 *                             DATA NUM       * SECTOR #'NUM' TO 'SGVBUF'     02 01845
                1852 *                                                                             02 01846
                1853 *                             JSR  IOW,X    * WRITES 120 FROM 'SGVBUF'       02 01847
                1854 *                             DATA NUM       * INTO SECTOR #'NUM'            02 01848
                1855 *                                                                             02 01849
                1856 *              EXIT:  RETURN IF NORMAL READ OR WRITE;                         02 01850
                1857 *                     TO READ/WRITE ERROR IF I/O ERROR;                       02 01851
                1858 *                     TO PSIZ ERROR IF EOF OR BEOD RETURN FROM I/O.           02 01852
                1859 *                                                                             02 01853
                1860 *                                                                             02 01854
     004441 A   1861 IOR      EQU     *                                                            02 01855
004441 074017 A 1862          STX     IOR1          SAVE RETURN POINTER                            02 01856
004442 035000 A 1863          LDX     0,X                                                          02 01857
004443 015000 A 1864          LDA     0,X                                                          02 01858
004444 054003 A 1865          STA     IOR2          PUT SECTOR NUMBER IN CALL                      02 01859
004445 013520 A 1866          LDA     SGPSTE        (A) = PST ENTRY ADDRESS                        02 01860
004446 006505 A 1867          JSR     SGSKRM,X      READ DATA INTO SGVBUF                          02 01861
004447 003740 A
004450 000080 A 1868 IOR2     DATA    0                                                            02 01862
004451 000170 A 1869          DATA    120                                                          02 01863
004452 001054 A 1870          DATA    SGVBUF                                                       02 01864
004453 001002 A 1871          JAP     IOR2          JUMP IF NOT READ ERROR                         02 01865
```

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004454 004460 A
004455 034003 A 1872          LDX     IOR1                                    02 01866
004456 001000 A 1873          JMP     IOR                                     02 01867
004457 004441 A
       004460 A 1874 IORZ     EQU     *                                       02 01868
004460 006030 A 1875          LDXI    0                                       02 01869
004461 000000 A
004461           1876 IOR1     BES     0                                       02 01870
004462 006705 A 1877          IJMP    1,X       RETURN                        02 01871
004463 000001 A
                 1878 *                                                        02 01872
       004464 A 1879 IOW      EQU     *                                       02 01873
004464 074017 A 1880          STX     IOW1      SAVE RETURN POINTER           02 01874
004465 035000 A 1881          LDX     0,X                                     02 01875
004466 015000 A 1882          LDA     0,X                                     02 01876
004467 054003 A 1883          STA     IOW2      PUT SECTOR NUMBER IN CALL     02 01877
004470 013520 A 1884          LDA     SGPSTE    (A) = PST ENTRY ADDRESS       02 01878
004471 006503 A 1885          JSR     SG$WRM,X  WRITE DATA FROM SGVBUF        02 01879
004472 004007 A
004473 000000 A 1886 IOW2     DATA    0                                       02 01880
004474 000170 A 1887          DATA    120                                     02 01881
004475 001054 A 1888          DATA    SGVBUF                                  02 01882
004476 001002 A 1889          JAP     IORX      JUMP IF NOT WRITE ERROR       02 01883
004477 004503 A
004500 034003 A 1890          LDX     IOW1                                    02 01884
004501 001000 A 1891          JMP     IOW                                     02 01885
004502 004464 A
       004503 A 1892 IORX     EQU     *                                       02 01886
004503 006030 A 1893          LDXI    0                                       02 01887
004504 000000 A
004504           1894 IOW1     BES     0                                       02 01888
004505 006705 A 1895          IJMP    1,X             RETURN                  02 01889
004506 000001 A
                 1896          EJEC                                            02 01890
                 1897 *                                                        02 01891
                 1898 *        SGGET                                           02 01892
                 1899 *                                                        02 01893
                 1900 *        PURPOSE:  SGGET IS CALLED TO FETCH A STACK ITEM 02 01894
                 1901 *                  AND PLACE IT IN A SPECIFIED BUFFER AREA. 02 01895
                 1902 *                                                        02 01896
                 1903 *        CALLING SEQUENCE:  (XR)= ADDR. OF STACK CONTROL BLOCK 02 01897
                 1904 *                           (BR)= ADDR. OF ITEM BUFFER   02 01898
                 1905 *                           CALL  SGGET                  02 01899
                 1906 *                                                        02 01900
                 1907 *        RETURN PARAMETERS:  (AR)= +1  IF ITEM FETCHED  02 01901
                 1908 *                              -1  IF STACK FOUND EMPTY  02 01902
                 1909 *                                                        02 01903
004507 000000 A 1910 SGGET    ENTR                                            02 01904
004510 064047 A 1911          STB     GETM2+2                                 02 01905
004511 015000 A 1912          LDA     0,X       GET BASE ADDR.                02 01906
004512 145001 A 1913          SUB     1,X         MINUS BOTTOM ADDR.          02 01907
004513 001004 A 1914          JAN     AGET1     IF NOT EMPTY STACK            02 01908
004514 004520 A
004515 005301 A 1915          DECR    1         SET STACK EMPTY FLAG          02 01909
004516 001000 A 1916          JMP*    SGGET       AND RETURN                  02 01910
004517 104507 A
                 1917 *                                                        02 01911
004520 015002 A 1918 AGET1    LDA     2,X       GET STACK ITEM LENGTH         02 01912
004521 054034 A 1919          STA     GETM2       AND STORE IN ITEM MOVE "COUNT" 02 01913
004522 015001 A 1920          LDA     1,X       GET STACK BOTTOM              02 01914
004523 145002 A 1921          SUB     2,X         MINUS ITEM LENGTH           02 01915
004524 054032 A 1922          STA     GETM2+1     AND STORE IN ITEM MOVE "FROM ADDR." 02 01916
004525 140544 A 1923          SUB     BSTACK    SUBTRACT BASE ADDR. OF LOWEST STACK 02 01917
004526 054034 A 1924          STA     GETM1       TO GET STACK MOVE "COUNT"   02 01918
004527 010544 A 1925          LDA     BSTACK    BASE ADDR. OF LOWEST STACK    02 01919
004530 054033 A 1926          STA     GETM1+1     IS STACK MOVE "FROM ADDR." 02 01920
004531 125002 A 1927          ADD     2,X       PLUS ITEM LENGTH...           02 01921
004532 054032 A 1928          STA     GETM1+2     BECOMES STACK MOVE "TO ADDR." 02 01922
                 1929 *                                                        02 01923
                 1930 *        UPDATE BASE AND BOTTOM POINTERS                 02 01924
                 1931 *                                                        02 01925
004533 005042 A 1932          TXB                                             02 01926
004534 016000 A 1933          LDA     0,B                                     02 01927
004535 125002 A 1934          ADD     2,X                                     02 01928
004536 056000 A 1935          STA     0,B       UPDATE BASE POINTER FOR DESIGNATED STACK 02 01929
004537 005122 A 1936 AGET2    IBR                                             02 01930
004540 005122 A 1937          IBR                                             02 01931
004541 005122 A 1938          IBR                                             02 01932
004542 016000 A 1939          LDA     0,B       GET NEXT BASE POINTER         02 01933
004543 001004 A 1940          JAN     AGET3     IF END OF STACK CONTROL BLOCK 02 01934
004544 004554 A
004545 125002 A 1941          ADD     2,X                                     02 01935
004546 056000 A 1942          STA     0,B       UPDATE BASE POINTER           02 01936
004547 016001 A 1943          LDA     1,B                                     02 01937
004550 125002 A 1944          ADD     2,X                                     02 01938
004551 056001 A 1945          STA     1,B       UPDATE BOTTOM POINTER         02 01939
004552 001000 A 1946          JMP     AGET2     CONTINUE                      02 01940
004553 004537 A
                 1947 *                                                        02 01941
004554           1948 AGET3    BSS     0                                       02 01942
004554 002000 A 1949          CALL    SGMOV     MOVE STACK ITEM TO BUFFER     02 01943
004555 004731 A
004556 000000 A 1950 GETM2    DATA    0                                       02 01944
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004557 000000 A 1951          DATA    0                                                    02 01945
004560 000000 A 1952          DATA    0                                                    02 01946
004561 002000 A 1953          CALL    SGMOV       MOVE ALL LOWER STACK ITEMS UP            02 01947
004562 004731 A
004563 000000 A 1954 GETM1    DATA    0                                                    02 01948
004564 000000 A 1955          DATA    0                                                    02 01949
004565 000000 A 1956          DATA    0                                                    02 01950
004566 005101 A 1957          INCR    1           SET NORMAL RETURN FLAG                   02 01951
004567 001000 A 1958          JMP*    SGGET       RETURN                                   02 01952
004570 104507 A
                1959          EJEC                                                         02 01953
                1960 *                                                                     02 01954
                1961 *        SGPUT                                                        02 01955
                1962 *                                                                     02 01956
                1963 *              PURPOSE:  SGPUT IS CALLED TO ENTER A STACK ITEM       02 01957
                1964 *                        INTO A DESIGNATED STACK.                     02 01958
                1965 *                                                                     02 01959
                1966 *              CALLING SEQUENCE:  (XR)= ADDR. OF STACK CONTROL BLOCK  02 01960
                1967 *                                 (BR)= ADDR. OF STACK ITEM BUFFER    02 01961
                1968 *                                 CALL  SGPUT                         02 01962
                1969 *                                                                     02 01963
                1970 *              RETURN PARAMETERS:  (AR)= +1  IF ITEM PLACED ON STACK  02 01964
                1971 *                                    -1  IF NO ROOM FOR STACK ITEM    02 01965
                1972 *                                                                     02 01966
004571 000000 A 1973 SGPUT    ENTR                                                         02 01967
004572 074040 A 1974          STX     APUT2       SAVE ADDR. OF STACK CONTROL BLOCK        02 01968
004573 064034 A 1975          STB     PUTM3         SAVE ADDR. OF ITEM BUFFER              02 01969
004574 010544 A 1976          LDA     BSTACK      COMPARE ADDR. OF BASE OF STACKS          02 01970
004575 145002 A 1977          SUB     2,X           AGAINST TOP OF PROGRAM AREA.           02 01971
004576 140655 A 1978          SUB     TPROG                                                02 01972
004577 001002 A 1979          JAP     APUT1       JUMP IF ROOM FOR NEW STACK ITEM          02 01973
004600 004604 A
004601 005301 A 1980          DECR    1                                                    02 01974
004602 001000 A 1981          JMP*    SGPUT       OTHERWISE RETURN WITH (AR)=-1            02 01975
004603 104571 A
                1982 *                                                                     02 01976
004604          1983 APUT1    BSS     0                                                    02 01977
004604 015002 A 1984          LDA     2,X         GET ENTRY ITEM SIZE                      02 01978
004605 054021 A 1985          STA     PUTM2         AND STORE IN MOVE COUNT                02 01979
004606 015001 A 1986          LDA     1,X         GET STACK BOTTOM ADDR.,                  02 01980
004607 145002 A 1987          SUB     2,X           SUBTRACT ITEM SIZE,                    02 01981
004610 054020 A 1988          STA     PUTM2+2       AND STORE IN MOVE "TO" ADDR.           02 01982
                1989 *                                                                     02 01983
004611 010544 A 1990          LDA     BSTACK      GET BASE OF LOWEST STACK                 02 01984
004612 054010 A 1991          STA     PUTM1+1       AND STORE AS STACK MOVE "FROM" ADDR.   02 01985
004613 145002 A 1992          SUB     2,X         STORE BASE MINUS ENTRY SIZE              02 01986
004614 054007 A 1993          STA     PUTM1+2       AS STACK MOVE "TO" ADDR.               02 01987
004615 015001 A 1994          LDA     1,X         GET WORD COUNT FROM BASE OF LOWEST STACK  02 01988
004616 140544 A 1995          SUB     BSTACK        TO BOTTOM OF CURRENT STACK,            02 01989
004617 054002 A 1996          STA     PUTM1         AND STORE AS STACK MOVE COUNT.         02 01990
004620 002000 A 1997          CALL    SGMOV       MOVE STACKS DOWN                         02 01991
004621 004731 A
004622 000000 A 1998 PUTM1    DATA    0                                                    02 01992
004623 000000 A 1999          DATA    0                                                    02 01993
004624 000000 A 2000          DATA    0                                                    02 01994
004625 002000 A 2001          CALL    SGMOV       MOVE ENTRY IN                            02 01995
004626 004731 A
004627 000000 A 2002 PUTM2    DATA    0                                                    02 01996
004630 000000 A 2003 PUTM3    DATA    0                                                    02 01997
004631 000000 A 2004          DATA    0                                                    02 01998
                2005 *                                                                     02 01999
                2006 *              NOW UPDATE STACK CONTROL BLOCK POINTERS                02 02000
                2007 *                                                                     02 02001
004632 006030 A 2008          LDXI    0                                                    02 02002
004633 000000 A
004633          2009 APUT2    BES     0                                                    02 02003
004634 005042 A 2010          TXB                 (BR)=(XR)=ADDR. OF BASE OF STACK         02 02004
004635 016000 A 2011          LDA     0,B                                                  02 02005
004636 145002 A 2012          SUB     2,X                                                  02 02006
004637 056000 A 2013          STA     0,B         LOWER BASE OF DESIGNATED STACK           02 02007
004640 005122 A 2014 APUT4    IBR                                                          02 02008
004641 005122 A 2015          IBR                 INCREMENT PNTR TO NEXT STACK'S CONTROL   02 02009
004642 005122 A 2016          IBR                                                          02 02010
004643 016000 A 2017          LDA     0,B                                                  02 02011
004644 001004 A 2018          JAN     APUT5       IF END OF STACK CONTROL BLOCK            02 02012
004645 004655 A
004646 145002 A 2019          SUB     2,X                                                  02 02013
004647 056000 A 2020          STA     0,B         LOWER STACK BASE                         02 02014
004650 016001 A 2021          LDA     1,B                                                  02 02015
004651 145002 A 2022          SUB     2,X                                                  02 02016
004652 056001 A 2023          STA     1,B         LOWER STACK BOTTOM                       02 02017
004653 001000 A 2024          JMP     APUT4                                                02 02018
004654 004640 A
                2025 *                                                                     02 02019
004655 005101 A 2026 APUT5    INCR    1           SET NORMAL RETURN FLAG                   02 02020
004656 001000 A 2027          JMP*    SGPUT       RETURN                                   02 02021
004657 104571 A
                2028          EJEC                                                         02 02022
                2029 *                                                                     02 02023
                2030 *              SGMOV                                                  02 02024
                2031 *                                                                     02 02025
                2032 *              PURPOSE:  SGMOV MOVES A CONTIGUOUS BLOCK OF DATA FROM  02 02026
                2033 *                        ONE ADDRESS IN MEMORY TO ANOTHER.            02 02027
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                    2034 *                                                                                  02 02028
                    2035 *          CALLING SEQ:  CALL SGMOV                                                02 02029
                    2036 *                        DATA NUMBER OF WORDS TO MOVE                              02 02030
                    2037 *                        DATA FROM-ADDRESS                                         02 02031
                    2038 *                        DATA TO-ADDRESS                                           02 02032
                    2039 *                                                                                  02 02033
                    2040 *          EXIT:  RETURN TO CALLING PROGRAM; NO EXIT PARAMETERS                    02 02034
                    2041 *                                                                                  02 02035
                    2042 *                                                                                  02 02036
004660 034050 A     2043 MOV1   LDX     MOVW                                                                02 02037
004661 015001 A     2044        LDA     1,X         (AR)= DATA FROM-ADDRESS                                 02 02038
004662 145002 A     2045        SUB     2,X         IF TO-ADDR LOWER IN CORE THAN FROM-ADDR,                02 02039
004663 001004 A     2046        JAN     MOVR          MOVE DATA IN REVERSE ORDER.                           02 02040
004664 004703 A
                    2047 *                                                                                  02 02041
                    2048 *      FORWARD MOVE (DATA MOVED STARTING WITH LOWEST LOCATION)                     02 02042
                    2049 *                                                                                  02 02043
004665 025001 A     2050        LDB     1,X         (BR)= FROM ADDR                                         02 02044
004666 015000 A     2051        LDA     0,X         (AR)= WORD COUNT                                        02 02045
004667 035002 A     2052        LDX     2,X         (XR)= TO-ADDR                                           02 02046
004670 005311 A     2053 MOV2   DAR                 DECREMENT WORD COUNT                                    02 02047
004671 001004 A     2054        JAN     MOVE        JUMP TO CLEAN-UP IF MOVE FINISHED                       02 02048
004672 004725 A
004673 054040 A     2055        STA     MOVC        SAVE PRESENT WORD COUNT                                 02 02049
004674 016000 A     2056        LDA     0,B                                                                 02 02050
004675 055000 A     2057        STA     0,X         MOVE A WORD                                             02 02051
004676 005122 A     2058        IBR                                                                         02 02052
004677 005144 A     2059        IXR                 INCREMENT INDICES                                       02 02053
004700 014033 A     2060        LDA     MOVC                                                                02 02054
004701 001000 A     2061        JMP     MOV2        CONTINUE                                                02 02055
004702 004670 A
                    2062 *                                                                                  02 02056
                    2063 *      REVERSE MOVE (DATA MOVED STARTING WITH HIGHEST LOCATION)                    02 02057
                    2064 *                                                                                  02 02058
004703 015000 A     2065 MOVR   LDA     0,X                                                                 02 02059
004704 125001 A     2066        ADD     1,X                                                                 02 02060
004705 005012 A     2067        TAB                 (BR)= TOP OF "FROM" AREA                                02 02061
004706 015000 A     2068        LDA     0,X                                                                 02 02062
004707 054024 A     2069        STA     MOVC        SAVE WORD COUNT                                         02 02063
004710 125002 A     2070        ADD     2,X                                                                 02 02064
004711 005014 A     2071        TAX                 (XR)= TOP OF "TO" AREA                                  02 02065
004712 014021 A     2072 MOV3   LDA     MOVC                                                                02 02066
004713 005311 A     2073        DAR                 DECREMENT WORD COUNT                                    02 02067
004714 001004 A     2074        JAN     MOVE        JUMP TO CLEAN-UP IF MOVE FINISHED                       02 02068
004715 004725 A
004716 054015 A     2075        STA     MOVC        SAVE PRESENT WORD COUNT                                 02 02069
004717 005322 A     2076        DBR                                                                         02 02070
004720 005344 A     2077        DXR                 DECREMENT INDICES                                       02 02071
004721 016000 C     2078        LDA     0,B                                                                 02 02072
004722 055000 A     2079        STA     0,X         MOVE A WORD                                             02 02073
004723 001000 A     2080        JMP     MOV3        CONTINUE                                                02 02074
004724 00471C A
                    2081 *                                                                                  02 02075
004725 044003 A     2082 MOVE   INR     MOVW        FIX UP RETURN ADDRESS                                   02 02076
004726 044002 A     2083        INR     MOVW                                                                02 02077
004727 044001 A     2084        INR     MOVW                                                                02 02078
004730 001000 A     2085        JMP     0           RETURN                                                  02 02079
004731 000000 A
004731              2086 SGMOV  BES     0             ENTRY POINT                                           02 02080
004731              2087 MOVW   BES     0                                                                   02 02081
004732 001000 A     2088        JMP     MOV1                                                                02 02082
004733 004660 A
                    2089 *                                                                                  02 02083
004734 000000 A     2090 MOVC   DATA    0           CURRENT WORD COUNT REGISTER                             02 02084
                    2091 *                                                                                  02 02085
                    2092        EJEC                                                                        02 02086
                    2093 ***********************************************************************         02 02087
                    2094 *                                                                                  02 02088
                    2095 *                              RELOAD                                             02 02089
                    2096 *                                                                                  02 02090
                    2097 * PURPOSE: TO REWIND 'LIB' AND CALL (SGLOD) TO RELOAD THE DIRECTIVE              02 02091
                    2098 *          PROCESSOR.                                                             02 02092
                    2099 *                                                                                  02 02093
                    2100 * CALLING SEQUENCE: JMP    RELOAD                                                 02 02094
                    2101 *                                                                                  02 02095
                    2102 * NOTE: THIS ROUTINE DOES NOT RETURN - CALLS 'EXIT'                              02 02096
                    2103 *                                                                                  02 02097
                    2104 ***********************************************************************         02 02098
004735              2105 RELOAD EQU     *                                                                   02 02099
004735 002000 A     2106        CALL    IOCS            REWIND 'LIB'                                        02 02100
004736 004103 E
004737 002004 A     2107        DATA    02000+4                                                             02 02101
004740 002000 A     2108        CALL    IOCS            CHECK STATUS                                        02 02102
004741 004736 E
004742 000004 A     2109        DATA    4                                                                   02 02103
004743 004735 A     2110        DATA    RELOAD,RELOD1,RELOD1,*-6                                            02 02104
004744 004747 A
004745 004747 A
004746 004740 A
004747              2111 RELOD1 EQU     *                                                                   02 02105
004747 002000 A     2112        CALL    IOCS            PAUSE FOR RECOVERY                                  02 02106
004750 004741 E
004751 000403 A     2113        DATA    0400+0C                                                             02 02107
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004752 000074 A 2114          DATA    60                                                    02 02108
004753 000664 A 2115          DATA    SGIBUF                                                02 02109
004754 002000 A 2116          CALL    IOCS            CHECK STATUS                          02 02110
004755 004750 E
004756 000003 A 2117          DATA    DC                                                    02 02111
004757 004763 A 2118          DATA    RELOD2,RELOD2,RELOD2,*-6                              02 02112
004760 004763 A
004761 004763 A
004762 004754 A
       004763 A 2119 RELOD2   EQU     *                                                     02 02113
004763 006030 A 2120          LDXI    RELOD3                                                02 02114
004764 004767 A
004765 001000 A 2121          JMP     EXIT            GO TO (SGLDR)                         02 02115
004766 000000 E
004767 055621 A 2122 RELOD3   DATA    055621          LOADER CODE ENTRY FOR 'DIRECTIVE PROCESSOR 02 02116
004770 031636 A 2123          DATA    031636                                                02 02117
004771 000000 A 2124          DATA    0                                                     02 02118
       003000 A 2125          END     SGEN4                                                 02 02119
ENTRY NAMES
003000 A SGEN4
EXTERNAL NAMES
004766 E EXIT    004755 E IOCS
SYMBOLS
000551 A $LUB    000550 A $LUN    000576 A $PUB    000551 A $PUN
000001 A A       000663 A AD$CAM  000662 A ADCRDR  004437 A ADDRE
004520 A AGET1   004537 A AGET2   004554 A AGET3   004604 A APUT1
004633 A APUT2   004640 A APUT4   004655 A APUT5   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
004433 A BA      004301 A BADTK   002527 A BM1     002600 A BM17
002603 A BM177   002605 A BM1777  002572 A BM3     002601 A BM37
002571 A BM377   002575 A BM7     002602 A BM77    002604 A BM777
002547 A BR0     002550 A BR1     002561 A BR10    002562 A BR11
002563 A BR12    002564 A BR13    002565 A BR14    002566 A BR15
002551 A BR2     002552 A BR3     002553 A BR4     002554 A BR5
002555 A BR6     002556 A BR7     002557 A BR8     002560 A BR9
002527 A BS0     002530 A BS1     002541 A BS10    002542 A BS11
002543 A BS12    002544 A BS13    002545 A BS14    002546 A BS15
002531 A BS2     002532 A BS3     002533 A BS4     002534 A BS5
002535 A BS6     002536 A BS7     002537 A BS8     002540 A BS9
000544 A BSTACK  001130 A BTSIZ   004136 A BTT010  004144 A BTT020
004161 A BTT030  004255 A BTT040  004271 A BTT050  004300 A BTTADR
004275 A BTTRSN  004274 A BTTRTA  004276 A BTTTNO  004431 A CBS
000002 A DIR     002653 A DREC    003644 A EAR010  003651 A EAR020
003660 A EAR030  003665 A EAR040  002532 A EIGHT   002606 A ER00
002607 A ER01    002610 A ER02    002611 A ER03    002612 A ER04
002613 A ER05    002614 A ER06    002615 A ER07    002616 A ER08
002617 A ER09    002620 A ER10    002621 A ER11    002622 A ER12
002623 A ER13    002624 A ER14    002625 A ER15    002626 A ER20
002627 A ER21    002630 A ER22    002631 A ER23    002632 A ER24
002633 A ER25    002634 A ER26    002635 A ER30    002636 A ER31
002637 A ER32    002640 A ER33    002641 A ER34    002642 A ER40
002643 A ER41    002644 A ER42    002645 A ER43    002646 A ER44
002647 A ER45    002650 A ER46    002651 A ER47    002652 A ER48
000547 A ESCB    004766 E EXIT    002573 A FIVE    002531 A FOUR
004563 A GETM1   004556 A GETM2   002737 A IEND    002854 A INUNIT
004755 E IOCS    004441 A IOR     004461 A IOR1    004450 A IOR2
004503 A IORX    004460 A IORZ    004464 A IOW     004504 A IOW1
004473 A IOW2    002653 A ISTART  002470 A ITEM    002533 A K16
002534 A KD32    002570 A LHW     000005 A LIS     004440 A LITS
000005 A LO      000551 A LUT     004425 A MA      002655 A MFLAG
004424 A MODE    004660 A MOV1    004670 A MOV2    004712 A MOV3
004734 A MOVC    004725 A MOVE    004703 A MOVF    004731 A MOVW
002526 A MT      002567 A NEG     002576 A NINE    000003 A OC
002527 A ONE     004427 A PN      000600 A PUT     004622 A PUTM1
004627 A PUTM2   004630 A PUTM3   000040 A RA0     000000 A RA1
000060 A RB0     000020 A RB1     004735 A RELOAD  004747 A RELOD1
004763 A RELOD2  004767 A RELOD3  002571 A RHW     004430 A RLP
000007 A RMD     003746 A RRM002  003747 A RRM004  004067 A RRM010
004101 A RRM012  004105 A RRM014  004107 A RRM016  003764 A RRM020
003765 A RRM030  003766 A RRM040  003776 A RRM045  004001 A RRM050
004006 A RRMRTA  004056 A RRMSKP  003017 A RTC0    003044 A RTC001
003020 A RTC005  003355 A RTC007  003066 A RTC008  003104 A RTC010
003112 A RTC015  003125 A RTC017  003136 A RTC020  003145 A RTC030
003164 A RTC040  003171 A RTC050  003200 A RTC060  003224 A RTC070
003231 A RTC080  003240 A RTC090  003254 A RTC100  003263 A RTC110
003266 A RTC120  003301 A RTC130  003305 A RTC140  003311 A RTC150
003314 A RTC160  003315 A RTC170  003320 A RTC200  003320 A RTC210
003337 A RTC220  003355 A RTC230  003370 A RTC232  003372 A RTC234
003377 A RTC236  003444 A RTC240  003446 A RTC250  003456 A RTC260
003467 A RTC270  003506 A RTC300  003507 A RTC301  003517 A RTCCIA
003521 A RTCCMA  003513 A RTCVNE  003476 A RTLOAD  004434 A SA
003554 A SDR005  003556 A SDR008  003561 A SDR010  003576 A SDR020
003616 A SDR030  003623 A SDR040  003631 A SDR050  003635 A SDR060
003641 A SDRRTA  002575 A SEVEN   004116 A SG5BTT  003642 A SG5EAR
002703 A SG5IBP  003740 A SG5RRM  003000 A SG5RTC  003546 A SG5SDR
003700 A SG5WAR  004007 A SG5WRM  002662 A SGBADD  002656 A SGDARS
000656 A SGBASE  004222 A SGBD03  004224 A SGBD05  004232 A SGBD06
004246 A SGBD07  004254 A SGBD09  004172 A SGBDT   002660 A SGBIAP
002661 A SGBLIT  002657 A SGBSNR  002701 A SGCBAD  002702 A SGCBSN
002676 A SGCHSN  002667 A SGCIDL  002666 A SGCIIL  002672 A SGCKEY
```

```
 002704  A  SGCLK1   002707  A  SGCLK2   002706  A  SGCLK3   002671  A  SGCLUN
 002700  A  SGCPCN   002677  A  SGCSGN   002675  A  SGCXE0   002676  A  SGCXE1
 002712  A  SGEDR1   002713  A  SGEDR2   002714  A  SGEDR3   002715  A  SGEDR4
 002716  A  SGEDR5   002717  A  SGEDR6   002720  A  SGEDR7   002721  A  SGEDR8
 002722  A  SGEDR9   002723  A  SGEDRA   003676  A  SGEMSG   003000  A  SGEN1
 002376  A  SGIBUF   002377  A  SGL     T  000664  A  SGLBUF   002374  A  SGLUN1
 002375  A  SGLUN2   002372  A  SGLUN3   002702  A  SGMOD    002700  A  SGMRY1
 002710  A  SGMRY2   002711  A  SGMRY3   002712  A  SGNOV    002713  A  SGNOVF
 002652  A  SGOBSZ   001244  A  SGPB   F  002653  A  SGPBUF   002654  A  SGRPCD
 002655  A  SGSC12   000500  A  SGSCB0   000514  A  SGSCB1   000504  A  SGSCB4
 000516  A  SGSCB8   000506  A  SGSCBC   002656  A  SGTALT   002707  A  SGTMP1
 002710  A  SGTMP2   001054  A  SGVBUF   004302  A  SGVMS    000250  A  SIX
 002512  A  TBUF1    002530  A  TBUF2    000675  A  TFRDC    002530  A  TWD
 000557  A  V$BVN    000516  A  V$CRDR   000557  A  V$DIT    000516  A  V$LIT
 000516  A  V$MIM    000516  A  V$NF     004426  A  VDATA    004416  A  VM1
 004435  A  VMBS     004410  A  VMCT     004435  A  VMR1     004334  A  VMS1
 004435  A  VMS4     004335  A  VMS6     003710  A  WDFIEX   003710  A  WAR010
 003702  A  WAR030   003702  A  WAR040   003716  A  WARGLU   003716  A  WARGDC
 004034  A  WRMV20   004034  A  WRMV40   004035  A  WRM050   004035  A  WRM210
 000001  A  XX
    0 ERRORS  SGLCMSL  SGMPL  SIS
```

```
    60   ALOP          69
   100   B             103
   520   BADIK         523      431
    30   BB10          45
    10   BTTSTB        11       414
     0   C             55       407
     0   CHKIT
     0   FOUR          44
   100   IOCSS         107      397      400      410
     1   ITSM          47       392      400
     0   L             49
     0   LP            45       504
   127   MT            128      501      503      293      294      295      296      297
                       303      307      308      304      305      306
                       311      311      312      310      314      315
                       321      320      321      318      322      324
                       330      329      330      331      331      333
                       339      334      339      340      341      342
   325   ONE           43
     0   R80           80       432      434
     0   R40           41       433
   411   RTC0          82
   402   RTC001        423      428
   415   RTC005        421
   451   RTC013        446      449
   472   RTC010        498
   492   RTC017        497
   499   RTC020        494
   510   RTC02?        503
     0   RTC03?        475
     0   RTC04?        413      418      420
     0   RTC05?        414
     0   RTCJMP        47       440      443
     0   RTCSAV        506
     0   RTCSBR        476
     0   RTCSET        493
     0   RTCSTP        495
    21   SAVEP         453
   212   SAVEX         451
     1   SAVX          11       516
     0   SETP          47
     0   SETX          47       445
     0   SGMOD         411
     0   SGMOV         488
     0   SGNFYD        431      495
   101   SGPBUF        405      422      433      435      439      508
     0   SGPSTR        442
    58   SGRCVR        59
    41   SGSLBR        472
   331   SIX           487
   164   TBUF1         510      521
   507   TWD           441
    81   V$BVN         483
    92   V$CPDR        486      513      522
     0   V$SNBT        42
     0   VDA           469
     0   VMBS          461
     1   VOR           53       52       210      270      463      511      513      519
    19   X             486      426      482      481      493      509
```

```
000001 A     1 VORTEX SET     1                PUT LAST FOR VORTEX I                    V2  02 00001
             2 * THIS IS A COPYRIGHTED PROGRAM.COPYRIGHT 1972 BY VARIAN DATA MACHINES   02 00002
             3 *                                                                        02 00003
             4 *     V.D.M   PART  NO.        92L0705-002C                              02 00004
             5 *                                                                        02 00005
             6 *                                                RELEASED    03/01/74    02 00006
             7 *                                                                        02 00007
             8 *                 I$DA                                                   02 00008
             9 *                                                                        02 00009
            10 *                                                                        02 00010
            11          TITLE   I$DA                                                    02 00011
            12 *                                                                        02 00012
            13 *        SYSTEM INITIALIZER                                              02 00013
            14 *                                                                        02 00014
            15 *                PURPOSE:  TO READ THE VORTEX NUCLEUS (LOC 01033 TO V$TFC 02 00015
            16 *                          INTO MAIN MEMORY, INITIALIZE PIM'S, AND       02 00016
            17 *                          CALL V$DISP                                   02 00017
            18 *                                                                        02 00018
            19 *                CALLING SEQUENCE:  CALLED BY KEY-IN LOADER              02 00019
            20 *                                                                        02 00020
            21 *                RETURN PARAMETERS:  JUMPS TO RTE-DISPATCHER             02 00021
            22 *                                                                        02 00022
            23 *                                                                        02 00023
            24          NAME    I$DA                                                    02 00024
000600      25          ORG     0600                                                    02 00025
000600      26 I$DA     BSS     0                 * * ENTRY POINT * *                   02 00026
000600 001000 A 27      JMP     IN00              SKIP SGEN OVERLAY (ZEROS) TO EXEC. INIT. 02 00027
000601 000662 A
            28          DUP     6                 LEAVE 060 ZEROS AS OVERLAY FOR SGEN PUT 02 00028
000602 000000 A 29      DATA    0,0,0,0,0,0,0,0                                         02 00029
000603 000000 A
000604 000000 A
000605 000000 A
000606 000000 A
000607 000000 A
000610 000000 A
000611 000000 A
000612 000000 A 29      DATA    0,0,0,0,0,0,0,0                                         02 00029
000613 000000 A
000614 000000 A
000615 000000 A
000616 000000 A
000617 000000 A
000620 000000 A
000621 000000 A
000622 000000 A 29      DATA    0,0,0,0,0,0,0,0                                         02 00029
000623 000000 A
000624 000000 A
000625 000000 A
000626 000000 A
000627 000000 A
000630 000000 A
000631 000000 A
000632 000000 A 29      DATA    0,0,0,0,0,0,0,0                                         02 00029
000633 000000 A
000634 000000 A
000635 000000 A
000636 000000 A
000637 000000 A
000640 000000 A
000641 000000 A
000642 000000 A 29      DATA    0,0,0,0,0,0,0,0                                         02 00029
000643 000000 A
000644 000000 A
000645 000000 A
000646 000000 A
000647 000000 A
000650 000000 A
000651 000000 A
000652 000000 A 29      DATA    0,0,0,0,0,0,0,0                                         02 00029
000653 000000 A
000654 000000 A
000655 000000 A
000656 000000 A
000657 000000 A
000660 000000 A
000661 000000 A
000662      30 IN00     BSS     0                                                       02 00030
000662 010733 A 31      LDA     BICN              GET BIC DEVICE ADDR                   02 00031
000663 005111 A 32      IAR                                                             02 00032
000664 110730 A 33      ORA     BS15                                                    02 00033
000665 050666 A 34      STA     *+1               SET-UP "INITIZE BIC" COMMAND          02 00034
000666      35          BSS     1                   AND EXECUTE IT                      02 00035
000667 006020 A 36      LDBI    12                (BR)= STARTING SECTOR NUMBER          02 00036
000670 000014 A
000671 010733 A 37      LDA     BICN                                                    02 00037
000672 006110 A 38      ORAI    0103100                                                 02 00038
000673 103100 A
000674 050701 A 39      STA     IN1               SET-UP FIRST "OAR" COMMAND            02 00039
000675 005111 A 40      IAR                                                             02 00040
000676 050703 A 41      STA     IN2               SET-UP SECOND "OAR" COMMAND           02 00041
000677 006010 A 42      LDAI    01130             (AR)= START LOC OF NUCLEUS LOAD       02 00042
000700 001130 A
```

```
000701                  43 IN1    BSS     1                    OUTPUT "01034" TO BIC                    02 00043
000702 010731 A         44        LDA     TOP                                                           02 00044
000703                  45 IN2    BSS     1                    OUTPUT "TOP OF MEMORY" TO BIC            02 00045
000704 010733 A         46        LDA     BICN                                                          02 00046
000705 110730 A         47        ORA     BS15                                                          02 00047
000706 050707 A         48        STA     *+1                  SET-UP "ENABLE BIC" COMMAND              02 00048
000707                  49        BSS     1                      AND EXECUTE IT                         02 00049
000710 010732 A         50        LDA     DEV                                                           02 00050
000711 110730 A         51        ORA     BS15                                                          02 00051
000712 050716 A         52        STA     IN3                  SET-UP "SELECT READ MODE" COMMAND        02 00052
000713 006110 A         53        ORA!    03200                                                         02 00053
000714 003200 A
000715 050717 A         54        STA     IN4                  SET-UP "OBR" COMMAND                     02 00054
000716                  55 IN3    BSS     1                      AND EXECUTE COMMANDS                   02 00055
000717                  56 IN4    BSS     1                                                             02 00056
000720 010733 A         57        LDA     BICN                                                          02 00057
000721 006110 A         58        ORA!    0101000                                                       02 00058
000722 101000 A
000723 050724 A         59        STA     *+1                  SET-UP "SENSE BIC NOT BUSY" COMMAND      02 00059
000724                  60 IN6    BSS     1                      AND EXECUTE IT                         02 00060
000725 000734 A         61        DATA    IN5                                                           02 00061
000726 001000 A         62        JMP     IN6                  WAIT IF BIC BUSY                         02 00062
000727 000724 A
                        63 *                                                                            02 00063
                        64 *                                                                            02 00064
000730 100000 A         65 BS15   DATA    0100000                                                       02 00065
                        66        EXT     V$IFC                                                         02 00066
000731 000000 E         67 TOP    DATA    V$IFC                ADDRESS OF TOP OF MEMORY                 02 00067
                        68        EXT     V$DSYS                                                        02 00068
000732 000000 E         69 DEV    DATA    #DSYS                DRUM DEVICE ADDRESS                      02 00069
                        70        EXT     #BSYS                                                         02 00070
000733 000000 E         71 BICN   DATA    #BSYS                BIC DEVICE ADDRESS                       02 00071
       000001 A         72 X      END     1                                                             02 00072
                        73 *                                                                            02 00073
                        74 *                                                                            02 00074
000734                  75 IN5    BSS     0                                                             02 00075
                        76        EXT     V$DISP                                                        02 00076
                        77 *                                                                            02 00077
                        78 ***    REAL TIME CLOCK INITIALIZER                                           02 00078
                        79 *                                                                            02 00079
       000047 A         80 CLOCK  EQU     047                  CLOCK DEVICE NUMBER 047                  02 00080
       000352 A         81 V$SCV  EQU     0352                 CLOCK SELECTED COUNT VALUE (1 TO 4095)   02 00081
000734 103047 A         82        OTA     CLOCK,V$SCV          OUTPUT INTERVAL SELECT REGISTER          02 00082
000735 000352 A
000736 100647 A         83        LDX     0600+CLOCK           INITIALIZE VARIABLE INTERVAL INT. COUNTER 02 00083
                        84 *                                                                            02 00084
                        85        TFT     VORTEX-2                                                  V2  02 00085
                        86        GOTO    I$DA20                                                    V2  02 00086
                        87 ***    MAP MEMORY PROTECT                                                V2  02 00087
                        88 ***    LOAD MAP REGISTERS                                                V2  02 00088
                        89        EXT     V$MLD                                                     V2  02 00089
                        90 V$MIMG EQU     0353                 MAP 0 IMAGE ADDRESS                      V2  02 00090
                        91        LDB     V$MIMG               B=MAP 0 IMAGE ADDR.                      V2  02 00091
                        92                A=PAM REGISTER NUMBER                                         02 00092
                        93        JSR     V$MLD,X              NOW LOAD MAP 0 REGISTERS                 V2  02 00093
                        94        DEC0    64                   NUMBER OF WORDS                          V2  02 00094
                        95        JAN2    **+2                 CHECK FOR TIMEOUT                        V2  02 00095
                        96        HLT                          HULT, SOMETHING WRONG WITH MAP LOAD      V2  02 00096
                        97 V$BVN  EQU     0414                                                          V2  02 00097
                        98 V$CRDR EQU     0361                                                            2 ******
                        99        LDA     V$CRDR               BOTTOM OF CORE RESIDENT DIRECTORY          2 ******
                       100        CMPA    0                                                         V2  02 00099
                       101        DIA     V$BVN                CONVERT TO MASK NUMBER FOR SAL       V2  02 00101
                       102 I$DA20 EQU     *                                                         V2  02 00102
                       103        IFT     VORTEX-2                                                  V2  02 00103
                       104        GOTO    I$DB22               ASSEMBLE IF NOT VORTEX II            V2  02 00104
                       105 ***    MEMORY PROTECT MASK                                                   02 00105
                       106 *                                                                            02 00106
000330 A               107 V$PM   EQU     0330                 MEMORY PROTECT MASK                      02 00107
       000045 A        108 MP     EQU     045                  MEMORY PROTECT DEVICE ADDRESS 045        02 00108
000737 006010 A        109        LDXI    177777               SET ALL CORE PROTECTED                   02 00109
000740 177777 A
000741 100045 A         110       EXP     MP                                                            02 00110
000742 103145 A         111       OTA     0,C                                                           02 00111
000743 100145 A         112       EXP     0100+MP                                                       02 00112
000744 103145 A         113       OTA     0,C                                                           02 00113
000745 100245 A         114       EXP     0200+MP                                                       02 00114
000746 103145 A         115       OTA     0,C                                                           02 00115
000747 100345 A         116       EXP     0300+MP                                                       02 00116
000750 103145 A         117       OTA     0,C                                                           02 00117
                        118       IFT     VORTEX-2                                                  V2  02 00118
                        119 I$DB22 CONT                                                             V2  02 00119
                        120 *                                                                           02 00120
                        121 ***   PIM INTERRUPT INITIALIZE                                               02 00121
                        122 *                                                                           02 00122
       000363 A         123 V$PIMN EQU     0363                 EXTERNAL DEVICE ADDRESS TABLE            02 00123
000751 006010 A         124       LDXI    103020               SET UP LDX INST. FOR PIM MASK            02 00124
000752 103220 A
000753 051007 A         125       STA     *+7,I                                                         02 00125
000754 006010 A         126       LDXI    000363               SET UP LDX INST. FOR PIM DEVICE ADDRESS TA 02 00126
000755 000363 A
000756 050761 A         127       STA     PIMADR                                                        02 00127
000757 006030 A         128       LDXI    20                   NO. OF PIMS TO INITIALIZE                 2 00128
```

```
000760 000007 A
000761 020363 A   129 PIMADR LDB     V$PIMN     GET PIM DEVICE ADDRESS                          02 00128
000762 001020 A   130          JBZ     PIMCK      IF ZERO ADDRESS, PIM NOT USED                   02 00129
000763 000776 A
000764 006010 A   131          LDAI    0100000    LOAD EXC COMMAND - INITIALIZE                   02 00130
000765 100000 A
000766 005031 A   132          MERGE   031        ADD PIM DEVICE ADDRESS                          02 00131
000767 051006 A   133          STA     INIT       STORE INST.                                     02 00132
000770 006010 A   134          LDAI    0103100    LOAD OAR INST. - OUTPUT MASK INST.              02 00133
000771 103100 A
000772 005031 A   135          MERGE   031        ADD PIM DEVICE ADDRESS                          02 00134
000773 051010 A   136          STA     OUT        STORE INST.                                     02 00135
000774 002000 A   137          JMPM    INPIMS                                                     02 00136
000775 001005 A
                  138          IFF     VORTEX-2                                            V2  02 00137
                  139 PIMCK    JXZ     MPEXT      NOW SET MAP ACTIVE                       V2  02 00138
                  140          IFT     VORTEX-2                                            V2  02 00139
000776 001040 A   141 PIMCK    JXZ     V$DISP                                                 02 00140
000777 000000 E
001000 005346 A   142          DXR                DECREMENT PIM COUNT                         02 00141
001001 041007 A   143          INR     PADR       MODIFY INST. TO LOAD NEXT VALUE IN TABLE    02 00142
001002 040761 A   144          INR     PIMADR     MODIFY INST. TO LOAD NEXT VALUE IN TABLE    02 00143
001003 001000 A   145          JMP     PIMADR                                                 02 00144
001004 000761 A
001005 000000 A   146 INPIMS   ENTR                                                          02 00145
001006 100040 A   147 INIT     EXC     040        INITIALIZE PIM                              02 00146
001007 010320 A   148 PADR     LDA     0320       GET PIM MASK                                02 00147
001010 103140 A   149 OUT      OAR     340        PUTPUT PIM MASK                             02 00148
001011 001000 A   150          JMP*    INPIMS                                                 02 00149
001012 101005 A
                  151          IFT     VORTEX-2                                            V2  02 00150
                  152          GOTO    I$DB24     ASSEMBLE IF VORTEX II                    V2  02 00151
                  153 MP       EQU     046        MAP DEVICE ADDR.                         V2  02 00152
                  154 MPEXT    EXC2    0100+MP    SET MAP ACTIVE                           V2  02 00153
                  155          EXC2    0600+MP    ENABLE MEMORY PROTECT                    V2  02 00154
                  156          JMP     V$DISP     GOTO DISPATCHER                          V2  02 00155
                  157 I$DB24   CONT                                                       V2  02 00156
                  158          END                                                            02 00157
```

```
ENTRY NAMES
000600 A I$DA
EXTERNAL NAMES
000733 E #BSYS   000732 E #DSYS   000777 E V$DISP 000731 E V$TFC
SYMBOLS
000733 E #BSYS   000732 E #DSYS   000733 A BICN   000730 A BS15
000047 A CLOCK   000732 A DEV     000600 A I$DA   000600 A IN00
000701 A IN1     000703 A IN2     000710 A IN3    000712 A IN4
000734 A IN5     000724 A IN6     001000 A INIT   001005 A INPIMS
000045 A MP      001010 A OUT     001007 A PADR   000761 A PIMADR
000776 A PIMCK   000731 A TOP     000777 E V$DISP 000336 A V$MDM
000363 A V$PIMN  000352 A V$SCV   000731 E V$TFC  000001 A VORTEX
000001 A X
  0 ERRORS ASSEMBLY COMPLETE
```

```
  0  #BSYS      70     71
  0  #DSYS      63     69
 71  BICN       31     37     45     57
 65  BS15       38     47     51
 80  CLOCK      82     83
 69  DEV        50
 26  I$DA       11     24
102  I$DA20     86
119  I$DB22    104
157  I$DB24    152
 30  IN00       27
 43  IN1        39
 45  IN2        41
 55  IN3        52
 56  IN4        54
 75  IN5        61
 60  IN6        62
147  INIT      133
146  INPIMS    137    150
108  MP        110    111    112    113    114    115    116    117    154
               155
154  MPEXT     139
149  OUT       136
148  PADR      125    143
129  PIMADR    127    144    145
139  PIMCK     130
 67  TOP        44
 97  V$BVN     101
 98  V$CRDR     99
  0  V$DISP     76    141    156
 90  V$MIMG     91
  0  V$MLD      89     93
123  V$PIMN    120
 81  V$SCV      82
  0  V$TFC      66     67
  1  VORTEX     80    103    112    138    140    151
 72  X          93
```

```
000001 A      1 VORTEX SET     1                PUT LAST FOR VORTEX                    V2  02 00001
              2 * THIS IS A COPYRIGHTED PROGRAM.COPYRIGHT 1972 BY VARIAN DATA MACHINES   02 00002
              3 *                                                                        02 00003
              4 *     V.D.M.   PART  NO.        92L0705-0030                             02 00004
              5 *                                                                        02 00005
              6 *                                                RELEASED    03/01/74    02 00006
              7 *                                                                        02 00007
              8 *               I$DB                                                     02 00008
              9 *                                                                        02 00009
             10 *                                                                        02 00010
             11         TITLE   I$DB                                                    02 00011
             12 *       SYSTEM INITIALIZER FOR 620-37 (CMD) DISC                        02 00012
             13 *                                                                       02 00013
             14 *               PURPOSE:  TO READ THE VORTEX NUCLEUS (LOC 01130 TO V$TFC 02 00014
             15 *                         INTO MAIN MEMORY, INITIALIZE PIN'S, AND       02 00015
             16 *                         CALL V$DISP                                   02 00016
             17 *                                                                       02 00017
             18 *               CALLING SEQUENCE:  CALLED BY KEY-IN LOADER              02 00018
             19 *                                                                       02 00019
             20 *               RETURN PARAMETERS:  JUMPS TO RTE-DISPATCHER             02 00020
             21 *                                                                       02 00021
             22                                                                        02 00022
             23         NAME    I$DB                                                   02 00023
000000       24         ORG     0                                                      02 00024
000000       25 I$DB    BCI     0                 * * ENTRY POINT * *                  02 00025
000600 001000 A    26         JMP     I$00              SKIP $GEN OVERLAY (ZFPOS) TO EXEC. INIT.  02 00026
000601 000662 A
               27         BUF     6                 LEAVE 360 ZEROS AS OVERLAY FOR $GEN PUT   02 00027
000602 000000 A    28         DATA    0,0,0,0,0,0,0,0                                02 00028
000603 000000 A
000604 000000 A
000605 000000 A
000606 000000 A
000607 000000 A
000610 000000 A
000611 000000 A
000612 000000 A    28         DATA    0,0,0,0,0,0,0,0                                02 00029
000613 000000 A
000614 000000 A
000615 000000 A
000616 000000 A
000617 000000 A
000620 000000 A
000621 000000 A
000622 000000 A    28         DATA    0,0,0,0,0,0,0,0                                02 00030
000623 000000 A
000624 000000 A
000625 000000 A
000626 000000 A
000627 000000 A
000630 000000 A
000631 000000 A
000632 000000 A    20         DATA    0,0,0,0,0,0,0,0                                02 00031
000633 000000 A
000634 000000 A
000635 000000 A
000636 000000 A
000637 000000 A
000640 000000 A
000641 000000 A
000642 000000 A    28         DATA    0,0,0,0,0,0,0,0                                02 00032
000643 000000 A
000644 000000 A
000645 000000 A
000646 000000 A
000647 000000 A
000650 000000 A
000651 000000 A
000652 000000 A    28         DATA    0,0,0,0,0,0,0,0                                02 00033
000653 000000 A
000654 000000 A
000655 000000 A
000656 000000 A
000657 000000 A
000660 000000 A
000661 000000 A
000662             29 IN00    BSS     0
000662 011071 A    30         LDA     BIC1
000663 111077 A    31         DST     BIC0
000664 050757 A    32         ADA     INI
000665 105111 A    33         SSB
000666 050746 A    34         IOT     13B
000667 121101 A    35         CCP
000670 050756 A    36         ADA     IN1
000671 105311 A    37         SSA
000672 050753 A    38         IOT     IN1,C
000673 011070 A    39         LDA     BIC0
000674 111077 A    40         DST     BIC0
000675 050760 A    41         IOT     IN1,I
000676 121072 A    42         CLB
000677 121072 A    43         CLB,CLB
000700 050733 A    44         IOT     14
000701 121072 A    45         CLB
```

FORM "ACTIVATE BIC" INSTR.

FORM "INITIALIZE BIC" INSTR.

FORM "OUTPUT FINAL ADDR." INSTR

FORM "OUTPUT INITIAL ADDR." INSTR.

FORM "SET MOD MODE" INSTR.

FORM "SELECT DEFX MODE" INSTR.

```
000702 050747 A    46          STA     IN8
000703 121072 A    47          ADD     0100
000704 050731 A    48          STA     IN1
000705 121073 A    49          ADD     0400
000706 050736 A    50          STA     IN6
000707 121073 A    51          ADD     0400
000710 050761 A    52          STA     IN14
000711 121100 A    53          ADD     XCIA
000712 050742 A    54          STA     IN2
000713 050763 A    55          STA     IN15
000714 121073 A    56          ADD     0400
000715 050735 A    57          STA     IN5
000716 050751 A    58          STA     IN9
                   59 *
                   60 *
000717 005001 A    61 IN0      TZA
000720 051102 A    62          STA     IN20
000721 011074 A    63          LDA     D1130
000722 051103 A    64          STA     IN21
000723 006010 A    65          LDAI    5040
000724 011660 A
000725 051104 A    66          STA     IN22
000726 006010 A    67          LDAI    6
000727 000006 A
000730 051105 A    68          STA     IN24
                   69 *
                   70 *
000731 100416 A    71 IN1      EXC     0400+DA
000732 104016 A    72 IN3      EXC2    DA
000733 100216 A    73 IN4      EXC     0200+DA
000734 011102 A    74          LDA     IN20
000735 103116 A    75 IN5      OAR     DA
000736 101016 A    76 IN6      SEN     DA,IN2
000737 000742 A
000740 001000 A    77          JMP     *-2
000741 000736 A
000742 102516 A    78 IN2      CIA     DA
000743 151076 A    79          ANA     MASK
000744 001016 A    80          JANZ    IN0
000745 000717 A
                   81 *
000746 100020 A    82 IN7      EXC     BIC
000747 100316 A    83 IN8      EXC     0300+DA
000750 011105 A    84          LDA     IN24
000751 103116 A    85 IN9      OAR     DA
000752 011103 A    86          LDA     IN21
000753 103120 A    87 IN10     OAR     BIC
000754 121104 A    88          ADD     IN22
000755 005311 A    89          DAR
000756 103120 A    90 IN11     OAR     BIC
000757 100020 A    91 IN12     EXC     BIC
000760 100016 A    92 IN13     EXC     DA
000761 101416 A    93 IN14     SEN     0400+DA,*
000762 000761 A
000763 102516 A    94 IN15     CIA     DA
000764 151076 A    95          ANA     MASK
000765 001016 A    96          JANZ    IN0
000766 000717 A
                   97 *
                   98 *
000767 005001 A    99          IZA
000770 051105 A   100          STA     IN24
000771 041102 A   101          INR     IN20
000772 011103 A   102          LDA     IN21
000773 121104 A   103          ADD     IN22
000774 051103 A   104          STA     IN21
000775 011067 A   105          LDA     TOP
000776 141103 A   106          SUB     IN21
000777 141075 A   107          SUB     D5760
001000 001004 A   108          JAM     *+3
001001 001003 A
001002 005001 A   109          TZA
001003 121075 A   110          ADD     D5760
001004 051104 A   111          STA     IN22
001005 005311 A   112          DAR
001006 001002 A   113          JAP     IN1
001007 000731 A
                  114 *
                  115 *
                  116 ***      REAL TIME CLOCK INITIALIZER
                  117 *
000047 A          118 CLOCK    EQU     047
000352 A          119 V$SCV    EQU     0352
001010 103047 A   120          OME     CLOCK,V$SCV
001011 000352 A
001012 100647 A   121          EXC     0600+CLOCK
                  122 *
                  123          IFT     VORTEX-2
                  124          GOTO    I$DB20
                  125 ***      MAP MEMORY PROTECT
                  126 ***      LOAD MAP REGISTERS
                  127          EXT     V$MLD
                  128 V$MIMG   EQU     0333
```

```
FORM "SELECT SECTOR MODE" INSTR.                                  02 00046
FORM "INITIALIZE CONTROLLER" INSTR.                               02 00047
FORM "SENSE SEEK COMPLETE" INSTR.                                 02 00048
FORM "SENSE CONTROLLER BUSY" INSTR.                               02 00049
FORM "INPUT STATUS WORD" INSTR.                                   02 00050
                                                                  02 00051
FORM "OUTPUT SET-UP WORD" INSTR.                                  02 00052
                                                                  02 00053
                                                                  02 00054
                                                                  02 00055
                                                                  02 00056
                                                                  02 00057
                                                                  02 00058
                                                                  02 00059
                                                                  02 00060
INITIALIZE TRACK COUNTER...                                       02 00061
        ...START ADDR.                                            02 00062
                                                                  02 00063
        ...NUMBER OF WORDS                                        02 00064
                                                                  02 00065
        ...SECTOR NUMBER                                          02 00066
                                                                  02 00067
                                                                  02 00068
INITIALIZE CONTROLLER                                             02 00069
SELECT UNIT                                                       02 00070
SELECT SEEK MODE                                                  02 00071
                                                                  02 00072
OUTPUT SEEK SET-UP WORD                                           02 00073
SENSE SEEK COMPLETE                                               02 00074
                                                                  02 00075
  WAIT, IF NO!                                                    02 00076
                                                                  02 00077
INPUT STATUS WORD                                                 02 00078
SELECT ERROR BITS                                                 02 00079
IF ANY ERROR, START OVER                                          02 00080
                                                                  02 00081
INITIALIZE BIC                                                    02 00082
SELECT SECTOR MODE                                                02 00083
                                                                  02 00084
SET CONTROLLER (UNIT) TO PROPER SECTOR                            02 00085
                                                                  02 00086
OUTPUT INITIAL ADDR.                                              02 00087
                                                                  02 00088
                                                                  02 00089
OUTPUT FINAL ADDR.                                                02 00090
ACTIVATE BIC                                                      02 00091
CONNECT DISC TO BIC! SET TO READ MODE                             02 00092
SENSE CONTROLLER BUSY                                             02 00093
                                                                  02 00094
INPUT STATUS WORD                                                 02 00095
SELECT ERROR BITS                                                 02 00096
IF ANY ERROR, START OVER                                          02 00097
                                                                  02 00098
                                                                  02 00099
SET-UP FUTURE READS TO START IN SECTOR #0                         02 00100
BUMP TRACK COUNTER                                                02 00101
SET START ADDR. FOR NEXT READ                                     02 00102
                                                                  02 00103
                                                                  02 00104
                                                                  02 00105
COMPUTE SIZE OF READ                                              02 00106
                                                                  02 00107
IF LESS THAN 5760-WORDS, LIMIT SIZE                               02 00108
                                                                  02 00109
                                                                  02 00110
SAVE SIZE OF READ                                                 02 00111
                                                                  02 00112
IF MORE TRACKS TO READ IN                                         02 00113
                                                                  02 00114
                                                                  02 00115
                                                                  02 00116
                                                                  02 00117
CLOCK DEVICE NUMBER 047                                           02 00118
CLOCK SELECTED COUNT VALUE (1 TO 4095)                            02 00119
OUTPUT INTERVAL SELECT REGISTER                                   02 00120
                                                                  02 00121
INITIALIZE VARIABLE INTERVAL INT. COUNTER                         02 00122
                                                                  02 00123
ASSEMBLE CODE FOR V2                                        V2    02 00124
MAP MEMORY PROTECT                                          V2    02 00125
LOAD MAP REGISTERS                                          V2    02 00126
                                                            V2    02 00127
MAP 0 IMAGE ADDRESS                                         V2    02 00128
```

```
                        129           LDB     V$MIMG      B=MAP 0 IMAGE ADDR.                    V2 02 00129
                        130           TZA                 A=RAM REGISTER NUMBER                  V2 02 00130
                        131           IOR     V$MLD,X     NOW LOAD MAP 0 REGISTERS               V2 02 00131
                        132           DATA    64          NUMBER OF WORDS                        V2 02 00132
                        133           JANZ    *-3         CHECK FOR TIMEOUT                      V2 02 00133
                        134           HLT                 HULT, SOMETHING WRONG WITH MAP LOAD    V2 02 00134
                        135 V$BVN     EQU     0414                                               V2 02 00135
                        136 V$CRDR    EQU     0341                                                 E.2*******
                        137           LDA     V$CRDR      BOTTOM OF CORE RESIDENT DIRECTORY        E.2*******
                        138           LSRA    2                                                  V2 02 00137
                        139           STA     V$BVN       CONVERT TO PAGE NUMBER FOR SAL         V2 02 00138
                        140 I$DB20    CONT                                                       V2 02 00139
                        141           IFF     VORTEX-2                                           V2 02 00140
                        142           GOTO    I$DB22      ASSEMBLE IF NOT VORTEX II              V2 02 00141
                        143 ***       MEMORY PROTECT MASK                                           02 00142
                        144 *                                                                       02 00143
         000330 A       145 V$MPM     EQU     0330        MEMORT PROTECT MASK                       02 00144
         000045 A       146 MP        EQU     045         MEMORT PROTECT DEVICE ADDRESS 045         02 00145
001013   006010 A       147           LDAI    0177777     SET ALL CORE PROTECTED                    02 00146
001014   177777 A
001015   100045 A       148           EXC     MP                                                    02 00147
001016   103145 A       149           OAR     MP                                                    02 00148
001017   100145 A       150           EXC     0100+MP                                               02 00149
001020   103145 A       151           OAR     MP                                                    02 00150
001021   100245 A       152           EXC     0200+MP                                               02 00151
001022   103145 A       153           OAR     MP                                                    02 00152
001023   100345 A       154           EXC     0300+MP                                               02 00153
001024   103145 A       155           OAR     MP                                                    02 00154
                        156           IFF     VORTEX-2                                           V2 02 00155
                        157 I$DB22    CONT                                                       V2 02 00156
                        158 *                                                                       02 00157
                        159 ***       PIM INTERRUPT INITIALIZE                                      02 00158
                        160 *                                                                       02 00159
         000363 A       161 V$PIMN    EQU     0363        EXTERNAL DEVICE ADDRESS TABLE             02 00160
001025   006010 A       162           LDAI    010320      SET UP LDA INST. FOR PIM MASK             02 00161
001026   010320 A
001027   051063 A       163           STA     PADR                                                  02 00162
001030   006010 A       164           LDAI    020363      SET UP LDB INST. FOR PIM DEVICE ADDRESS TA 02 00163
001031   020363 A
001032   051035 A       165           STA     PIMADR                                                02 00164
001033   006030 A       166           LDXI    07          NO. OF PIMS TO INITIALIZE                 02 00165
001034   000007 A
001035   020363 A       167 PIMADR    LDB     V$PIMN      GET PIM DEVICE ADDRESS                    02 00166
001036   001020 A       168           JBZ     PIMCK       IF ZERO ADDRESS, PIM NOT USED             02 00167
001037   001052 A
001040   006010 A       169           LDAI    0100000     LOAD EXC COMMAND - INITIALIZE             02 00168
001041   100000 A
001042   005031 A       170           MERGE   031         ADD PIM DEVICE ADDRESS                    02 00169
001043   051062 A       171           STA     INIT        STORE INST.                               02 00170
001044   006010 A       172           LDAI    0103100     LOAD OAR INST. - OUTPUT MASK INST.        02 00171
001045   103100 A
001046   005031 A       173           MERGE   031         ADD PIM DEVICE ADDRESS                    02 00172
001047   051064 A       174           STA     OUT         STORE INST.                               02 00173
001050   002000 A       175           JMPM    INPIMS                                                02 00174
001051   001061 A
                        176           IFT     VORTEX-2                                           V2 02 00175
                        177 PIMCK     JAZ     MPEXT       NOW SET MAP ACTIVE                     V2 02 00176
                        178           IFT     VORTEX-2                                           V2 02 00177
001052   001040 A       179 PIMCK     JNZ     V$DISP                                                02 00178
001053   000000 E
001054   005344 A       180           DXR                 DECREMENT PIM COUNT                       02 00179
001055   041063 A       181           INR     PADR        MODIFY INST. TO LOAD NEXT VALUE IN TABLE  02 00180
001056   041035 A       182           INR     PIMADR      MODIFY INST. TO LOAD NEXT VALUE IN TABLE  02 00181
001057   001000 A       183           JMP     PIMADR                                                02 00182
001060   001035 A
                        184           IFT     VORTEX-2                                           V2 02 00183
                        185           GOTO    I$DB24      ASSEMBLE IF VORTEX II                  V2 02 00184
                        186 MP        EQU     046         MAP DEVICE ADDR.                       V2 02 00185
                        187 MPEXT     EXC2    0100+MP     SET MAP ACTIVE                         V2 02 00186
                        188           EXC2    0600+MP     ENABLE MEMORY PROTECT                  V2 02 00187
                        189           JMP     V$DISP      GOTO DISPATCHER                        V2 02 00188
                        190 I$DB24    CONT                                                       V2 02 00189
001061   000000 A       191 INPIMS    ENTR                                                          02 00190
001062   100040 A       192 INIT      EXC     040         INITIALIZE PIM                            02 00191
001063   010320 A       193 PADR      LDA     0320        GET PIM MASK                              02 00192
001064   103140 A       194 OUT       OAR     040         OUTPUT PIM MASK                           02 00193
001065   001000 A       195           JMP*    INPIMS                                                02 00194
001066   101061 A
                        196 *                                                                       02 00195
                        197 *                                                                       02 00196
                        198           EXT     V$DISP                                                02 00197
                        199           EXT     V$TFC                                                 02 00198
001067   000000 E       200 TOP       DATA    V$TFC       ADDRESS OF TOP OF MEMORY                  02 00199
                        201           EXT     D$SYS                                                 02 00200
001070   000000 E       202 DEV       DATA    D$SYS       DRUM DEVICE ADDRESS                       02 00201
                        203           EXT     B$SYS                                                 02 00202
001071   000000 E       204 BICN      DATA    B$SYS       BIC DEVICE ADDRESS                        02 00203
         000001 A       205 X         EQU     1                                                     02 00204
                        206 *                                                                       02 00205
                        207 *                                                                       02 00206
001072   000100 A       208 D100      DATA    0100                                                  02 00207
001073   000400 A       209 D400      DATA    0400                                                  02 00208
001074   001130 A       210 D1130     DATA    01130                                                 02 00209
```

```
001075 013200 A   211 D5760   DATA    5760                                          02 00210
001076 007760 A   212 MASK    DATA    07760          STATUS WORD MASK               02 00211
       100000 A   213 EXC     EQU     0100000                                       02 00212
       102500 A   214 CIA     EQU     0102500                                       02 00213
       103100 A   215 DAR     EQU     0103100                                       02 00214
       101000 A   216 SEN     EQU     0101000                                       02 00215
       000016 A   217 DA      EQU     016                                           02 00216
       000020 A   218 BIC     EQU     020                                           02 00217
001077 100000 A   219 XEXC    DATA    EXC                                           02 00218
001100 001100 A   220 XCIA    DATA    CIA-SEN-0400                                  02 00219
001101 003100 A   221 XDAR    DATA    DAR-EXC                                       02 00220
001102 000000 A   222 IN20    DATA    0              TRACK COUNTER                  02 00221
001103 000000 A   223 IN21    DATA    0              START ADDR. PNTR. (FOR READ)   02 00222
001104 000000 A   224 IN22    DATA    0              NUMBER OF WORDS TO BE READ     02 00223
001105 000000 A   225 IN24    DATA    0              SECTOR PNTR. (FOR START OF READ) 02 00224
                  226         END                                                   02 00225
ENTRY NAMES
000600 A I$DB
EXTERNAL NAMES
001071 E #BSYS  001070 E #DSYS  001053 E V$DISP 001067 E V$TFC
SYMBOLS
001071 E #BSYS  001070 E #DSYS  000020 A BIC    001071 A BICN
102500 A CIA    000047 A CLOCK  001075 A D5760  000016 A DA
001070 A DEV    100000 A EXC    000600 A I$DB   000717 A IN0
000662 A IN00   000731 A IN1    000753 A IN10   000756 A IN11
000757 A IN12   000760 A IN13   000761 A IN14   000763 A IN15
000742 A IN2    001102 A IN20   001103 A IN21   001104 A IN22
001105 A IN24   000732 A IN3    000733 A IN4    000735 A IN5
000736 A IN6    000746 A IN7    000747 A IN8    000751 A IN9
001062 A INIT   001061 A INPIMS 001076 A MASK   000045 A MP
001072 A D100   001074 A D1130  001073 A D400   103100 A DAR
001064 A DUT    001063 A PADR   001035 A PIMADR 001052 A PIMCK
101000 A SEN    001067 A TOP    001053 E V$DISP 000330 A V$MEM
000363 A V$PIMN 000352 A V$SCV  001057 E V$TFC  000001 A VORTEX
000001 A X      001100 A XCIA   001077 A XEXC   001101 A XDAR
   0 ERRORS ASSEMBLY COMPLETE
```

```
  0  #BSYS     203   204
  0  #DSYS     201   202
218  BIC        82    87    90    91
204  BICN       30
214  CIA       220
118  CLOCK     120   121
211  D5760     107   110
217  DA         71    72    73    75    76    78    83    85    92
                93    94
202  DEV        39
213  EXC       219   221
 25  I$DB       11    23
140  I$DB20    124
157  I$DB22    142
190  I$DB24    185
 61  IN0        80    96
 29  IN00       26
 71  IN1        48   113
 87  IN10       38
 90  IN11       36
 91  IN12       32
 92  IN13       41
 93  IN14       52
 94  IN15       55
 78  IN2        54    76
222  IN20       62    74   101
223  IN21       64    86   102   104   106
224  IN22       66    88   103   111
225  IN24       69    84   100
 73  IN4        44
 75  IN5        57
 76  IN6        50
 82  IN7        34
 83  IN8        46
 85  IN9        58
192  INIT      171
191  INPIMS    175   195
212  MASK       79    95
146  MP        148   149   150   151   152   153   154   155   187
               188
187  MPEXT     177
208  D100       42    43    45    47
210  D1130      63
209  D400       49    51    56
215  DAR       221
194  DUT       174
193  PADR      163   181
167  PIMADR    165   182   183
177  PIMCK     168
216  SEN       220
200  TOP       105
135  V$BVN     139
136  V$CRDP    137
  0  V$DISP    179   189   198
128  V$MIMG    129
```

```
  0   V$MLD     127   131
161   V$PIMN    167
119   V$SCV     120
  0   V$TFC     199   200
  1   VORTEX    123   141   156   176   178   184
205   X         131
220   XCIA       53
219   XEXC       31    40
221   XOAR       35
```

```
                000001 A     1 VORTEX SET     1                PUT LAST FOR VORTEX                          V2  01 00001
                             2 * THIS IS A COPYRIGHTED PROGRAM.COPYRIGHT 1972 BY VARIAN DATA MACHINES       01 00002
                             3 *                                                                            01 00003
                             4 *     V.D.M.  PART  NO.        92L0705-021B                                  01 00004
                             5 *                                                                            01 00005
                             6 *                                          RELEASED    03/01/74          01 00006
                             7 *                                                                            01 00007
                             8 *                 I$DC                                                       01 00008
                             9 *                                                                            01 00009
                            10 *                                                                            01 00010
                            11 *     V.D.M.  PART NO.         92L                                           01 00011
                            12 *                                                RELEASED   08-              01 00012
                            13 *                 I$DC                                                       01 00013
                            14 *       SYSTEM INITIALIZER FOR 620-35 (CDS) DISC                             01 00014
                            15         TITLE    I$DC                                                       01 00015
                            16         NAME     I$DC                                                       01 00016
000600                      17         ORG      0600                                                       01 00017
000600                      18 I$DC    BSS      0                 *  * ENTRY POINT *  *                    01 00018
000600 001000 A             19         JMP      IN00              SKIP SGEN OVERLAY (ZEROS) TO EXEC. INIT.  01 00019
000601 000662 A
                            20         DUP      6                 LEAVE 060 ZEROS AS OVERLAY FOR SGEN PUT   01 00020
000602 000000 A             21         DATA     0,0,0,0,0,0,0,0                                             01 00021
000603 000000 A
000604 000000 A
000605 000000 A
000606 000000 A
000607 000000 A
000610 000000 A
000611 000000 A
000612 000000 A             21         DATA     0,0,0,0,0,0,0,0                                             01 00021
000613 000000 A
000614 000000 A
000615 000000 A
000616 000000 A
000617 000000 A
000620 000000 A
000621 000000 A
000622 000000 A             21         DATA     0,0,0,0,0,0,0,0                                             01 00021
000623 000000 A
000624 000000 A
000625 000000 A
000626 000000 A
000627 000000 A
000630 000000 A
000631 000000 A
000632 000000 A             21         DATA     0,0,0,0,0,0,0,0                                             01 00021
000633 000000 A
000634 000000 A
000635 000000 A
000636 000000 A
000637 000000 A
000640 000000 A
000641 000000 A
000642 000000 A             21         DATA     0,0,0,0,0,0,0,0                                             01 00021
000643 000000 A
000644 000000 A
000645 000000 A
000646 000000 A
000647 000000 A
000650 000000 A
000651 000000 A
000652 000000 A             21         DATA     0,0,0,0,0,0,0,0                                             01 00021
000653 000000 A
000654 000000 A
000655 000000 A
000656 000000 A
000657 000000 A
000660 000000 A
000661 000000 A
000662                      22 IN00    BSS      0                                                          01 00022
                            23 *                                                                            01 00023
                            24 * BIC SET UP                                                                 01 00024
000662 011101 A             25         LDA      DCUCOM                                                     01 00025
000663 111072 A             26         ORA      BICN                                                       01 00026
000664 050762 A             27         STA      IO5               ACTIVATE BIC INSTR.                      01 00027
000665 005111 A             28         IAR                                                                 01 00028
000666 050755 A             29         STA      IO2               INITIALIZE BIC INSTR.                    01 00029
000667 011102 A             30         LDA      DCUCOM+1                                                   01 00030
000670 111072 A             31         ORA      BICN                                                       01 00031
000671 050757 A             32         STA      IO3               OUTPUT INITIAL ADRESS TO BIC INSTR.      01 00032
000672 005111 A             33         IAR                                                                 01 00033
000673 050761 A             34         STA      IO4               OUTPUT FINAL ADDRESS TO BIC INSTR.       01 00034
                            35 *                                                                            01 00035
                            36 * CONSTRUCT EXTERNAL CONTROL COMMANDS                                        01 00036
000674 011101 A             37         LDA      DCUCOM            =1000XX                                  01 00037
000675 111071 A             38         ORA      DEV               OR IN DEVICE ADDRESS                     01 00038
000676 050754 A             39         STA      IO1               STOP TRANSFER AND INITIALIZE INSTR.      01 00039
000677 050722 A             40         STA      LOOPX                                                      01 00040
000700 011106 A             41         LDA      DCUCOM+5                                                   01 00041
000701 111071 A             42         ORA      DEV                                                        01 00042
000702 050767 A             43         STA      EXECUT            READ SECTOR INSTR                        01 00043
000703 121075 A             44         ADD      C0100             =1005XX                                  01 00044
000704 050725 A             45         STA      LOOPX+3           SEEK HOME INSTR.X                        01 00045
```

```
000705 011102 A    46          LDA     DCUCOM+1    =1031XX                          01 00046
000706 111071 A    47          ORA     DEV         OR IN DEVICE ADDRESS             01 00047
000707 050724 A    48          STA     LOOPX+2     OUTPUT SUW INSTR.                01 00048
000710 050766 A    49          STA     IO6         OUTPUT SUW INSTR.                01 00049
000711 011103 A    50          LDA     DCUCOM+2    =1074XX                          01 00050
000712 111071 A    51          ORA     DEV         OR IN DEVICE ADDRESS             01 00051
000713 050770 A    52          STA     IO7         DCU NOT BUSY SENSE               01 00052
000714 011104 A    53          LDA     DCUCOM+3    =101XXX                          01 00053
000715 111071 A    54          ORA     DEV         OR IN DEVICE ADDRESS             01 00054
000716 050726 A    55          STA     LOOPX+4     SEEKING A CYL SENSE INSTR.       01 00055
000717 011105 A    56          LDA     DCUCOM+4    =1025XX                          01 00056
000720 111071 A    57          ORA     DEV         OR IN DEVICE ADDR.               01 00057
000721 050774 A    58          STA     IO9         INPUT HARDWARE INSTR.            01 00058
                   59 *                                                             01 00059
                   60          EJEC                                                 01 00060
000722 100000 A    61 LOOPX    EXC     0           STOP XFER AND INITIALIZE         01 00061
000723 005001 A    62          TZA                                                  01 00062
000724 103100 A    63          OHP     0           OUTPUT SUW=0                     01 00063
000725 100500 A    64          EXC     0500        RECALIBRATE, SEEK TO HOME        01 00064
000726 101000 A    65          SEN     0,*+4       SEEK COMPLETE?                   01 00065
000727 000732 A
000730 001000 A    66          JMP     *-2         NO, WAIT                         01 00066
000731 000726 A
000732 000010 A    67          LDAI    8                                            01 00067
000733 000010 A
000734 051073 A    68          STA     SECT0       SET FIRST SECTOR TO BE READ IS SECTOR 8  01 00068
000735 005002 A    69          TZB                 ZERO PARTIAL SECTOR READ FLAG    01 00069
000736 005001 A    70          TZA                                                  01 00070
000737 051074 A    71          STA     CHEAD       SET CURRENT HEAD TO ZERO         01 00071
000740 006010 A    72          LDAI    01127                                        01 00072
000741 001127 A
000742 051100 A    73          STA     BIC5+1      PRESET BIC INITIAL ADDRESS TO ZERO  01 00073
                   74 *                                                             01 00074
000743 A           75 IO11     EQU     *                                            01 00075
000743 011100 A    76          LDA     BIC5+1      GET LAST ADDRESS FILLED BY BIC   01 00076
000744 005111 A    77          INA                                                  01 00077
000745 051077 A    78          STA     BIC5        SET UP BIC STARTING ADDRESS      01 00078
000746 006120 A    79          ADDI    120                                          01 00079
000747 000167 A
000750 051100 A    80          STA     BIC5+1      SET UP BIC FINAL ADDRESS         01 00080
000751 141070 A    81          SUB     TOP         SUBTRACT TOP OF COPC LOCATION    01 00081
000752 001002 A    82          JAP     RLAST       ONLY NEED TO READ PART OF THIS SECTOR  01 00082
000753 001012 A
                   83 *                                                             01 00083
000754 100000 A    84 IO1      EXC     0           STOP TRANSFER AND INITIALIZE     01 00084
000755 100000 A    85 IO2      EXC     0           INITIALIZE BIC                   01 00085
000756 011077 A    86          LDA     BIC5        GET INITIAL BIC ADDR.            01 00086
000757 103100 A    87 IO3      OAS     0           OUTPUT INITIAL ADDR.             01 00087
000760 011100 A    88          LDA     BIC5+1      GET FINAL BIC ADDR.              01 00088
000761 103100 A    89 IO4      OAS     0           OUTPUT FINAL ADDR.               01 00089
000762 100000 A    90 IO5      EXC     0           ACTIVATE BIC                     01 00090
000763 011074 A    91          LDA     CHEAD       GET CURRENT HEAD NO.             01 00091
000764 004250 A    92          LRLA    8           SHIFT TO BUILD SUW               01 00092
000765 111073 A    93          ORA     SECT0       OR IN THE SECTOR NO.             01 00093
000766 103100 A    94 IO6      OAS     0           OUTPUT SUW                       01 00094
000767 100000 A    95 EXECUT   EXC     0           EXECUTE COMMAND                  01 00095
000770 101000 A    96 IO7      SEN     0,*+4       DCU NOT BUSY                     01 00096
000771 000774 A
000772 001000 A    97          JMP     *-2                                          01 00097
000773 000770 A
000774 102500 A    98 IO9      CIA     0           GET STATUS                       01 00098
000775 001010 A    99          JAZ     *+2         DO NEXT IF STATUS CLEAR          01 00099
000776 001000 A
000777 000000 A   100          HLT                 A-REG=STATUS WORD                01 00100
                  101 *                                                             01 00101
001000 041073 A   102          INR     SECT0       INCREMENT SECTOR ADDRESS         01 00102
001001 011073 A   103          LDA     SECT0                                        01 00103
001002 141076 A   104          SUB     D24                                          01 00104
001003 001004 A   105          JAN     IO11        DO NEXT SECTOR AT THIS HEAD ADDRESS  01 00105
001004 000743 A
                  106 *                                                             01 00106
001005 005001 A   107          TZA                 MUST POSITION TO NEXT HEAD       01 00107
001006 051073 A   108          STA     SECT0       RESET TO SECTOR ZERO             01 00108
001007 041074 A   109          INR     CHEAD       INCREMENT HEAD ADDRESS           01 00109
001010 001000 A   110          JMP     IO11        DO NEXT SECTOR AT THIS HEAD ADDRESS  01 00110
001011 000743 A
                  111 *                                                             01 00111
001012 A          112 RLAST    EQU     *           READ LAST PARTIAL SECTOR         01 00112
001012 001026 A   113          JSNZ    *+7         DONE IF LAST PARTIAL SECTOR READ  01 00113
001013 001021 A
001014 005122 A   114          IBR                 SET PARTIAL SECTOR READ FLAG     01 00114
001015 011070 A   115          LDA     TOP                                          01 00115
001016 051100 A   116          STA     BIC5+1      FINAL BIC ADDR.                  01 00116
001017 001000 A   117          JMP     IO1         PERFORM LAST READ                01 00117
001020 000754 A
                  118          EJEC                                                 01 00118
                  119 *                                                             01 00119
                  120 *                                                             01 00120
                  121 ***      REAL TIME CLOCK INITIALIZER                          01 00121
                  122 *                                                             01 00122
000047 A          123 CLOCK    EQU     047         CLOCK DEVICE NUMBER 047          01 00123
000352 A          124 V$SCV    EQU     ^352        CLOCK SELECTED COUNT VALUE (1 TO 4095)  01 00124
001021 103047 A   125          OMB     CLOCK,V$SCV  OUTPUT INTERVAL TIMER REGISTER  01 00125
```

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001022 000352 A
001023 100647 A   126          EXC     0600+CLOCK    INITIALIZE VARIABLE INTERVAL INT. COUNTER   01 00126
                  127 *                                                                          01 00127
                  128          IFT     VORTEX-2                                            V2    01 00128
                  129          GOTO    I$DC20                                              V2    01 00129
                  130 ***      MAP MEMORY PROTECT                                          V2    01 00130
                  131 ***      LOAD MAP REGISTERS                                          V2    01 00131
                  132          EXT     V$MLD                                               V2    01 00132
                  133 X        EQU     1                                                     V2  01 00133
                  134 V$MIMG   EQU     0333          MAP 0 IMAGE ADDRESS                   V2    01 00134
                  135          LDB     V$MIMG        B=MAP 0 IMAGE ADDR.                   V2    01 00135
                  136          TZA                   A=RAM REGISTER NUMBER                 V2    01 00136
                  137          JSR     V$MLD,X       NOW LOAD MAP 0 REGISTERS              V2    01 00137
                  138          DATA    64            NUMBER OF WORDS                       V2    01 00138
                  139          JANZ    *+3           CHECK FOR TIMEOUT                     V2    01 00139
                  140          HLT                   HULT, SOMETHING WRONG WITH MAP LOAD   V2    01 00140
                  141 V$BVN    EQU     0414                                                V2    01 00141
                  142 V$CRDR   EQU     0341                                                  E.2 ********
                  143          LDA     V$CRDR        BOTTOM OF CORE RESIDENT DIRECTORY       E.2 ********
                  144          LSRA    9                                                   V2    01 00143
                  145          STA     V$BVN         CONVERT TO PAGE NUMBER FOR SAL        V2    01 00144
                  146 I$DC20   CONT                                                        V2    01 00145
                  147          IFF     VORTEX-2                                            V2    01 00146
                  148          GOTO    I$DB22        ASSEMBLE IF NOT VORTEX II             V2    01 00147
                  149 *** MEMORY PROTECT MASK                                                    01 00148
                  150 *                                                                          01 00149
     000330 A     151 V$MPM    EQU     0330          MEMORY PROTECT MASK                       01 00150
     000045 A     152 MP       EQU     045           MEMORY PROTECT DEVICE ADDRESS 045         01 00151
001024 005301 A   153          DECR    01            SET ALL CORE PROTECTED                    01 00152
001025 100045 A   154          EXC     MP                                                      01 00153
001026 103145 A   155          DAR     MP                                                      01 00154
001027 100145 A   156          EXC     0100+MP                                                 01 00155
001030 103145 A   157          DAR     MP                                                      01 00156
001031 100245 A   158          EXC     0200+MP                                                 01 00157
001032 103145 A   159          DAR     MP                                                      01 00158
001033 100345 A   160          EXC     0300+MP                                                 01 00159
001034 103145 A   161          DAR     MP                                                      01 00160
                  162          IFF     VORTEX-2                                            V2    01 00161
                  163 I$DB22   CONT                                                        V2    01 00162
                  164 *                                                                          01 00163
                  165 ***      PIM INTERRUPT INITIALIZE                                          01 00164
                  166 *                                                                          01 00165
     000363 A     167 V$PIMN   EQU     0363          EXTERNAL DEVICE ADDRESS TABLE             01 00166
001035 006010 A   168          LDAI    010320        SET UP LDA INST. FOR PIM MASK             01 00167
001036 010320 A
001037 051057 A   169          STA     PADR                                                    01 00168
001040 006010 A   170          LDAI    020363        SET UP LDB INST. FOR PIM DEVICE ADDRESS TA 01 00169
001041 020363 A
001042 051045 A   171          STA     PIMADR                                                  01 00170
001043 006030 A   172          LDXI    7             NO. OF PINS TO INITIALIZE                 01 00171
001044 000007 A
001045 020363 A   173 PIMADR   LDB     V$PIMN        GET PIM DEVICE ADDRESS                    01 00172
001046 001020 A   174          JBZ     PIMCK         IF ZERO ADDRESS, PIN NOT USED             01 00173
001047 001061 A
001050 011101 A   175          LDA     DCUCOM        LOAD EXC COMMAND - INITIALIZE             01 00174
001051 005031 A   176          MERGE   031           ADD PIM DEVICE ADDRESS                    01 00175
001052 051056 A   177          STA     INIT          STORE INST.                               01 00176
001053 011102 A   178          LDA     DCUCOM+1      LOAD DAR INST. - OUTPUT MASK INST.        01 00177
001054 005031 A   179          MERGE   031           ADD PIM DEVICE ADDRESS                    01 00178
001055 051060 A   180          STA     OUT           STORE INST.                               01 00179
001056 100040 A   181 INIT     EXC     040           INITIALIZE                                01 00180
001057 010320 A   182 PADR     LDA     0320          GET PIM MASK                              01 00181
001060 103140 A   183 OUT      DAR     040           OUTPUT PIM MASK                           01 00182
                  184          IFF     VORTEX-2                                            V2    01 00183
001061 001040 A   185 PIMCK    JXZ     MPEXT         NOW SET MAP ACTIVE                    V2    01 00184
                  186          IFT     VORTEX-2                                            V2    01 00185
001061 001040 A   187 PIMCK    JXZ     V$DISP                                                    01 00186
001062 000000 E
001063 005344 A   188          DXR                   DECREMENT PIM COUNT                       01 00187
001064 041057 A   189          INR     PADR          MODIFY INST. TO LOAD NEXT VALUE IN TABLE  01 00188
001065 041045 A   190          INR     PIMADR        MODIFY INST. TO LOAD NEXT VALUE IN TABLE  01 00189
001066 001000 A   191          JMP     PIMADR                                                  01 00190
001067 001045 A
                  192 *                                                                          01 00191
                  193          IFT     VORTEX-2                                            V2    01 00192
                  194          GOTO    I$DB24        ASSEMBLE IF VORTEX II                 V2    01 00193
                  195 MP       EQU     040           MAP DEVICE ADDR.                      V2    01 00194
                  196 MPEXT    EXC2    0100+MP       SET MAP ACTIVE                        V2    01 00195
                  197          EXC2    0600+MP       ENABLE MEMORY PROTECT                 V2    01 00196
                  198          JMP     V$DISP        GOTO DISPATCHER                       V2    01 00197
                  199 I$DB24   CONT                                                        V2    01 00198
                  200 *                                                                          01 00199
                  201          EJEC                                                              01 00200
                  202          EXT     V$DISP                                                    01 00201
                  203          EXT     V$TFC                                                     01 00202
001070 000000 E   204 TOP      DATA    V$TFC         ADDRESS OF TOP OF MEMORY                  01 00203
                  205          EXT     #DSYS                                                     01 00204
001071 000000 E   206 DEV      DATA    #DSYS         DISC DEVICE ADDRESS                       01 00205
                  207          EXT     #BSYS                                                     01 00206
001072 000000 E   208 BICN     DATA    #BSYS         BIC DEVICE ADDRESS                        01 00207
001073 000000 A   209 SECTO    DATA    0             SECTOR ADDRESS                            01 00208
001074 000000 A   210 CHEAD    DATA    0             CURRENT HEAD ADDRESS                      01 00209
001075 000100 A   211 C0100    DATA    0100          CONSTANT                                  01 00210
```

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001076 000030 A   212 C24     DATA    24                    CONSTANT                    01 00211
001077 000000 A   213 RC05    DATA    0,119                                             01 00212
001100 000167 A
       001101 A   214 DCUCOM  EQU     *                     DISC CONTROLLER COMMANDS    01 00213
001101 100000 A   215         DATA    0100000                                           01 00214
001102 103100 A   216         DATA    0103100                                           01 00215
001103 101400 A   217         DATA    0101400                                           01 00216
001104 101000 A   218         DATA    0101000                                           01 00217
001105 102500 A   219         DATA    0102500                                           01 00218
001106 100400 A   220         DATA    0100400                                           01 00219
       000600 A   221         END     I$DC                                              01 00220
ENTRY NAMES
000600 A I$DC
EXTERNAL NAMES
001072 E #BSYS   001071 E #DSYS   001062 E V$DISP 001070 E V$TFC
SYMBOLS
001072 E #BSYS   001071 E #DSYS   001072 A BICN   001075 A C0100
001076 A C24     001074 A CHEAD   000047 A CLOCK  001101 A DCUCOM
001071 A DEV     000767 A EXECUT  000600 A I$DC   000662 A IN00
001056 A INIT    000754 A IO1     000743 A IO11   000755 A IO2
000757 A IO3     000761 A IO4     000762 A IO5    000766 A IO6
000770 A IO7     000774 A IO9     000726 A LOOPX  000045 A MP
001060 A OUT     001057 A PADR    001045 A PIMADR 001061 A PIMCK
001077 A RC05    001012 A RLAST   001078 A SECTO  001070 A TOP
001062 E V$DISP  000330 A V$MPM   000343 A V$PIMN 000352 A V$SCV
001070 E V$TFC   000001 A VORTEX
  0 ERRORS ASSEMBLY COMPLETE
```

0	#BSYS	207	208							
0	#DSYS	205	206							
208	BICN	26	31							
211	C0100	44								
212	C24	104								
210	CHEAD	71	91	109						
123	CLOCK	125	126							
214	DCUCOM	25	30	37	41	46	50	53	56	175
		178								
206	DEV	38	42	47	51	54	57			
95	EXECUT	43								
163	I$DB22	148								
199	I$DB24	194								
18	I$DC	15	16	221						
146	I$DC20	129								
22	IN00	19								
181	INIT	177								
84	IO1	39	117							
75	IO11	105	110							
85	IO2	29								
87	IO3	32								
89	IO4	34								
90	IO5	27								
94	IO6	49								
96	IO7	52								
98	IO9	58								
61	LOOPX	43	45	48	55					
152	MP	154	155	156	157	158	159	160	161	196
		197								
196	MPEXT	183								
183	OUT	180								
182	PADR	169	189							
173	PIMADR	171	190	191						
185	PIMCK	174								
213	RC05	73	76	78	80	86	88	116		
112	RLAST	82								
209	SECTO	68	93	102	103	108				
204	TOP	81	115							
141	V$BVN	145								
142	V$CRDR	143								
0	V$DISP	187	198	202						
134	V$MIMG	135								
0	V$MLD	132	137							
167	V$PIMN	173								
124	V$SCV	125								
0	V$TFC	203	204							
1	VORTEX	128	147	162	134	186	193			
133	X	137								

```
                000001 A     1 VORTEX SET     1                PUT LAST FOR VORTEX                              V2  02 00001
                             2 *  THIS IS A COPYRIGHTED PROGRAM.COPYRIGHT 1972 BY VARIAN DATA MACHINES        02 00002
                             3 *                                                                               02 00003
                             4 *     V.D.M.   PART  NO.       92L0705-023B                                     02 00004
                             5 *                                                                               02 00005
                             6 *                                                RELEASED    03/01/74           02 00006
                             7 *                                                                               02 00007
                             8 *                                                                               02 00008
                             9 *          I$DD                                                                 02 00009
                            10 *                                                                               02 00010
                            11 *       SYSTEM INITIALIZER FOR E2505 DISC                                       02 00011
                            12         TITLE   I$DD                                                            02 00012
                            13         NAME    I$DD                                                            02 00013
000600                      14         ORG     0600                                                            02 00014
000600                      15 I$DD    BSS     0              *  *  ENTRY POINT  *  *                         02 00015
000600 001000 A             16         JMP     IN00           SKIP SGEN OVERLAY (ZEROS) TO EXEC. INIT.        02 00016
000601 000662 A
                            17         DUP     6              LEAVE 060 ZEROS AS OVERLAY FOR SGEN PUT         02 00017
000602 000000 A             18         DATA    0,0,0,0,0,0,0,0                                                02 00018
000603 000000 A
000604 000000 A
000605 000000 A
000606 000000 A
000607 000000 A
000610 000000 A
000611 000000 A
000612 000000 A             18         DATA    0,0,0,0,0,0,0,0                                                02 00018
000613 000000 A
000614 000000 A
000615 000000 A
000616 000000 A
000617 000000 A
000620 000000 A
000621 000000 A
000622 000000 A             18         DATA    0,0,0,0,0,0,0,0                                                02 00018
000623 000000 A
000624 000000 A
000625 000000 A
000626 000000 A
000627 000000 A
000630 000000 A
000631 000000 A
000632 000000 A             18         DATA    0,0,0,0,0,0,0,0                                                02 00018
000633 000000 A
000634 000000 A
000635 000000 A
000636 000000 A
000637 000000 A
000640 000000 A
000641 000000 A
000642 000000 A             18         DATA    0,0,0,0,0,0,0,0                                                02 00018
000643 000000 A
000644 000000 A
000645 000000 A
000646 000000 A
000647 000000 A
000650 000000 A
000651 000000 A
000652 000000 A             18         DATA    0,0,0,0,0,0,0,0                                                02 00018
000653 000000 A
000654 000000 A
000655 000000 A
000656 000000 A
000657 000000 A
000660 000000 A
000661 000000 A
000662                      19 IN00    BSS     0                                                              02 00019
                            20 *                                                                               02 00020
                            21 *  BIC SET UP                                                                   02 00021
000662 011073 A             22         LDA     DCUCOM                                                         02 00022
000663 111065 A             23         ORA     BICN                                                           02 00023
000664 050756 A             24         STA     IO5            ACTIVATE BIC INSTR.                             02 00024
000665 005111 A             25         IAR                                                                    02 00025
000666 050744 A             26         STA     IO2            INITIALIZE BIC INSTR.                           02 00026
000667 011074 A             27         LDA     DCUCOM+1                                                       02 00027
000670 111065 A             28         ORA     BICN                                                           02 00030
000671 050745 A             29         STA     IO3            OUTPUT INITIAL ADRESS TO BIC INSTR.             02 00029
000672 005111 A             30         IAR                                                                    02 00030
000673 050755 A             31         STA     IO4            OUTPUT FINAL ADDRESS TO BIC INSTR.              02 00031
                            32 *                                                                               02 00032
                            33 *  CONSTRUCT EXTERNAL CONTROL COMMANDS                                          02 00033
000674 011073 A             34         LDA     DCUCOM         =1000XX                                         02 00034
000675 111064 A             35         ORA     DEV            OR IN DEVICE ADDRESS                            02 00035
000676 050743 A             36         STA     IO1            STOP TRANSFER AND INITIALIZE INSTR.             02 00036
000677 050722 A             37         STA     LOOPX                                                          02 00037
000700 011100 A             38         LDA     DCUCOM+5                                                       02 00038
000701 111064 A             39         ORA     DEV                                                            02 00039
000702 050763 A             40         STA     EXECUT         READ SECTOR INSTR                               02 00040
000703 121070 A             41         ADD     C0100          =1005XX                                         02 00041
000704 050723 A             42         STA     LOOPX+3        SEEK HOME INSTR.X                               02 00042
000705 011074 A             43         LDA     DCUCOM+1       =1031XX                                         02 00043
000706 111064 A             44         ORA     DEV            OR IN DEVICE ADDRESS                            02 00044
000707 050724 A             45         STA     LOOPX+2        OUTPUT SUW INSTR.                               02 00045
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000710 050762 A    46          STA     IO6         OUTPUT SUW INSTR.                                   02 00046
000711 011075 A    47          LDA     DCUCOM+2    =10?4XX                                             02 00047
000712 111064 A    48          DPA     DEV         OR IN DEVICE ADDRESS                                02 00048
000713 050761 A    49          STA     IO5         DCU NOT BUSY SENSE                                  02 00049
000714 011076 A    50          LDA     DCUCOM+3    =101XXX                                             02 00050
000715 111064 A    51          DPA     DEV         OR IN DEVICE ADDRESS                                02 00051
000716 050725 A    52          STA     LOOPX+4     SEEKING A CYL SENSE INSTR.                          02 00052
000717 011077 A    53          LDA     DCUCOM+4    =1025XX                                             02 00053
000720 111064 A    54          DPA     DEV         OR IN DEVICE ADDR.                                  02 00054
000721 050770 A    55          STA     IO7         INPUT HARDWARE INSTR.                               02 00055
                   56 *                                                                                   00056
                   57          EJEC                                                                       00057
000722 100000 A    58 LOOPX    EXC     0           STOP XFER AND INITIALIZE                            02 00058
000723 005001 A    59          TZA                                                                     02 00059
000724 103100 A    60          OAR     0           OUTPUT SUW=0                                        02 00060
000725 100500 A    61          EXC     4500        RECALIBRATE, SEEK TO HOME                           02 00061
000726 101000 A    62          SEN     0,*+4       SEEK COMPLETE?                                      02 00062
000727 000732 A
000730 001003 A    63          JMP     *-3         NO, WAIT                                            02 00063
000731 000726 A
000732 006010 A    64          LDAI    10                                                              02 00064
000733 000010 A
000734 051066 A    65          STA     SECT0       SET FIRST SECTOR TO BE READ TO SECTOR 10            02 00065
000735 005001 A    66          TZA                                                                     02 00066
000736 051067 A    67          STA     CURAD       SET CURRENT HEAD TO ZERO                            02 00067
000737 006020 A    68          LDBI    0,*27                                                           02 00068
000740 001127 A
000741 007400 A    69          SUF                                                                     02 00069
                   70 *                                                                                   00070
000742 A           71 IO11     EQU     *                                                               01 00071
000742 005121 A    72          TSCP    121                                                             01 00072
                   73 *                                                                                   00073
000742 100000 A    74 IO1      EXC     00          STOP TRANSFER AND INITIALITE                        02 00074
000744 100001 A    75 IO2      EXC     01          INITIALIZE DIC                                      02 00075
000745 103100 A    76 IO3      OAR     00          OUTPUT INITIAL ADDR.                                02 00076
000746 006120 A    77          ADDI    119                                                             02 00077
000747 000167 A
000750 005012 A    78          TMP                                                                     02 00078
000751 141063 A    79          SUB     L3P         SUBTRACT TOP OF CORE                                02 00079
000752 001002 A    80          JAP     RLAST       JUMP IF ONLY NEED TO READ PART OF LAST SEC          02 00080
000753 001006 A
000754 005021 A    81          TDA                                                                     02 00081
000755 103100 A    82 IO4      OAR     00          OUTPUT FINAL ADDR.                                  02 00082
000756 100000 A    83 IO5      EXC     00          ACTIVATE DIC                                        02 00083
000757 011067 A    84          LDA     CHEAD       GET CURRENT HEAD NO.                                02 00084
000760 004250 A    85          LRLA    8           SHIFT TO BUILD SUW                                  02 00085
000761 111064 A    86          DPA     SECT0       OR IN THE SECTOR NO.                                02 00086
000762 103100 A    87 IO6      OAR     00          OUTPUT SUW                                          02 00087
000763 100000 A    88 EXECUT   EXC     00          EXECUTE COMMAND                                     02 00088
000764 101000 A    89 IO7      SEN     00,*+4      DCU NOT BUSY                                        02 00089
000765 000770 A
000766 001000 A    90          JMP     *-8                                                             02 00090
000767 000764 A
000770 102500 A    91 IO9      SIA     00          GET STATUS                                          02 00091
000771 001010 A    92          SAZ     *+2         DO NEXT IF STATUS CLEAR                             02 00092
000772 000774 A
000773 000000 A    93          HLT                 A-REG=STATUS WORD                                   02 00093
                   94 *                                                                                   00094
000774 041066 A    95          INP     SECT0       INCREMENT SECTOR ADDRESS                            02 00095
000775 011066 A    96          LDA     SECT0                                                           02 00096
000776 141071 A    97          SUP     D24                                                             02 00097
000777 001004 A    98          JAN     IO11        DO NEXT SECTOR AT THIS HEAD ADDRESS                 02 00098
001000 000742 A
                   99 *                                                                                   00099
001001 005001 A   100          TZA                 MUST POSITION TO NEXT HEAD                          02 00100
001002 051066 A   101          STA     SECT0       RESET TO SECTOR ZERO                                02 00101
001003 041067 A   102          INP     CHEAD       INCREMENT HEAD ADDRESS                              02 00102
001004 001000 A   103          JMP     *-3         DO NEXT SECTOR AT THIS HEAD ADDRESS                 02 00103
001005 000742 A
                  104 *                                                                                   00104
001006 A          105 RLAST    EQU     *           READ LAST PARTIAL SECTOR                            02 00105
001006 001001 A   106          JOF     *+6         DONE IF LAST PARTIAL SECTOR READ                    02 00106
001007 001014 A
001010 007401 A   107          SOF                 SET PARTIAL SECTOR READ FLAG                        02 00107
001011 011063 A   108          LDA     T3P                                                             02 00108
001012 001000 A   109          JMP     IO4         PERFORM LAST READ                                   02 00109
001013 000755 A
                  110          EJEC                                                                       00110
                  111 *                                                                                   00111
                  112 *                                                                                   00112
                  113 ***      REAL TIME CLOCK INITIALIZER                                                00113
                  114 *                                                                                   00114
000047 A          115 CLOCK    EQU     047         CLOCK DEVICE NUMBER 047                             02 00115
000352 A          116 V$SCV    EQU     03?2        CLOCK SELECTED COUNT VALUE (1 TO 4095)              02 00116
001014 103047 A   117          OTF     CLOCK,V$SCV OUTPUT INTERVAL SELECT REGISTER                     02 00117
001015 000352 A
001016 100647 A   118          EXC     0300+CLOCK  INITIALIZE VARIABLE INTERVAL INT. COUNTER           02 00118
                  119          IFT     VORTEX-2                                                    5$  02 00119
                  120          OUTO    ISP020                                                      5$  02 00120
                  121 ***      MAP MEMORY PROTECT                                                  5$  02 00121
                  122 ***      LOAD MAP REGISTERS                                                  5$  02 00122
                  123          EXT     V$MLD                                                       5$  02 00123
                  124 X        EQU     1                                                           5$  02 00124
```

```
                    125 V$MIMG EQU    0333          MAP 0 IMAGE ADDRESS                      5S   02 00125
                    126        LDB    V$MIMG        B=MAP 0 IMAGE ADDR.                      5S   02 00126
                    127        TZA                  A=RAM REGISTER NUMBER                    5S   02 00127
                    128        JSR    V$MLD,X       NOW LOAD MAP 0 REGISTERS                 5S   02 00128
                    129        DATA   64            NUMBER OF WORDS                          5S   02 00129
                    130        JANZ   *+3           CHECK FOR TIMEOUT                        5S   02 00130
                    131        HLT                  HULT, SOMETHING WRONG WITH MAP LOAD      5S   02 00131
                    132 V$BVN  EQU    0414                                                   5S   02 00132
                    133 V$CRDR EQU    0241                                                    E.2********
                    134        LDA    V$CRDR        BOTTOM OF CORE RESIDENT DIRECTORY         E.2********
                    135        LSRA   9                                                      5S   02 00134
                    136        STA    V$BVN         CONVERT TO PAGE NUMBER FOR SAL           V7   02 00135
                    137 I$DD20 CONT                                                          V7   02 00136
                    138        IFF    VORTEX-2                                               VX   02 00137
                    139        GOTO   I$DD22                                                 VX   02 00138
                    140 *                                                                         02 00139
                    141 *** MEMORY PROTECT MASK                                                   02 00140
                    142 *                                                                         02 00141
       000330 A     143 V$MPM  EQU    0330          MEMORY PROTECT MASK                           02 00142
       000045 A     144 MP     EQU    045           MEMORY PROTECT DEVICE ADDRESS 045             02 00143
001017 005301 A     145        DECR   01            SET ALL CORE PROTECTED                        02 00144
001020 100045 A     146        EXC    MP                                                          02 00145
001021 103145 A     147        OAR    MP                                                          02 00146
001022 100145 A     148        EXC    0100+MP                                                     02 00147
001023 103145 A     149        OAR    MP                                                          02 00148
001024 100245 A     150        EXC    0200+MP                                                     02 00149
001025 103145 A     151        OAR    MP                                                          02 00150
001026 100345 A     152        EXC    0300+MP                                                     02 00151
001027 103145 A     153        OAR    MP                                                          02 00152
                    154        IFF    VORTEX-2                                               VX   02 00153
                    155 I$DD22 CONT                                                          VX   02 00154
                    156 *                                                                         02 00155
                    157 ***    PIM INTERRUPT INITIALIZE                                           02 00156
                    158 *                                                                         02 00157
       000363 A     159 V$PIMN EQU    0363          EXTERNAL DEVICE ADDRESS TABLE                 02 00158
001030 006010 A     160        LDAI   010320        SET UP LDA INST. FOR PIM MASK                 02 00159
001031 010320 A
001032 051052 A     161        STA    PADR                                                        02 00160
001033 006010 A     162        LDAI   020363        SET UP LDB INST. FOR PIM DEVICE ADDRESS TA    02 00161
001034 020363 A
001035 051040 A     163        STA    PIMADR                                                      02 00162
001036 006030 A     164        LDXI   7             NO. OF PIMS TO INITIALIZE                     02 00163
001037 000007 A
001040 020363 A     165 PIMADR LDB    V$PIMN        GET PIM DEVICE ADDRESS                        02 00164
001041 001020 A     166        JBZ    PIMCK         IF ZERO ADDRESS, PIM NOT USED                 02 00165
001042 001054 A
001043 011073 A     167        LDA    DCUCOM        LOAD EXC COMMAND - INITIALIZE                 02 00166
001044 005031 A     168        MERGE  031           ADD PIM DEVICE ADDRESS                        02 00167
001045 051051 A     169        STA    INIT          STORE INST.                                   02 00168
001046 011074 A     170        LDA    DCUCOM+1      LOAD OAR INST. - OUTPUT MASK INST.            02 00169
001047 005031 A     171        MERGE  031           ADD PIM DEVICE ADDRESS                        02 00170
001050 051053 A     172        STA    OUT           STORE INST.                                   02 00171
001051 100040 A     173 INIT   EXC    040           INITIALIZE                                    02 00172
001052 010320 A     174 PADR   LDA    0320          GET PIM MASK                                  02 00173
001053 103140 A     175 OUT    OAR    040           OUTPUT PIM MASK                               02 00174
                    176        IFF    VORTEX-2                                               V2   02 00175
                    177 PIMCK  JXZ    MPEXT         NOW SET MAP ACTIVE                       V2   02 00176
                    178        IFT    VORTEX-2                                               V2   02 00177
001054 001040 A     179 PIMCK  JXZ    V$DISP                                                      02 00178
001055 000000 E
001056 005344 A     180        DXR                  DECREMENT PIM COUNT                           02 00179
001057 041052 A     181        INR    PADR          MODIFY INST. TO LOAD NEXT VALUE IN TABLE      02 00180
001060 041040 A     182        INR    PIMADR        MODIFY INST. TO LOAD NEXT VALUE IN TABLE      02 00181
001061 001000 A     183        JMP    PIMADR                                                      02 00182
001062 001040 A
                    184        IFT    VORTEX-2                                               V2   02 00183
                    185        GOTO   I$DD24                                                 V2   02 00184
                    186 MP     EQU    046           MAP DEVICE ADDR.                         V2   02 00185
                    187 MPEXT  EXC2   0100+MP       SET MAP ACTIVE                           V2   02 00186
                    188        EXC2   0600+MP       ENABLE MEMORY PROTECT                    V2   02 00187
                    189        JMP    V$DISP        GOTO DISPATCHER                          V2   02 00188
                    190 I$DD24 CONT                                                          V2   02 00189
                    191 *                                                                         02 00190
                    192 *                                                                         02 00191
                    193        EJEC                                                               02 00192
                    194        EXT    V$DISP                                                      02 00193
                    195        EXT    V$TFC                                                       02 00194
001063 000000 E     196 TOP    DATA   V$TFC         ADDRESS OF TOP OF MEMORY                      02 00195
                    197        EXT    #DSYS                                                       02 00196
001064 000000 E     198 DEV    DATA   #DSYS         DISC DEVICE ADDRESS                           02 00197
                    199        EXT    #BSYS                                                       02 00198
001065 000000 E     200 BICN   DATA   #BSYS         BIC DEVICE ADDRESS                            02 00199
001066 000000 A     201 SECTO  DATA   0             SECTOR ADDRESS                                02 00200
001067 000000 A     202 CHEAD  DATA   0             CURRENT HEAD ADDRESS                          02 00201
001070 000100 A     203 C0100  DATA   0100          CONSTANT                                      02 00202
001071 000030 A     204 C24    DATA   24            CONSTANT                                      02 00203
001072 000000 A     205 RC05   DATA   0                                                           02 00204
       001073 A     206 DCUCOM EQU    *             DISC CONTROLLER COMMANDS                      02 00205
001073 100000 A     207        DATA   0100000                                                     02 00206
001074 103100 A     208        DATA   0103100                                                     02 00207
001075 101400 A     209        DATA   0101400                                                     02 00208
001076 101000 A     210        DATA   0101000                                                     02 00209
001077 102500 A     211        DATA   0102500                                                     02 00210
```

```
001100 100400 A  212          DATA    V100400                                  02 00211
       000600 A  213          END     I$DD                                     02 00212
ENTRY NAMES
000600 A I$DD
EXTERNAL NAMES
001065 E #BSYS   001064 E #DSYS   001035 E V$DISP 001063 E V$TFC
SYMBOLS
001065 E #BSYS   001064 E #DSYS   001035 A BICN   001079 A C0100
001071 A C24     001067 A CHEAD   000047 A CLOCK  001078 A DCUCOM
001064 A DEV     000763 A EXECUT  000610 A I$DD   000663 A IN00
001051 A INIT    000743 A IO1     000712 A IO11   000744 A IO2
000745 A IO3     000755 A IO4     000756 A IO5    000757 A IO6
000764 A IO7     000770 A IO9     000700 A LOOPX  000045 A MP
001053 A OUT     001052 A PADR    001010 A PIMADR 001014 A PIMCK
001072 A RC05    001036 A RLAST   001006 A SECT0  001061 A TOP
001055 E V$DISP  000330 A V$MPM   000303 A V$PIMN 000352 A V$SCV
001063 E V$TFC   000001 A VORTEX
   0 ERRORS ASSEMBLY COMPLETE
```

```
    0   #BSYS     139    200
    0   #DSYS     137    196
  200   BICN       23     28
  203   C0100      41
  204   C24        37
  202   CHEAD      67     84    102
  110   CLOCK     117    118
  206   DCUCOM     22     27     34     38     43     47     50     53    167
                  170
  193   DEV        35     39     44     48     51     54
   38   EXECUT     40
   10   I$DD       10     13    210
  207   I$DD20     179
  215   I$DD22     183
  216   I$DD24     180
  119   IN00       119
  220   INIT       169
   77   IO1        98
   11   IO11       98    103
   75   IO2        96
   76   IO3        99
   80   IO4        81    109
   83   IO5        84
   86   IO6        45
   87   IO7        49
   88   IO9        54
   38   LOOPX      37     42     45     58
  114   MP        140    147    148    149    150    151    152    153    187
                  188
  157   MPEXT     177
  175   OUT       172
  174   PADR      161    181
  155   PIMADR    163    182    183
  177   PIMCK     166
  115   RLAST      80
  201   SECT0      65     86     95     96    101
  196   TOP        79    108
  132   V$BVN     136
  133   V$CRDR    134
    0   V$DISP    179    189    194
  105   V$MIMG    126
    0   V$MLD     123    128
  159   V$PIMN    165
  116   V$SCV     117
    0   V$TFC     195    196
    1   VORTEX    119    138    154    170    178    184
  104   X         128
```

```
000001 A     1 VORTEX SET     1                    PUT LAST FOR VORTEX                                        03 00001
             2 * THIS IS A COPYRIGHTED PROGRAM.COPYRIGHT 1972 BY VARIAN DATA MACHINES  03 00002
000001 A     3 V75    SET     1                                                      V75********
             4 *                                                                             03 00003
             5 *    V.D.M.  PART  NO.       92L0705-007D                                     03 00004
             6 *                                                                             03 00005
             7 *                                          RELEASED    03/01/74           03 00006
             8 *                                                                             03 00007
             9 *              V$SYTASK                                                       03 00008
            10 *                                                                             03 00009
            11 *                                                                             03 00010
            12       TITLE   V$SYTASK                                                        03 00011
            13 ***************************************************************************** 03 00012
            14 ****    TIDB SETUP                                                      ***   03 00013
            15 *                                                                             03 00014
            16 ***************************************************************************** 03 00015
000000 A    18 TBTRD  EQU     0                    TASK THREAD                                03 00017
000001 A    19 TBST   EQU     1                    TASK STATUS                                03 00018
000002 A    20 TBPL   EQU     2                    STATUS CONT. (BITS15-6),PRIORITY LEVEL(5-0 03 00019
000003 A    21 TBEVNT EQU     3                    INTERRUPT EVENT                            03 00020
000004 A    22 TBRSA  EQU     4                    A          REENTRANT AND SUSPEND STACK     03 00021
000005 A    23 TBRSB  EQU     5                    B          REENTRANT AND SUSPEND STACK     03 00022
000006 A    24 TBRSX  EQU     6                    X          REENTRANT AND SUSPEND STACK     03 00023
000007 A    25 TBRSP  EQU     7                    DF/P       REENTRANT AND SUSPEND STACK     03 00024
000010 A    26 TBRSTS EQU     8                    TEMP. STG. REENTRANT AND SUSPEND STACK     03 00025
000011 A    27 TBENTY EQU     9                    TASK ENTRY LOCATION                        03 00026
000012 A    28 TBTMS  EQU     10                   TIME COUNTER - CLOCK RESOLUTION IN 5MS INC 03 00027
000013 A    29 TBTMIN EQU     11                   TIME COUNTER - CLOCK MINUTE INCREMENTS     03 00028
000014 A    30 TBISA  EQU     12                   A            INTERRUPT STACK               03 00029
000015 A    31 TBISB  EQU     13                   B            INTERRUPT STACK               03 00030
000016 A    32 TBISX  EQU     14                   X            INTERRUPT STACK               03 00031
000017 A    33 TBISP  EQU     15                   DF/P         INTERRUPT STACK               03 00032
000020 A    34 TBISRS EQU     16                   REENT. STACK INTERRUPT STACK               03 00033
000021 A    35 TBIO   EQU     17                   I/O THRED(15-8),I/O ACT(7-0)           V2  03 00034
000022 A    36 TBKN1  EQU     18                   TASK NAME                                  03 00035
000023 A    37 TBKN2  EQU     19                   TASK NAME                                  03 00036
000024 A    38 TBKN3  EQU     20                   TASK NAME                                  03 00037
000025 A    39 TBTLC  EQU     21                   1ST LOC. OF TASK ALLOCATABLE               03 00038
000001 A    40 VORTEX SET     1                    PUT LAST FOR VORTEX                        03 00001
            41 * THIS IS A COPYRIGHTED PROGRAM.COPYRIGHT 1972 BY VARIAN DATA MACHINES  03 00002
000001 A    42 V75    SET     1                                                      V75********
            43 *                                                                             03 00003
            44 *    V.D.M.  PART  NO.       92L0705-007D                                     03 00004
            45 *                                                                             03 00005
            46 *                                          RELEASED    03/01/74           03 00006
            47 *                                                                             03 00007
            48 *              V$SYTASK                                                       03 00008
            49 *                                                                             03 00009
            50 *                                                                             03 00010
            51       TITLE   V$SYTASK                                                        03 00011
            52 ***************************************************************************** 03 00012
            53 ****    TIDB SETUP                                                      ***   03 00013
            54 *                                                                             03 00014
            55 ***************************************************************************** 03 00015
000000 A    57 TBTRD  EQU     0                    TASK THREAD                                03 00017
000001 A    58 TBST   EQU     1                    TASK STATUS                                03 00018
000002 A    59 TBPL   EQU     2                    STATUS CONT. (BITS15-6),PRIORITY LEVEL(5-0 03 00019
000003 A    60 TBEVNT EQU     3                    INTERRUPT EVENT                            03 00020
000004 A    61 TBRSA  EQU     4                    A          REENTRANT AND SUSPEND STACK     03 00021
000005 A    62 TBRSB  EQU     5                    B          REENTRANT AND SUSPEND STACK     03 00022
000006 A    63 TBRSX  EQU     6                    X          REENTRANT AND SUSPEND STACK     03 00023
000007 A    64 TBRSP  EQU     7                    DF/P       REENTRANT AND SUSPEND STACK     03 00024
000010 A    65 TBRSTS EQU     8                    TEMP. STG. REENTRANT AND SUSPEND STACK     03 00025
000011 A    66 TBENTY EQU     9                    TASK ENTRY LOCATION                        03 00026
000012 A    67 TBTMS  EQU     10                   TIME COUNTER - CLOCK RESOLUTION IN 5MS INC 03 00027
000013 A    68 TBTMIN EQU     11                   TIME COUNTER - CLOCK MINUTE INCREMENTS     03 00028
000014 A    69 TBISA  EQU     12                   A            INTERRUPT STACK               03 00029
000015 A    70 TBISB  EQU     13                   B            INTERRUPT STACK               03 00030
000016 A    71 TBISX  EQU     14                   X            INTERRUPT STACK               03 00031
000017 A    72 TBISP  EQU     15                   DF/P         INTERRUPT STACK               03 00032
000020 A    73 TBISRS EQU     16                   REENT. STACK INTERRUPT STACK               03 00033
000021 A    74 TBIO   EQU     17                   I/O THRED(15-8),I/O ACT(7-0)           V2  03 00034
000022 A    75 TBKN1  EQU     18                   TASK NAME                                  03 00035
000023 A    76 TBKN2  EQU     19                   TASK NAME                                  03 00036
000024 A    77 TBKN3  EQU     20                   TASK NAME                                  03 00037
000025 A    78 TBTLC  EQU     21                   1ST LOC. OF TASK ALLOCATABLE               03 00038
000026 A    79 TBCPTH EQU     22                   BACKGROUND TASK QUEUE                      03 00039
000027 A    80 TBATSK EQU     23                   TIDB LOC. OF ACTIVATING TASK               03 00040
000030 A    81 TBRSE  EQU     24                   TASK ERROR CODE                            03 00041
000031 A    82 TBSIZ  EQU     25                   TASK SIZE                              V2  03 00042
            83        SMRY                         SUPPRESS SKIPPED CODE                  V2  03 00043
            93 SALE1A CONT                                                                V2  03 00051
            94        EJEC                                                                    03 00052
            95 ***************************************************************************** 03 00053
            96 *                                                                             03 00054
            97 ****    TASK STATUS DESCRIPTION  (BIT SET WORD 1)                       ***   03 00055
            98 *                                                                             03 00056
            99 ***************************************************************************** 03 00057
000017 A   101 TBS15  EQU     15                   INTERRUPT SUSPEND                          03 00059
000016 A   103 TBS14  EQU     14                   TASK SUSPEND                               03 00061
000015 A   104 TBS13  EQU     13                   TASK ABORT                                 03 00062
000014 A   105 TBS12  EQU     12                   TASK EXIT                                  03 00063
000013 A   107 TBS11  EQU     11                   TIDB CORE RESIDENT                         03 00065
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000012 A   108 TB$10   EQU     10              CORE RESIDENT TASK                                  03 000066
000011 A   109 TB$9    EQU     9               FOREGROUND TASK                                     03 000067
000010 A   111 TB$8    EQU     8               TASK PROTECTED                                      03 000068
000007 A   112 TB$7    EQU     7               TASK SCHEDULED BY TIME DELAY                        03 000070
000006 A   113 TB$6    EQU     6               TIME DELAY ACTIVE                                   03 000071
000005 A   115 TB$5    EQU     5               TASK WAITING TO BE LOADED                           03 000073
000004 A   116 TB$4    EQU     4               TASK ERROR                                          03 000074
000003 A   117 TB$3    EQU     3               TASK INTERRUPT EXPECTED                             03 000075
000002 A   119 TB$2    EQU     2               OVERLAY TASK                                        03 000077
000001 A   120 TB$1    EQU     1               UPON TERMINATION ACTIVATE TASK SCHED TASK           03 000078
000000 A   121 TB$0    EQU     0               TASK SEARCH-ALLOCATED-LOADED                        03 000079
           122         EJEC
           123 ********************************************************************************  03 000081
           124 *                                                                                 03 000082
           125 ***      TASK STATUS DESCRIPTION  (BIT SET WORD 2)                           ***  03 000083
           126 *                                                                                 03 000084
           127 ********************************************************************************  03 000085
           129 *         BIT 15   -   TASK OPENED                                              03 000087
           131 *         BIT 14   -   UNUSED                                                   03 000089
           132 *         BIT 13   -   OVERLAY LOAD                                             03 000090
           133 *         BIT 12   -   TASK WAITING FOR BACKGROUND TASK I/O TO COMPLETE         03 000091
           134 *                      TASK LOCKED-OUT UNTIL BG I/O COMPLETE OR BIT 11        03 000092
           135 *                      IS SET  (ALLOCATABLE SPACE AVAILABLE)                  03 000093
           137 *         BIT 11   -   DEFINES THAT ALLOCATABLE SPACE IS AVAILABLE, TRY       03 000095
           138 *                      ALLOCATING TASK AGAIN.  OVERRIDES BIT 12 SET UP        03 000096
           139 *                      BIT 5 IN STATUS WORD.                                  03 000097
           140 *         BIT 10   -   BACKGROUND TASK BEING WRITTEN ON CHECKPOINT FILE.      03 000098
           141 *         BIT  9   -   TASK WAITING FOR A TIDB TO COME AVAILABLE FOR          03 000099
           142 *                      SCHEDULING.                                            03 000100
           148 TBPLED CONT                                                                   V2  03 000102
           151 *         BIT  8 TO 6  - UNUSED                                               03 000104
           152         EJEC
           153 ********************************************************************************  03 000106
           154 *                                                                                 03 000107
           155 ***      JOB PROCESSOR LOW CORE EQUATES                                      **   03 000108
           156 *                                                                                 03 000109
           157 ********************************************************************************  03 000110
000050 A   159 LCJP     EQU     80
000050 A   160 V$JNAM   EQU     LCJP            JOP NAME                                        03 000112
000054 A   161 V$LCNT   EQU     LCJP+4          LINE COUNT                                      03 000113
000055 A   162 V$JCFG   EQU     LCJP+5          JOP FLAGS                                       03 000114
           163 *                                BIT 2-0    = LOAD AND GO FLAGS                  03 000115
           164 *                                BIT  3     = DUMP FLAG  1=DUMP, 0=NO DUMP       03 000116
           165 *                                BIT  4     = DUMP FLAG IF LOAD AND GO           03 000117
           166 *                                BIT 9-5    = UNUSED                             03 000118
           167 *                                BIT 10-10  = 01 EXTRA CORE BLOCKS TO ALLOC      03 000119
000056 A   169 V$BIC1   EQU     LCJP+6          BIC INTERRUPT ADDRESS TABLE  (10 WORDS)         03 000120
000070 A   170 V$DATE   EQU     LCJP+16         JOP DATE RECORD                                 03 000121
000074 A   171 V$PLCT   EQU     LCJP+20         PERMINATE LINE COUNT                            03 000122
000075 A   172 V$BGLB   EQU     LCJP+21         JOP LIB KEY AND LU NO. (BACKGROUND LIB)         03 000123
000076 A   173 V$CRDM   EQU     LCJP+22         CARD KEYPUNCH TYPE, 0=026, 1=029                03 000124
           174 *                                BIT 0 = SYSTEM NOMINAL KEYPUNCH MODE.           03 000125
           175 *                                BIT 7 = CURRENT JOB KEYPUNCH MODE.              03 000126
000077 A   176 V$JCTM   EQU     LCJP+23         TEMP. STORAGE FOR /MEM BLOCK                    03 000127
           177         EJEC
           178 ********************************************************************************  03 000129
           179 *                                                                                 03 000130
           180 ****     LOW CORE DESCRIPTION                                                ***  03 000131
           181 *                                                                                 03 000132
           182 ********************************************************************************  03 000133
000300 A   184 LC       EQU     >300
000300 A   185 V$CTL    EQU     LC              CURRENT TASK TIDB LOCATION                      03 000135
000301 A   186 V$CPL    EQU     LC+1            CURRENT PRIORITY LEVEL                          03 000136
000302 A   187 V$CRS    EQU     LC+2            CURRENT REENTRANT STACK POINTER                 03 000137
000303 A   188 V$TB     EQU     LC+3            POINTER TO HIGHEST PRIORITY TIDB                03 000138
000304 A   189 V$UTB    EQU     LC+4            POINTER TO UNUSED TASK TIDBS                    03 000139
000305 A   190 V$PTVB   EQU     LC+5            POINTER TO NEXT ENTRY IN REENTRANT STACK        03 000140
000306 A   191 V$TLRS   EQU     LC+6            FIRST LOC. OF REENTRANT STACK                   03 000141
000307 A   192 V$LRSP   EQU     LC+7            LAST LOC. OF REENTRANT STACK +1                 03 000142
000310 A   193 V$CKPT   EQU     LC+8            CHECKPOINT FLAG 1=ON, 0=OFF.                    03 000143
000311 A   194 V$JPCL   EQU     LC+9            LOC. OF TIDB FOR JPCOM TASK                     03 000144
000312 A   195 V$LSAL   EQU     LC+10           LOC. OF TIDB FOR SYSTEM SAL TASK                03 000145
000313 A   196 V$LER    EQU     LC+11           LOC. OF TIDB FOR SYSTEM ERROR TASK              03 000146
000314 A   197 V$TJCP   EQU     LC+12           LOC. OF TIDB FOR JOB CONTROL PROCESSOR TASK     03 000147
000315 A   198 V$BTB    EQU     LC+13           LOC. OF LOWEST ACTIVE BACKGROUND TASK TIDB      03 000148
           202 LCD1     CONT                                                                    V2  03 000152
000316 A   205 V$LUP    EQU     LC+14           LOC. OF 1ST UNPROTECTED UDT                     03 000153
           206 LCD2     CONT                                                                    V2  03 000154
000317 A   207 V$LLUP   EQU     LC+15           LOC. OF LAST UNPROTECTED UDT                    03 000155
000320 A   208 V$IM     EQU     LC+16           INTERRUPT MASK  (16 WORDS)                      03 000156
000330 A   211 V$MPM    EQU     LC+24           MEMORY PROTECT MAP  (4 LOCS)                    03 000157
000331 A   212 V$CAM    EQU     LC+25           CORE ALLOCATION MAP  (4 WORDS)                  03 000158
           213 *        EQU     LC+29           UNUSED                                          03 000159
           214 LCD3     CONT                                                                    V2  03 000160
           226 LCD4     CONT                                                                    V2  03 000161
000341 A   227 V$CRDR   EQU     LC+33           CORE RESIDENT DIRECTORY LOCATION                03 000162
000342 A   228 V$TBGT   EQU     LC+34           TOP OF THREAD OF BG TASK WAITING TO BE ALLO      03 000163
000343 A   229 V$TMS    EQU     LC+35           TIME OF DAY IN SECONDS INCREMENTS               03 000164
000344 A   230 V$TMM    EQU     LC+36           TIME OF DAY IN MINUTE INCREMENTS                03 000165
000345 A   231 V$LUNT   EQU     LC+37           ADDR. OF LOGICAL UNIT NAME TABLE                03 000166
000346 A   232 V$OPCF   EQU     LC+38           OPTION CONTROL FLAG                             03 000167
000347 A   233 V$FGLB   EQU     LC+39           KEY AND LU NO. FOR FOREGROUND LIB               03 000168
000350 A   234 V$FREE   EQU     LC+40           FREE RUNNING COUNTER INCR. IN MICROSECONDS      03 000169
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000351 A  235 V$CTMS  EQU     LC+41    CLOCK RESOLUTION IN 5 MILLISECOND INCR.          03 00193
000352 A  236 V$SCV   EQU     LC+42    CLOCK SELECTED COUNT VALUE (1 TO 4095)           03 00194
000353 A  240 V$CKB   EQU     LC+43    BASIC CLOCK INTERRUPT RATE IN MICROSECONDS       03 00198
000354 A  241 V$CRM   EQU     LC+44    CLOCK RESOLUTION INCR. FOR 1 MINUTE.             03 00199
000355 A  242 V$DSTB  EQU     LC+45    BASE ADDR. FOR DST BLOCK                         03 00200
000356 A  243 V$LIT   EQU     LC+46    LAST LOCATION OF BACKGROUND LITERAL TABLE        03 00201
          247 *       EQU     LC+47    UNUSED                                           03 00205
000360 A  248 V$CTAD  EQU     LC+48    BASE ADDR. FOR CONTROLLER ADDR. TABLE            03 00206
000361 A  249 V$SCTL  EQU     LC+49    CURRENT CONTROLLER IN SCAN                       03 00207
000362 A  250 V$NCTR  EQU     LC+50    NO. OF CONTROLLERS                               03 00208
000363 A  251 V$PIMN  EQU     LC+51    EXTERNAL DEVICE ADDRESS TABLE FOR PIMS           03 00209
          252 *                        (8 WORDS DEFINED IN PIM NO ORDER)                03 00210
          255 *       EQU     LC+59    UNUSED                                           03 00213
          256 *       EQU     LC+60    UNUSED                                           03 00214
          257 LCD5    CONT                                                         V2  03 00215
          262 LCD6    CONT                                                         V2  03 00220
000375 A  263 V$SLFG  EQU     LC+61    SAL TASK BUSY FLAG     1=BUSY, 0=NOT BUSY        03 00221
000376 A  264 V$ERFG  EQU     LC+62    ERROR TASK BUSY FLAG   1=BUSY, 0=NOT BUSY        03 00222
000377 A  265 V$JOP   EQU     LC+63    JCP OPERATING FLAG                               03 00223
000400 A  266 V$LUT1  EQU     LC+64    START LUN ADDR FOR JCP/OPCOM ASSIGNABLE          03 00224
000401 A  267 V$LUT2  EQU     LC+65    START LUN ADDR FOR UNASSIGNABLE                  03 00225
000402 A  268 V$LUT3  EQU     LC+66    START LUN ADDR FOR OPCOM ASSIGNABLE              03 00226
000403 A  269 V$1MIN  EQU     LC+67    32767 - (60000/(5*V$CTMS)) + 1                   03 00227
          272 *       EQU     LC+68    UNUSED                                           03 00230
          273 *       EQU     LC+69    UNUSED                                           03 00231
          274 *       EQU     LC+70    UNUSED                                           03 00232
          275 *       EQU     LC+71    UNUSED                                           03 00233
          276 LCD7    CONT                                                         V2  03 00234
          283 LCD8    CONT                                                         V2  03 00241
000410 A  284 V$IOA   EQU     LC+72    I/O ALGORITHM                                    03 00242
000411 A  285 V$CKIT  EQU     LC+73    CLOCK INT. IN PIM BEFORE LOCKOUT FLAG.           03 00243
000412 A  286 V$JCB   EQU     LC+74    ALL SYSTEM BACKGROUND PROGRAMS AND JCP USE       03 00244
          287 *                        THIS SYSTEM BUFFER TO READ DIRECTIVES AND        03 00245
          288 *                        SOURCE RECORDS IN.                               03 00246
000413 A  289 V$OCB   EQU     LC+75    OPCOM WILL READ OPERATOR KEY-IN REQUESTS         03 00247
          290 *                        IN THIS BUFFER.  IF JCP IS SET NOT ACTIVE        03 00248
          291 *                        AND A 1 DIRECTIVE IS INPUTED, OPCOM              03 00249
          292 *                        WILL MOVE THE DIRECTIVE TO V$JCB BEFORE          03 00250
          293 *                        SCHEDULING JCP.                                  03 00251
000414 A  294 V$BVN   EQU     LC+76    BOTTOM OF VORTEX NUCLEUS                         03 00252
000415 A  295 V$BFC   EQU     LC+77    TOP OF FG RES. ARSP/BOTTOM OF FC BLK COMM.       03 00253
000416 A  296 V$TFC   EQU     LC+78    TOP OF FG BLK COMMON/TOP OF VORTEX CORE.         03 00254
          297 *       EQU     LC+79    UNUSED                                           03 00255
          298         EJEC                                                             03 00256
          299 ********************************************************************** 03 00257
          300 *                                                                        03 00258
          301 ****    MASK TABLE DESCRIPTION                                   ***     03 00259
          302 *                                                                        03 00260
          303 ********************************************************************** 03 00261
000420 A  305 MT      SET     0420                                                     03 00263
000420 A  306 ZERO    EQU     MT       ZERO WORD                                       03 00264
000421 A  307 BS0     EQU     MT+1     BIT MASK CONTENTS 000001                        03 00265
000422 A  308 BS1     EQU     MT+2                       000002                        03 00266
000423 A  309 BS2     EQU     MT+3                       000004                        03 00267
000424 A  310 BS3     EQU     MT+4                       000010                        03 00268
000425 A  311 BS4     EQU     MT+5                       000020                        03 00269
000426 A  312 BS5     EQU     MT+6                       000040                        03 00270
000427 A  313 BS6     EQU     MT+7                       000100                        03 00271
000430 A  314 BS7     EQU     MT+8                       000200                        03 00272
000431 A  315 BS8     EQU     MT+9                       000400                        03 00273
000432 A  316 BS9     EQU     MT+10                      001000                        03 00274
000433 A  317 BS10    EQU     MT+11                      002000                        03 00275
000434 A  318 BS11    EQU     MT+12                      004000                        03 00276
000435 A  319 BS12    EQU     MT+13                      010000                        03 00277
000436 A  320 BS13    EQU     MT+14                      020000                        03 00278
000437 A  321 BS14    EQU     MT+15                      040000                        03 00279
000440 A  322 BS15    EQU     MT+16                    0 100000                        03 00280
000441 A  323 BR0     EQU     MT+17    BIT MASK CONTENTS  077776                       03 00281
000442 A  324 BR1     EQU     MT+18                       077775                       03 00282
000443 A  325 BR2     EQU     MT+19                       077773                       03 00283
000444 A  326 BR3     EQU     MT+20                       077767                       03 00284
000445 A  327 BR4     EQU     MT+21                       077757                       03 00285
000446 A  328 BR5     EQU     MT+22                       077737                       03 00286
000447 A  329 BR6     EQU     MT+23                       077677                       03 00287
000450 A  330 BR7     EQU     MT+24                       077577                       03 00288
000451 A  331 BR8     EQU     MT+25                       077377                       03 00289
000452 A  332 BR9     EQU     MT+26                       076777                       03 00290
000453 A  333 BR10    EQU     MT+27                       075777                       03 00291
000454 A  334 BR11    EQU     MT+28                       073777                       03 00292
000455 A  335 BR12    EQU     MT+29                       067777                       03 00293
000456 A  336 BR13    EQU     MT+30                       057777                       03 00294
000457 A  337 BR14    EQU     MT+31                       037777                       03 00295
000460 A  338 BR15    EQU     MT+32                     0 077777                       03 00296
000461 A  339 NEG     EQU     MT+33    SET ALL BITS                                    03 00297
000462 A  340 LHW     EQU     MT+34    LEFT HALF WORD MASK  0177400                    03 00298
000463 A  341 RHW     EQU     MT+35    RIGHT HALF WORD MASK    0377                    03 00299
000421 A  342 ONE     EQU     MT+1     CONTAINS NUMBER  1                              03 00300
000422 A  343 TWO     EQU     MT+2     CONTAINS NUMBER  2                              03 00301
000464 A  344 THREE   EQU     MT+36    CONTAINS NUMBER  3                              03 00302
000423 A  345 FOUR    EQU     MT+3     CONTAINS NUMBER  4                              03 00303
000465 A  346 FIVE    EQU     MT+37    CONTAINS NUMBER  5                              03 00304
000466 A  347 SIX     EQU     MT+38    CONTAINS NUMBER  6                              03 00305
000467 A  348 SEVEN   EQU     MT+39    CONTAINS NUMBER  7                              03 00306
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000424 A   349 EIGHT   EQU     MT+4          CONTAINS NUMBER  8
000470 A   350 NINE    EQU     MT+40         CONTAINS NUMBER  9
000471 A   351 TEN     EQU     MT+41         CONTAINS NUMBER 10
000421 A   352 BM1     EQU     MT+1          BIT MASK WORD 00001
000464 A   353 BM3     EQU     MT+36         BIT MASK WORD  00003
000467 A   354 BM7     EQU     MT+39         BIT MASK WORD  00007
000472 A   355 BM17    EQU     MT+42         BIT MASK WORD  00017
000473 A   356 BM37    EQU     MT+43         BIT MASK WORD  00037
000474 A   357 BM77    EQU     MT+44         BIT MASK WORD  00077
000475 A   358 BM177   EQU     MT+45         BIT MASK WORD  00177
000463 A   359 BM377   EQU     MT+35         BIT MASK WORD  00377
000476 A   360 BM777   EQU     MT+46         BIT MASK WORD  00777
000477 A   361 BM1777  EQU     MT+47         BIT MASK WORD  01777
           362         EJEC
           363 ********************************************************************************
           364 *
           365 ****     BIT TEST BIT DESIGNATION                                        ***
           366 *
           367 ********************************************************************************
000040 A   369 RA0     EQU     040           BT JUMPS WHEN A REGISTER IS 0
000060 A   370 RA1     EQU     060           BT JUMPS WHEN A REGISTER IS 1
000060 A   371 RB0     EQU     060           BT JUMPS WHEN B REGISTER IS 0
000020 A   372 RB1     EQU     020           BT JUMPS WHEN B REGISTER IS 1
           374 ********************************************************************************
           375 *
           376 **       THE BIT CHECKED
           377 *
           378 ********************************************************************************
000000 A   380 B0      EQU     0
000001 A   381 B1      EQU     1
000002 A   382 B2      EQU     2
000003 A   383 B3      EQU     3
000004 A   384 B4      EQU     4
000005 A   385 B5      EQU     5
000006 A   386 B6      EQU     6
000007 A   387 B7      EQU     7
000010 A   388 B8      EQU     8
000011 A   389 B9      EQU     9
000012 A   390 B10     EQU     10
000013 A   391 B11     EQU     11
000014 A   392 B12     EQU     12
000015 A   393 B13     EQU     13
000016 A   394 B14     EQU     14
000017 A   395 B15     EQU     15
           396         EJEC
           397 ********************************************************************************
           398 *
           399 ****     DEVICE AND FUNCTION CODES                                       ***
           400 *
           401 ********************************************************************************
           403 ****     REAL TIME CLOCK                                                 ***
000047 A   404 CLOCK   EQU     047           DEVICE NUMBER 047
           405 *
000747 A   406 DISCLK  EQU     0700+CLOCK    DISABLE CLOCK
000107 A   407 ENACLK  EQU     0100+CLOCK    ENABLE CLOCK
           408 *
           410 ****     PIM                                                             ***
000044 A   411 APIM    EQU     044           ALL PIMS DEVICE NUMBER
000041 A   412 PIM1    EQU     041
000041 A   413 PIM2    EQU     041
000042 A   414 PIM3    EQU     042
000043 A   415 PIM4    EQU     043
000040 A   416 PIM5    EQU     040
000040 A   417 PIM6    EQU     040
000040 A   418 PIM7    EQU     040
000040 A   419 PIM8    EQU     040
           420 *
000444 A   421 DISPIM  EQU     0400+APIM
000244 A   422 ENAPIM  EQU     0200+APIM
           426 ****     MEMORY PROTECT                                                  ***
000045 A   427 MP      EQU     045           DEVICE ADDRESS 045
000745 A   428 DISMP   EQU     0700+MP       DISABLE MEMORY PROTECT
000645 A   429 ENAMP   EQU     0600+MP       ENABLE MEMORY PROTECT
000045 A   430 MPMR0   EQU     0000+MP       SELECT MASK REGISTER 0
000145 A   431 MPMR1   EQU     0100+MP       SELECT MASK REGISTER 1
000245 A   432 MPMR2   EQU     0200+MP       SELECT MASK REGISTER 2
000345 A   433 MPMR3   EQU     0300+MP       SELECT MASK REGISTER 3
           434 MP1     JUNT                                                            V2
000001 A   435 X       EQU     1                                                       V2
000002 A   436 Y       EQU     2                                                       V2
           440 MPL     JUNT                                                            V2
           451         EJEC
           442 ********************************************************************************
           443 ********************************************************************************
           444 *
           445 ****               SYSTEM TASKS                                         ***
           446 *                    NORMAL
           447 *                    ERROR
           448 *                    FINIS
           449 *
           450 ********************************************************************************
           451 ********************************************************************************
           454         EJEC
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V$ERROR- 64050

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                    455 ********************************************************************************  03 00413
                    456 *                                                                                  03 00414
                    457 *          ERROR SYSTEM TASK                                                       03 00415
                    458 *               THE ERROR TASK IS A FUNCTION OF THE DISPATCHER AND IS              03 00416
                    459 *               ACTIVATED WHENEVER THE SYSTEM DETECTS AN ERROR                     03 00417
                    460 *               CONDITION.  WHEN AN ERROR IS DETECTED BY IOC OR RTE                03 00418
                    461 *               SERVICES, THE TASK IS SUSPENDED, A ERROR CODE IS STORED.           03 00419
                    462 *               IN WORD 24 OF TIDB AND THE ERROR STATUS BIT IS SET.                03 00420
                    463 *               UPON ENTRANCE, THIS ERROR CODE IS BROKEN DOWN INTO A               03 00421
                    464 *               READABLE OUTPUT MESSAGE AND PRINTED ON THE OC                      03 00422
                    465 *               DEVICE.  THE ERROR STATUS IS CLEARED.  THE ERROR CODE              03 00423
                    466 *               IS THEN CHECKED TO DETERMINE THE DISPOSITION OF TASK               03 00424
                    467 *               IN ERROR.                                                          03 00425
                    468 *                                                                                  03 00426
                    469 ********************************************************************************  03 00427
                    471          NAME   V$EROR                                                            03 00429
                    472          EXT    V$DISP                                                            03 00430
000000 074142 A     474 V$EROR   STX    ERTIDB                                                            03 00432
000001 015022 A     475          LDA    TBKN1,1      MOVE 6 CHARACTERS TO OUTPUT BUFFER.                  03 00433
000002 054131 A     476          STA    OUTBN                                                             03 00434
000003 015023 A     477          LDA    TBKN2,1                                                           03 00435
000004 054130 A     478          STA    OUTBN+1                                                           03 00436
000005 015024 A     479          LDA    TBKN3,1                                                           03 00437
000006 054127 A     480          STA    OUTBN+2                                                           03 00438
000007 020467 A     481          LDB    SEVEN                                                             03 00439
000010 015030 A     482          LDA    TBRSE,1      TASK ERROR CODE                                      03 00440
000011 006454 A     483          BT     RA0+B12,ERDR3                                                     03 00441
000012 000023 R
                    502 ERED1    CONT                                                              V2      03 00460
000013 015004 A     503          LDA    TBRSA,1      MP ERROR LOCATION                                    03 00463
000014 054123 A     506          STA    OUTBN+4                                                           03 00464
000015 015005 A     507          LDA    TBRSB,1                                                           03 00465
000016 054122 A     508          STA    OUTBN+5                                                           03 00466
000017 015006 A     509          LDA    TBRSX,1                                                           03 00467
000020 054121 A     510          STA    OUTBN+6                                                           03 00468
000021 006020 A     511          LDBI   11                                                                03 00469
000022 000013 A
                    512 ERR2     CONT                                                                     03 00470
000023 064101 A     513 ERDR3    STB    ERDRDB       NO. OF WORDS TO TRANSFER                             03 00471
000024 015030 A     514          LDA    TBRSE,1      SET UP NAME OF DETECTING SYSTEM ROUTINE              03 00472
000025 004346 A     515          LSRA   6                                                                 03 00473
000026 005311 A     516          DAR                                                                      03 00474
000027 150464 A     517          ANA    BM3                                                               03 00475
000030 005012 A     518          TAB                                                                      03 00476
000031 006026 A     519          LDBE   ERTYPE,2                                                          03 00477
000032 000144 R
000033 064075 A     520 ERDR4    STB    OUTB                                                              03 00478
000034 015030 A     521          LDA    TBRSE,1                                                           03 00479
000035 150474 A     522          ANA    BM77         TRANSULATE ERROR NO. TO ASCII AND STORE              03 00480
000036 004543 A     523          LLSR   3              IN OUTPUT BUFFER                                   03 00481
000037 004140 A     524          LSRB   5                                                                 03 00482
000040 004543 A     525          LLSR   3                                                                 03 00483
000041 004145 A     526          LSRB   5                                                                 03 00484
000042 005021 A     527          TBA                                                                      03 00485
000043 006120 A     528          ADDI   0130260                                                           03 00486
000044 130260 A
000045 054064 A     529          STA    OUTE+1                                                            03 00487
                    530 ERDRWR   WRITE  ERDRDB,1,0,1  WRITE ERROR MESSAGE ON OC DEVICE                    03 00488
000046 006505 A
000047 000000 E
000050 100000 A
000051 010401 A
000052 000125 R
000053 000000 A
000054 000000 A
                    591 ER1      CONT                                                                     03 00525
000055 034065 A     592 ERDR5    LDX    ERTIDB                                                            03 00526
000056 015001 A     593          LDA    TBST,1       CLEAR ERROR STATUS                                   03 00527
000057 150445 A     594          ANA    BM6                                                               03 00528
000060 055001 A     595          STA    TBST,1                                                            03 00529
000061 015030 A     596          LDA    TBRSE,1      CHECK DISPOSITION TYPE                               03 00530
000062 004351 A     597          LSRA   3                                                                 03 00531
000063 150464 A     598          ANA    BM3                                                               03 00532
000064 001010 A     599          JAZ    ERDR6        CHECK IF ZERO - ABORT                                03 00533
000065 000112 R
000066 005311 A     600          DAR                                                                      03 00534
000067 001015 A     601          JANZ   ERDR7        CHECK IF 2 - DO NOTHING TO TASK                      03 00535
000070 000115 R
000071 015030 A     604          LDA    TBRSE,X                                                     FF   03 00538
000072 150474 A     605          ANA    BM77                                                        FF   03 00539
000073 006140 A     606          SUBI   033                                                         FF   03 00540
000074 000033 A
000075 001010 A     607          JAZ    *+3                                                         FF   03 00541
000076 000100 R
000077 005311 A     608          DAR                                                                FF   03 00542
000100 001016 A     609          JANZ   ERDR5B       FP* ?                                          FF   03 00543
000101 000105 R
000102 015001 A     610          LDA    TBST,X       YES                                            FF   03 00544
000103 110440 A     611          JRP    BS15         SET INTERRUPT SUSPEND                          FF   03 00545
000104 055001 A     612          STA    TBST,X                                                      FF   03 00546
       000105 R     613 ERDR5B   EQU    *                                                           FF   03 00547
                    614 1        CONT                                                                FF   03 00548
                    633 ER2      CONT                                                                     03 00567
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000105 015001 A   634          LDA     TBST,1      TYPE ONE - SET TASK IN ERROR ACTIVE.
000106 150457 A   635          ANA     BK14
000107 055001 A   636          STA     TBST,1
000110 001000 A   637          JMP     ERR7
000111 000115 R
000112 015001 A   638 ERR6     LDA     TBST,1      ABORT TASK
000113 110436 A   639          ORA     BS.3
000114 055001 A   640          STA     TBST,1
000115 030300 A   641 ERR7     LDX     V$CTL
000116 015001 A   642          LDA     TBST,1      SET ERROR TASK SUSPENDED
000117 110437 A   643          ORA     BS14
000120 055001 A   644          STA     TBST,1
000121 005001 A   645          TZA                 CLEAR ERROR TASK ACTIVE
000122 050376 A   646          STA     V$ERFG
000123 001000 A   647          JMP     V$DISP
000124 000000 E
                  648 ERRDB    DCB     7,OUTB-1
000125 000007 A
000126 000130 R
000127 000000 A
000130 120240 A   649          DATA    '  '
000131 000000 A   650 OUTB     DATA    0
000132 000000 A   651          DATA    0
000133 120240 A   652          DATA    '  '
000134 000000 A   653 OUTBN    DATA    0,0,0
000135 000000 A
000136 000000 A
000137 120240 A   654          DATA    '  ',0,0,0
000140 000000 A
000141 000000 A
000142 000000 A
000143 000000 A   657 ERTIDB   DATA    0
000144 142730 A   658 ERTYPE   DATA    'EX'            TYPE 1
000145 144717 A   659          DATA    'IO'                 2
000146 147703 A   660          DATA    'DC'                 3
                  677 ER2A     CONT
000147 000000 A   678 ASCONV   ENTC                    ASC CONVERSION
000150 005001 A   679          TZA                     ENTER WITH B=OCTAL NUMBER
000151 004441 A   680          LLRL    1                       X=BUFFER ADDR.
000152 004245 A   681          LRLA    5
000153 004443 A   682          LLRL    3
000154 114017 A   683          ORA     XDKASC
000155 055000 A   684          STA     0,X             STORE IN BUFFER
000156 005001 A   685          TZA
000157 004440 A   686          LLRL    2
000160 004245 A   687          LRLA    5
000161 004443 A   688          LLRL    3
000162 114011 A   689          ORA     XDKASC
000163 055001 A   690          STA     1,X             STORE NEXT 2 CHARS
000164 005001 A   691          TZA
000165 004443 A   692          LLRL    3
000166 004245 A   693          LRLA    5
000167 004443 A   694          LLRL    3
000170 114003 A   695          ORA     XDKASC
000171 055002 A   696          STA     2,X             STORE NEXT 2
000172 001000 A   697          JMP*    ASCONV
000173 100147 R
000174 130260 A   698 XDKASC   DATA    0130260
                  701 MPDCBV   DCB     EV75MG-MPMSGV,MPMSGV
000175 000032 A
000176 000200 R
000177 000000 A
000200 120240 A   702 MPMSGV   DATA    '    R3='
000201 120322 A
000202 131675 A
000203 130261 A   703 MPMGR3   DATA    '012345,R4='
000204 131263 A
000205 132265 A
000206 126322 A
000207 132275 A
000210 130261 A   704 MPMGR4   DATA    '012345,R5='
000211 131263 A
000212 132265 A
000213 126322 A
000214 132675 A
000215 130261 A   705 MPMGR5   DATA    '012345,R6='
000216 131263 A
000217 132265 A
000220 126322 A
000221 133275 A
000222 130261 A   706 MPMGR6   DATA    '012345,R7='
000223 131263 A
000224 132265 A
000225 126322 A
000226 133675 A
000227 130261 A   707 MPMGR7   DATA    '012345'
000230 131263 A
000231 132265 A
       000232 R   708 EV75MG   EQU     *
                  709 2        CONT
                  710          EJECT
                  711 **********************************************************************
                  712 *
```

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                    713 *          SEARCH ALLOCATE AND LOAD SYSTEM TASK                                    03 00636
                    714 *               THE PURPOSE OF THIS TASK IS TO LOAD AND EXECUTE TASKS              03 00637
                    715 *               FROM THE LOAD MODULE LIBRARIES.  WHEN FOREGROUND SPACE             03 00638
                    716 *               IS NOT AVAILABLE, BACKGROUND IS CHECKPOINTED, AND THIS             03 00639
                    717 *               SPACE IS AVAILABLE TO LOAD THE FOREGROUND TASK.                    03 00640
                    718 *                                                                                  03 00641
                    719 *               UPON ENTRANCE FROM THE DISPATCHER, THE FOLLOWING REG.              03 00642
                    720 *               ARE SETUP.                                                         03 00643
                    721 *                    B = SAL OR SAL2 TASK TIDB LOCATION                          E  03 00644
                    722 *                    X = TIDB LOC. OF TASK TO BE LOADED                            03 00645
                    723 *                    A = UNUSED                                                    03 00646
                    724 *                                                                                  03 00647
                    725 ************************************************************************************ 03 00648
                    727          NAME    V$SAL                                                             03 00650
                    728          EXT     TIDSL2                                                         E  03 00651
000232 015001 A     730 V$SAL    LDA     TBST,1          CHECK IF TASK ABORT OR EXIT STATUS SET.           03 00653
000233 020300 A     731          LDB     V$CTL           SET TO SAL/SAL2 TIDB                           E  03 00654
000234 006415 A     732-64304    BT      RA1+TBS13,V$FNIS                                                  03 00655
000235 002157 R
000236 006414 A     733 64306    BT      RA1+TBS12,V$FNIS                                                  03 00656
000237 002157 R
000240 016002 A     734          LDA     TBPL,B                                                         E  03 00657
000241 006417 A     735          BT      RA1+B15,SAL01   JUMP IF SAL2 FLAG SET                          E  03 00658
000242 000245 R
000243 006077 A     736          STXE    SALLDT          SAVE TIDB LOC. OF TASK TO BE LOADED               03 00659
000244 001413 R
       000245 R     737 SAL01    EQU     *                                                              E  03 00660
000245 015022 A     738          LDA     TBKN1,1         STORE NAME OF TASK TO BE LOADED IN                03 00661
000246 056022 A     739          STA     TBKN1,2            SAL TASK NAME BLOCK.  NEEDED FOR I/O           03 00662
000247 015023 A     740          LDA     TBKN2,1            ERROR MESSAGES.                                03 00663
000250 056023 A     741          STA     TBKN2,2                                                           03 00664
000251 015024 A     742          LDA     TBKN3,1                                                           03 00665
000252 056024 A     743          STA     TBKN3,2                                                           03 00666
000253 015002 A     744          LDA     TBPL,1          CHECK IF TASK OVERLY PROCESSING                   03 00667
000254 006415 A     745          BT      RA1+B13,SALOL                                                     03 00668
000255 001235 R
000256 015010 A     746 SAL1     LDA     TBRSTS,1X       GET KEY AND LU FROM TEMP. STG IN REENT. ST        03 00669
000257 150463 A     747          ANA     BM377           CHECK IF LU ZERO (CORE RESIDENT TASK DIR)         03 00670
000260 001010 A     748          JAZ     SALCR           TSK DEFINED RESIDENT TASK                      E  03 00671
000261 001513 R
000262 006057 A     749          STAE    LUN                                                            E  03 00672
000263 001372 R
000264 015002 A     750          LDA     TBPL,1          CHECK IF TASK OPENED ALREADY                      03 00673
000265 006417 A     751 -64335   BT      RA1+B15,SAL8                                                      03 00674
000266 000525 R
                    752 *        CHECK IF CORRECT LIB IS SPECIFIED FOR PRIORITY LEVEL EXECUTING$           03 00675
000267 150474 A     753 64337    ANA     BM77                                                              03 00676
000270 004341 A     754          LSRA    1               GET PRIORITY   BG OR FG.                          03 00677
000271 005012 A     755 64341    TAB                     B = 0 FOR PL 0 OR 1,  NOT 0 FOR PL 2 TO 31        03 00678
000272 015010 A     756          LDA     TBRSTS,1        CHECK IF BG LIB.                                  03 00679
000273 130075 A     757          ERA     V$BGLB          ZERO = BG, NOT ZERO = FG                          03 00680
000274 001026 A     758 64344    JBNZ    SALC2           CHECK IF PL GT 1                                  03 00681
000275 000313 R
000276 001010 A     759          JAZ     SALC3           BG TASK - CHECK IF BG LIB.                        03 00682
000277 000321 R
000300 015010 A     760          LDA     TBRSTS,1        CHECK IF BACKGROUND LOADING FROM SW FILE          03 00683
000301 006130 A     761          ERA     0141146           LOGICAL UNIT 102, KEY 'B'                       03 00684
000302 141146 A
000303 001010 A     762          JAZ     SALC3                                                             03 00685
000304 000321 R
000305 015027 A     763          LDA     TBATSK,1        WAS THIS TASK SCHEDULED BY JCP ?                  03 00686
000306 140314 A     764          SUB     V$TJCP                                                            03 00687
000307 001010 A     765 64357    JAZ     SALC3           YES - IT IS THEN OK.                              03 00688
000310 000321 R
000311 001000 A     766          JMP     SALCE                                                             03 00689
000312 000315 R
000313 001016 A     767 SALC2    JANZ    SALC3           FG TASK - CHECK IF NOT BG LIB.                    03 00690
000314 000321 R
000315 006010 A     768 SALCE    LDAI    0110            SCHEDULE REQUEST LIBRARY PRIORITY CONFLICT        03 00691
000316 000110 P
000317 001000 A     769 64362    JMP     SALER1                                                            03 00692
000320 001226 R
                    770 **            OPEN TASK SCHEDULED                                             *  03 00693
                    777 SLEDIA   CONT                                                                 V2  03 00700
000321 025010 A     779 SALC3    LDB     TBRSTS,1        STORE KEY IN FCB                                  03 00702
000322 004150 A     780          LSRB    8                                                                 03 00703
000323 014171 A     781          LDA     SALOFB+3                                                          03 00704
000324 150462 A     782          ANA     LHW                                                               03 00705
000325 005031 A     783          MERG    031                                                               03 00706
000326 024163 A     784          LDB     SALOFB                                                            03 00707
000327 056002 A     785          STA     2,2                                                               03 00708
000330 015022 A     786          LDA     TBKN1,1         STORE FILE NAME IN FCB                            03 00709
000331 056007 A     787          STA     7,2                                                               03 00710
000332 015023 A     788          LDA     TBKN2,1                                                           03 00711
000333 056010 A     789          STA     8,2                                                               03 00712
000334 015024 A     790          LDA     TBKN3,1                                                           03 00713
000335 056011 A     791          STA     9,2                                                               03 00714
000336 006017 A     792          LDAE    LUN                                                               03 00715
000337 001372 R
000340 006505 A     793          JSR     OPEN,X          CHECK DIRECTORY FOR TASK                      V2  03 00716
000341 001630 R
000342 006017 A     794          LDAE    LUN                                                               03 00717
000343 001372 R
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000344 006505 A   795          JSR     READ,X      READ PSEUDO TIDB INTO SALBUF                V2  03 007
000345 001820 R
000346 006037 A   796          LDXE    SALLDT      GET TIDB LOC OF TASK LOADING.                   03 007
000347 001415 R
000350 006020 A   797          LDBI    SALBUF      STORE PSEUDO TIDB INFORMATION INTO TIDB.        03 007
000351 001720 R
000352 006017 A   798          LDAE    LUN         CHECK FOR SW FILE, LOGICAL UNIT 102             03 007
000353 001372 R
000354 006130 A   799          ERAI    0146                                                        03 007
000355 000146 A
000356 001016 A   800          JANZ    NJCPEX                                                      03 007
000357 000410 R
000360 014140 A   801          LDA     SALOFB+7    SET CURRENT END OF FILE TO                      03 007
000361 054135 A   802          STA     SALOFB+5    THE END OF THE FILE                             03 007
000362 015002 A   803          LDA     TBPL,1      CHECK FOR PRIORITY LEVEL 0                      03 007
000363 150473 A   804          ANA     BM37                                                        03 007
000364 001016 A   805          JANZ    NJCPEX                                                      03 007
000365 000410 R
                  806 *        PRIORITY 0 TASK FROM SW FILE.                                   V2  03 007
000366 016000 A   807          LDA     0,2         CLEAR STATUS WORD IN PSEUDO TIDB                03 007
000367 150423 A   808          ANA     BS2                                                         03 007
000370 056000 A   809          STA     0,2                                                         03 007
000371 016001 A   810          LDA     1,2         CHECK TASK ENTRY LOC. IN PSEUDO TIDB            03 007
                  815 S1       CONT                                                            03 007
000372 140316 A   818          SUB     V$LUP                                                       03 007
000373 001002 A   819          JAP     TBENOK                                                      03 007
000374 000377 R
000375 010316 A   820          LDA     V$LUP       STORE DEFAULT ADDRESS IN PSEUDO TIDB            03 007
000376 056001 A   821          STA     1,2                                                         03 007
                  822 S1A      CONT                                                            03 007
000377 016003 A   823 TBENOK   LDA     3,2         CHECK LM/ROOT SEG. SIZE                         03 007
000400 150460 A   824          ANA     BR15                                                        03 007
000401 056003 A   825          STA     3,2                                                         03 007
000402 016002 A   826          LDA     2,2         CHECK NO. OF BLKS. TO ALLOCATE                  03 007
000403 150474 A   827          ANA     BM77                                                        03 007
000404 001016 A   828          JANZ    *+3         MUST BE GTR 0 AND LEQ 63                        03 007
000405 000407 R
000406 005111 A   829          IAR                                                                 03 007
000407 056002 A   830          STA     2,2                                                         03 007
000410 016000 A   831 NJCPEX   LDA     0,2         TASK STATUS                                     03 007
000411 115001 A   832          ORA     TBST,1      SET UP BIT 9(FOREGROUND TASK), BIT 8(TASK       03 007
000412 055001 A   833          STA     TBST,1        PROTECTED, BIT 2  (OVERLAY)                   03 007
000413 016001 A   834          LDA     1,2         TASK ENTRY                                      03 007
000414 055011 A   835          STA     TBENTY,1                                                    03 007
000415 016011 A   836          LDA     9,2         STORE TASK EXECUTION ADDR.                  V2  03 007
000416 001016 A   837          JANZ    *+3                                                     V2  03 007
000417 000421 R
000420 015011 A   838          LDA     TBENTY,X    IF 0,SET TBRSP=TBENTY                       V2  03 007
000421 055007 A   839          STA     TBRSP,X     DIFFERS IF DEBUG                            V2  03 007
000422 016002 A   840          LDA     2,2         NO. OF BLOCKS TO BE ALLOCATED                   03 007
000423 004252 A   841          LRLA    10                                                          03 007
000424 055031 A   842          STA     TBSIZ,X                                                 V2  03 007
000425 016003 A   843          LDA     3,2         LOAD MODULE OR ROOT SEGMENT SIZE                03 007
000426 055012 A   844          STA     TBTMS,1                                                     03 007
                  861 SALED1   CONT                                                            V2  03 007
000427 016004 A   864          LDA     4,2         FILE ADDRESS OF RELO BITS                       03 007
000430 055013 A   865          STA     TBTMIN,1                                                    03 007
                  866 SALD1A   CONT                                                                03 007
000431 024060 A   867          LDB     SALOFB                                                      03 007
000432 016002 A   868          LDA     2,2         SAVE FILE CONTROL INFORMATION                   03 007
000433 055014 A   869          STA     TBISA,1       ACCESS METHOD/ PROTECT KEY                    03 007
000434 016003 A   870          LDA     3,2                                                         03 007
000435 055015 A   871          STA     TBISB,1     ACTURAL ADDRESS                                 03 007
000436 016004 A   872          LDA     4,2                                                         03 007
000437 055016 A   873          STA     TBISX,1     CURRENT EOF                                     03 007
000440 016005 A   874          LDA     5,2         BEGINING FILE ADDRESS                           03 007
000441 055017 A   875          STA     TBISP,1                                                     03 007
000442 016006 A   876          LDA     6,2         END FILE ADDRESS                                03 007
000443 055020 A   877          STA     TBISRS,1                                                    03 007
000444 015002 A   878          LDA     TBPL,1      SET TASK OPEN STATUS BIT                        03 007
000445 110440 A   879          ORA     BS13                                                        03 007
000446 055002 A   880          STA     TBPL,1                                                      03 007
000447 150473 A   881          ANA     BM37                                                        03 007
000450 004341 A   882          LSRA    1                                                           03 007
000451 005012 A   883          TAB                 PRIORITY LEVEL = 1                              03 007
000452 015001 A   884          LDA     TBST,1      STATUS                                          03 007
000453 001026 A   888          JAZ     *+8         CHECK IF BACKGROUND PRIORITY LEVEL (0 OR 1      03 007
000454 000525 R
000455 006451 A   889          BT      TBST+B9,SALIA  YES - ERROR IF FG TASK STATUS BIT SET.       03 007
000456 000463 R
000457 150452 A   890          ANA     BM9         CLEAR FOREGROUND TASK STATUS                    03 007
000460 055001 A   891          STA     TBST,1                                                      03 007
000461 001000 A   892          JAP     SALFE                                                       03 007
000462 000315 R
000463 010313 A   893 SALIA    LDA     V$BUSY      CHECK IF BACKGROUND BUSY                        03 007
000464 001010 A   894          JAZ     SALNET                                                      03 007
000465 001571 R
000466 020342 A   895          LDB     V$TSTOT     YES ITS BUSY  THREAD TO WAITING STACK           03 007
000467 001026 A   896          JBNZ    SALF        CHECK IF STACK EMPTY                            03 007
000470 000474 R
000471 070342 A   897          STX     V$TTOT        YES -  SET AS FIRST ENTRY                     03 007
000472 001000 A   898          JMP     SALF                                                        03 007
000473 000503 R
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474 016026 A   899 SAL2    LDA     TBCPTH,2                                                    03 00822
475 001010 A   900         JAZ     SAL3                                                        03 00823
476 000502 R
477 005012 A   901         TAB                  GET NEXT TIDB IN THREAD                        03 00824
500 001000 A   902         JMP     SAL2                                                        03 00825
501 000474 R
502 076026 A   903 SAL3    STX     TBCPTH,2       YES - SET UP POINTING TO WAITING TIDB        03 00826
503 005001 A   904 SAL4    TZA                                                                 03 00827
504 055026 A   905         STA     TBCPTH,1     SET TO LAST ENTRY IN STACK                     03 00828
505 015001 A   906         LDA     TBST,1       SET TIDB SUSPENDED                             03 00829
506 110437 A   907         ORA     BIT4                                                        03 00830
507 055001 A   908         STA     TBST,1                                                      03 00831
510 001000 A   909         JMP     SALRET                                                      03 00832
511 001571 R
512 000513 R   911 SALDFB  DATA    *+1                                                         03 00834
               912         FCB     120,SALBUF,2,0,0,0+0                                        03 00835
513 000170 A
514 001720 R
515 001000 A
516 000000 A
517 000000 A
520 000000 A
521 000000 A
522 000000 A
523 000000 A
524 000000 A
               913         EJEC                                                                03 00836
               914 *         LOAD TASK - PREVIOUSLY OPENED                                     03 00837
525 015001 A   917 SAL8    LDA     TBST,1                                                      03 00840
               923 SALED4  CONT                                                          V2    03 00846
526 006411 A   924         BT      RA1+B9,SAL9  CHECK IF FOREGROUND LOAD                       03 00847
527 000626 R
               950 SLED2A  CONT                                                          V2    03 00873
530 015031 A   953         LDA     TBSIZ,1      CALC NO. OF 512 BLKS TO ALLOCATE         V2    03 00875
531 120055 A   954         ADD     V$JCFG         EXTRA BLOCK DEFINED BY JCP CORE REQUEST       03 00877
532 004352 A   955         LSRA    10                                                          03 00878
533 054027 A   956         STA     NBLOC+1                                                     03 00879
534 010341 A   957         LDA     V$CRDR       CALCULATE NO. OF ALLOCATABLE BLOCKS            03 00880
535 004351 A   958         LSRA    9              AVAILABLE                                    03 00881
536 005311 A   959         DAR                                                                 03 00882
537 144023 A   960         SUB     NBLOC+1      CHECK IF BG WILL FIT IN ALLOCATABLE CORE.      03 00883
540 001002 A   961         JAP     SAL8Z                                                       03 00884
541 000551 R
542 010055 A   962         LDA     V$JCFG       CLEAR EXTRA BLOCKS                             03 00885
543 150477 A   963         ANA     BM1777                                                      03 00886
544 050055 A   964         STA     V$JCFG                                                      03 00887
545 006010 A   965         LDAI    0105         ERROR - NOT ENOUGH ROOM FOR BG.                03 00888
546 000105 A
547 001000 A   966         JMP     SALER1                                                      03 00889
550 001226 R
551 005004 A   967 SAL8Z   TZX                  INITIALIZE BLOCK COUNT                         03 00890
552 074156 A   968         STX     COUNT                                                       03 00891
553 020421 A   969         LDB     ONE                                                         03 00892
554 015330 A   970 SALBG   LDA     V$MPM,1      SET UP BIT ALLOCATION                          03 00893
555 156441 A   971         ANA     BR0,B          0 = UNPROTECTED                              03 00894
556 055330 A   972         STA     V$MPM,1        1 = PROTECTED                                03 00895
557 044151 A   973         INR     COUNT        INCR. BLOCK COUNT                              03 00896
560 005122 A   974         IBR                  INCR. BIT COUNT                                03 00897
561 014147 A   975         LDA     COUNT        CHECK IF ALL BLOCKS UNPROTECTED                03 00898
562 006140 A   976 NBLOC   SUBI    *-*                                                         03 00899
563 000000 A
564 001010 A   977         JAZ     SALBG2                                                      03 00900
565 000576 R
566 005021 A   978         TBR                  CHECK IF A 16 BIT WORD SETUP                   03 00901
567 144137 A   979         SUB     SIXTN                                                       03 00902
570 001016 A   980         JANZ    SALBG                                                       03 00903
571 000554 R
572 005144 A   981         IXR                  SET UP NEXT WORD OF ALLOCATION                 03 00904
573 005002 A   982         TZB                  INITIALIZE BIT COUNT                           03 00905
574 001000 A   983         JMP     SALBG                                                       03 00906
575 000554 R
576 006505 A   984 SALBG2  JSR     BGCK,1       CHECK IF CORE AVAILABLE TO ALLOCATE.           03 00907
577 002142 R
600 001016 A   985         JANZ    SALRET                                                      03 00908
601 001571 R
602 006505 A   986 SALBG4  JSR     DRMPCA,1     ALLOCATE BACKGROUND MEMORY                     03 00909
603 002125 R
604 006506 A   987         JSR     V$EMP,2      ENABLE MP MASK                                 03 00910
605 002110 R
606 006017 A   988         LDAE    NBLOC+1      SET UP LOC. OF LAST UNPROTECTED MEMORY         03 00911
607 000563 R
610 005111 A   989         IAR                                                                 03 00912
611 014251 A   990         LRLA    9                                                           03 00913
612 005311 A   991         DAR                                                                 03 00914
613 050317 A   992         STA     V$LLUP                                                      03 00915
               993 SALED2  CONT                                                          V2    03 00916
614 004600 A   994         LDX     SALLDT       SET UP BACKGROUND TIDB POINTER.                03 00917
615 050315 A   995         STX     V$BTB                                                       03 00918
616 005010 A   996         LDAI    0500         BACKGROUND LOAD LOCATION                       03 00919
617 001500 A
620 050025 A   997         STA     TBILC,1                                                     03 00920
621 010055 A  1000         LDA     V$JCFG       CLEAR EXTRA BLOCK                              03 00923
622 150477 A  1001         ANA     BM1777                                                      03 00924
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000623 050055 A 1002          STA     V$JCFG
000624 001000 A 1003          JMP     CALLOD
000625 000060 R
000626 015031 A 1004 SAL9     LDA     1BSIZ,1         GET NO. OF BLKS TO BE ALLOCATED.        V2
000627 004352 A 1005          LSRA    10
000630 054071 A 1006          STA     ALOCSZ+1
000631 005006 A 1007          TZB
000632 064076 A 1008          STB     COUNT           ZERO COUNTER AND PSEUDO MASK REGISTER
000633 064076 A 1009          STB     PSEUDO
000634 064076 A 1010          STB     PSEUDO+1
000635 064076 A 1011          STB     PSEUDO+2
000636 064076 A 1012          STB     PSEUDO+3
000637 030464 A 1013          LDA     THREE           QUICK CORE ALLOCATION REG. CHECK
000640 015334 A 1014 ALOC     LDA     V$CAM,1
000641 005111 A 1015          IAR
000642 001016 A 1016          JANZ    ALOC1           -
000643 000650 R
000644 001040 A 1017          JXZ     CALNOA          ALL REGISTERS CHECKED - NO CORE AVAILABLE
000645 001010 R
000646 005344 A 1018          DXR
000647 005021 A 1019          TBA
000650 124056 A 1020          ADD     SIXTN           ADD 16 TO BIT ALLOCATION POINTER
000651 005015 A 1021          TAZ
000652 001000 A 1022          JMP     ALOC
000653 000640 R
000654 064132 A 1023 ALOC1    STB     BKNUM           BIT NUMBER TO START CORE ALLOCATION
000655 014004 A 1024 ALOC2    LDA     BTEST           SET UP BIT TEST TO TEST HIGHEST ORDER BIT
000656 110472 A 1025          ORA     BM17
000657 054000 A 1026          STA     BTEST
000660 024047 A 1027          LDB     FIFTEN          INITIALIZE BIT COUNTER
000661 015334 A 1028 ALOC3    LDA     V$CAM,1         LOAD CORE ALLOCATION MASK
000662 006450 A 1029 BTEST    BT      *+B15,ALOC6       TEST BITS LEFT TO RIGHT
000663 000712 R
000664 005001 A 1030          TZA                     BLOCK ALLOCATED - NOT AVAILABLE
000665 054043 A 1031          STA     COUNT
000666 054043 A 1032          STA     PSEUDO
000667 054043 A 1033          STA     PSEUDO+1
000670 054043 A 1034          STA     PSEUDO+2
000671 054043 A 1035          STA     PSEUDO+3
000672 044114 A 1036 ALOC4    INR     BKNUM           INCREMENT BIT COUNT
000673 001000 A 1037          JBZ     ALOC5           CHECK IF ALL 16 BIT CHECKED.
000674 000705 R
000675 005322 A 1038          DBR
000676 006017 A 1039          LDAE    BTEST           MODIFY BT INST. TO TEST NEXT RIGHT BIT
000677 000660 R
000700 005311 A 1040          TAR
000701 006057 A 1041          LDAE    BTEST
000702 000660 R
000703 001000 A 1042          JMP     ALOC3
000704 000661 R
000705 001040 A 1043 ALOC5    JXZ     CALNOA          TEST IF ALL ALLOCATION MASK WORDS CHECKED
000706 001010 R
000707 005344 A 1044          DXR                     NO - TEST NEXT WORD
000710 001000 A 1045          JMP     ALOC2
000711 000655 R
000712 044016 A 1046 ALOC6    INR     COUNT           BLOCK NOT ALLOCATED
000713 006015 A 1047          LDAE    PSEUDO,1
000714 000732 R
000715 116421 A 1048          ORA     BSW,2           SET ALLOCATE BIT IN PSEUDO ALLOCATION TABL
000716 006055 A 1049          STAE    PSEUDO,1
000717 000732 R
000720 014010 A 1050          LDA     COUNT           CHECK IF ENOUGH BLOCKS ALLOCATED
000721 005140 A 1051 ALOCSZ   SUBI    *-*
000722 000000 A
000723 001016 A 1052          JANZ    ALOC4
000724 000672 R
000725 001000 A 1053          JMP     CALALC
000726 000733 R
000727 000020 A 1053 SIXTN    DATA    16
000730 000017 A 1056 FIFTEN   DATA    15
000731 000000 A 1057 COUNT    DATA    0               NUMBER OF AVAILABLE 512 WORD BLOCKS.
000732 000000 A 1058 PSEUDO   DATA    0,0,0,0         MASK TABLE FOR CORE ALLOCATION
000733 000000 A
000734 000000 A
000735 000000 A
000736 030461 A 1060 SALALC   LDX     SPSEE           ALLOCATE SPACE
000737 006113 A 1061 SAL11    LDAE    PSEUDO,1        EXPL. OF PSEUDO ALLOCATE MASK INTO ACTUAL
000740 000700 R
000741 115334 A 1062          ORA     V$CAM,1           CORE ALLOCATE MASK.
000742 055033 A 1063          STA     V$CAM,1
000743 001040 A 1064          JXZ     A+3             CHECK IF PSEU MASK WORDS SET UP.
000744 000751 R
000745 005344 A 1065          DXR
000746 001000 A 1066          JMP     ..+2
000747 000737 R
000750 034444 A 1067          LDX     CALLOT
000751 010674 A 1068          LDA     ZMZ
000752 144034 A 1069          SUB     BKNUM
000753 064251 A 1070          STA     *
000754 055023 A 1071          STA     TBTL1,1
000755 125011 A 1072          ADD     TRCNTY,1
000756 055011 A 1073          STA     TBLNTY,1
000757 006505 A 1074          JSR     BSCK,1          CHECK IF FG ALLOCATED IN BG AREA
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000760 002142 R
                    1075 SALED3  CONT                                                          V2  03 00998
                    1127 SALE3A  CONT                                                          V2  03 01050
000761 020315 A     1130         LDB     V$BTB                                                     03 01053
000762 034432 A     1131         LDX     SALLDT                                                    03 01054
000763 001016 A     1132         JANZ    SAL13D                                                    03 01055
000764 000770 R
000765 015002 A     1133 SAL13A  LDA     TBPL,1                                                    03 01056
000766 006454 A     1134 SAL13C  BT      RA0+B12,SAL13                                             03 01057
000767 000773 R
000770 016001 A     1135 SAL13D  LDA     TBST,2                                                    03 01058
000771 006445 A     1136         BT      RA0+B5,SAL13B                                             03 01059
000772 001003 R
                    1137 SALE3B  CONT                                                          V2  03 01060
000773 015001 A     1138 SAL13   LDA     TBST,1          CLEAR WAITING TO BE LOADED FLAG.          03 01061
000774 150446 A     1139         ANA     BR5                                                       03 01062
000775 055001 A     1140         STA     TBST,1                                                    03 01063
000776 015002 A     1141         LDA     TBPL,1                                                    03 01064
000777 154027 A     1142         ANA     BTET+1          CLEAR BITS 10, 11, AND 12.                03 01065
001000 055002 A     1143         STA     TBPL,1                                                    03 01066
001001 001000 A     1144         JMP     SALLDD                                                    03 01067
001002 001060 R
001003 005002 A     1147 SAL13B  TZB                                                               03 01070
001004 060310 A     1148         STB     V$CKPT                                                    03 01071
001005 001000 A     1149         JMP     SAL13                                                     03 01072
001006 000773 R
                    1150 SALD2A  CONT                                                          V2  03 01073
001007 000000 A     1152 BKNUM   DATA    0               BLOCK NO. OF FIRST ALLOCATABLE LOC.       03 01075
                    1154 *                               MEMORY NOT AVAILABLE TO ALLOCATE      V2  03 01077
001010 010310 A     1156 SALNOA  LDA     V$CKPT                                                    03 01079
001011 020315 A     1157         LDB     V$BTB           BACKGROUND TIDB                           03 01080
001012 034402 A     1158         LDX     SALLDT                                                    03 01081
001013 001020 A     1159         JBZ     SALFL           CHECK IF BG IN OPERATION                  03 01082
001014 001022 R
001015 001010 A     1160         JAZ     SAL14           CHECK IF IN CHECKPOINT                    03 01083
001016 001033 R
001017 016001 A     1161         LDA     TBST,2          CHECK IF BG WRITTEN ON CHECKPOINT FILE.   03 01084
001020 006445 A     1162         BT      RA0+TBS5,SAL15                                            03 01085
001021 001034 R
001022 015001 A     1163 SALFL   LDA     TBST,1          CORE NOT AVAILABLE TO ALLOCATE            03 01086
001023 110426 A     1164         ORA     BS5             SET TASK WAITING TO BE LOADED             03 01087
001024 055001 A     1165         STA     TBST,1                                                    03 01088
001025 015002 A     1166         LDA     TBPL,1                                                    03 01089
001026 006150 A     1167 BTET    ANAI    0161777         CLEAR BITS 10, 11, AND 12.                03 01090
001027 161777 A
001030 055002 A     1168         STA     TBPL,1                                                    03 01091
                    1176 S5      CONT                                                          V2  03 01099
001031 001000 A     1177         JMP     SALRET                                                    03 01100
001032 001571 R
                    1178 *                               TASK NOT CHECKPOINTED                     03 01101
001033 040310 A     1179 SAL14   INR     V$CKPT          SET CHECKPOINT                            03 01102
001034 016021 A     1180 SAL15   LDA     TBIO,2          CHECK IF I/O ACTIVE                       03 01103
001035 150463 A     1181         ANA     BM377                                                 V2  03 01104
001036 001010 A     1182         JAZ     SAL16                                                     03 01105
001037 001046 R
001040 015002 A     1183         LDA     TBPL,1          I/O ACTIVE SET BG I/O WAIT FLAG IN TASK   03 01106
001041 110435 A     1184         ORA     BS12                                                      03 01107
001042 150454 A     1185         ANA     BR11            CLEAR TRY AGAIN FLAG                      03 01108
001043 055002 A     1186         STA     TBPL,1                                                    03 01109
001044 001000 A     1187         JMP     SALRET                                                    03 01110
001045 001571 R
001046 016001 A     1188 SAL16   LDA     TBST,2          SET BACKGROUND TASK WAITING TO BE LOADED  03 01111
001047 110426 A     1189         ORA     BS5               (FOLLOWING CHECKPOINT)                  03 01112
001050 056001 A     1190         STA     TBST,2                                                    03 01113
001051 002000 A     1191         CALL    WCPF            WRITE CHECKPOINT FILE                     03 01114
001052 002505 R
                    1210 SA16A   CONT                                                          V2  03 01133
001053 006505 A     1212         JSR     DMMPCA,1        EXPAND ALLOCATABLE POINTERS               03 01135
001054 002126 R
001055 034337 A     1213         LDX     SALLDT                                                    03 01136
001056 001000 A     1217         JMP     SAL9            TRY REALLOCATION                          03 01140
001057 000626 R
                    1219 *                               LOAD TASK INTO MEMORY                     03 01142
001060 034334 A     1220 SALLDD  LDX     SALLDT                                                    03 01143
001061 015014 A     1221         LDA     TBISA,1         SET UP READ REQUEST                       03 01144
001062 054131 A     1222         STA     SALFCB+2          ACCESS METHOD / PROTECT KEY             03 01145
001063 015015 A     1223         LDA     TBISB,1                                                   03 01146
001064 054130 A     1224         STA     SALFCB+3          ACTURAL RMD ADDRESS                     03 01147
001065 015016 A     1225         LDA     TBISX,1                                                   03 01148
001066 054127 A     1226         STA     SALFCB+4          CURRENT EOF                             03 01149
001067 015017 A     1227         LDA     TBISP,1                                                   03 01150
001070 054126 A     1228         STA     SALFCB+5          BEGINING FILE ADDRESS                   03 01151
001071 015020 A     1229         LDA     TBISRS,1                                                  03 01152
001072 054125 A     1230         STA     SALFCB+6          END FILE ADDRESS                        03 01153
001073 005001 A     1231         TZA                     CLEAR REENTRANT FLAG WORD                 03 01154
001074 055020 A     1232         STA     TBISRS,1                                                  03 01155
001075 015012 A     1233         LDA     TBTMS,1           GET NO. OF WORDS                        03 01156
001076 054113 A     1234         STA     SALFCB                                                    03 01157
001077 015025 A     1235         LDA     TBTLC,1           MEMORY ADDRESS WHERE LOAD BEGINS        03 01158
001100 054112 A     1236         STA     SALFCB+1                                                  03 01159
001101 044113 A     1237         INR     SALFCB+3                                                  03 01160
                    1244 SALED5  CONT                                                          V2  03 01167
001102 014267 A     1245         LDA     LUN                                                       03 01169
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001103 024105 A 1246          LDB     FCBLC                                                  03 01169
001104 006505 A 1247          JSR     READ,X          LOAD TASK INTO MEMORY                  V2 03 01170
001105 001620 R
001106 034300 A 1248          LDX     SALIDT                                                 03 01171
                1255 SL5      CONT                                                           03 01172
001107 015001 A 1256          LDA     TBST,1                                                 03 01173
                1266 SALD5B   CONT                                                           V2 03 01189
001110 006442 A 1269          BT      RA0+TBS2,SAL19  CHECK IF OVERLAY LOAD                  03 01190
001111 001142 R
001112 006411 A 1270          BT      RA1+TBS9,SALD1  CHECK IF FOREGROUND TASK               03 01192
001113 001124 R
001114 020356 A 1271          LDB     V$LIT           BACKGROUND TASK - SET UP FCB BACKGROUND 03 01194
001115 005122 A 1272          TBP                     ADDRESS AND OVERLAY SEGMENT LOAD       03 01195
001116 016001 A 1273          LDA     1,2             LOCATION.                              03 01196
001117 006020 A 1274          XPBI    FCBBG                                                  03 01197
001120 001501 R
001121 056001 A 1275          STA     1,2                                                    03 01198
001122 001300 A 1276          JMP     SAL02                                                  03 01199
001123 001130 R
001124 025025 A 1277 SALD1    LDB     TBTLC,1         FOREGROUND TASK - SET UP FCB AS OVERLAY 03 01200
001125 016001 A 1278          LDA     1,2             SEGMENT TABLE LOC.  CALCULATE OVERLAY  03 01201
001126 125025 A 1279          ADB     TBTLC,1         SEGMENT LOAD ADDRESS AND SAVE IN FCB.  03 01202
001127 056001 A 1280          STA     1,2                                                    03 01203
                1281 SALD5A   CONT                                                           V2 03 01204
001130 014063 A 1282 SALD2    LDA     SALFCB+2        ACCESS METHOD / PROTECT KEY            03 01205
001131 056002 A 1283          STA     2,2                                                    03 01206
001132 014063 A 1284          LDA     SALFCB+4        CURRENT EOF                            03 01207
001133 056004 A 1285          STA     4,2                                                    03 01210
001134 014062 A 1286          LDA     SALFCB+5        BEGINING FILE ADDRESS                  03 01211
001135 056005 A 1287          STA     5,2                                                    03 01212
001136 014061 A 1288          LDA     SALFCB+6        END FILE ADDRESS                       03 01213
001137 056006 A 1289          STA     6,2                                                    03 01214
001140 014231 A 1290          LDA     LUN             SAVE LOGICAL UNIT NO.                  03 01215
001141 056007 A 1291          STA     7,2                                                    03 01216
001142 015001 A 1296 SAL19    LDA     TBST,1          CHECK IF BACKGROUND LOAD               03 01217
001143 006451 A 1297          BT      RA0+TBS9,SAL31          YES                            V2 03 01220
001144 001172 R
001145 014332 A 1298          LDA     =NEH20          FOREGROUND LOAD GET RELOCATION FILE    03 01221
001146 054010 A 1299          STA     SALFCB          SET UP TO READ 120 WORDS               03 01222
001147 006010 A 1300          LDAI    SALBUF                                                 03 01223
001150 001720 R
001151 054041 A 1301          STA     SALFCB+1
001152 015013 A 1302          LDA     TBTMIN,1        ACTURAL ADDRESS AND
001153 001004 A 1303          JAN     SAL30           IF NEG. NO RELOCATION FILE
001154 001170 R
001155 054037 A 1304          STA     SALFCB+3
001156 015025 A 1305          LDA     TBTLC,1         GET BASE ADDRESS
001157 054301 A 1306          STA     SALRAD+1
001160 014211 A 1307 SALRD    LDA     LUN
001161 024027 A 1308          LDB     FCBLC
001162 006505 A 1309          JSC     READ,1
001163 001620 R
001164 002000 A 1310          CALL    CELD                                                   03 01234
001165 001421 R
001166 001004 A 1311          JAN     SAL30                                                  03 01235
001167 001173 R
001170 044024 A 1312          INR     SALFCB+3        READ NEXT 120 WORD RELO. BUFFER        03 01236
001171 001000 A 1313          JMP     SALRD                                                  03 01237
001172 001160 R
                1314 SALE36   CONT                                                           V2 03 01240
001173 034221 A 1315 SAL30    LDX     SALLDT                                                 03 01241
001174 015007 A 1318          LDA     TBRSP,1         ADD RELOCATION BIAS                    V2 03 01242
001175 125025 A 1319          ADD     TBTLC,1                                                03 01243
                1320 S6A      CONT                                                           03 01244
001176 055007 A 1322          STA     TBRSP,1                                                03 01245
001177 015001 A 1323 SAL31    LDA     TBST,1          SET BIT ZERO OF STATUS THAT SAL IS COMPLET 03 01246
001200 110421 A 1324          CPA     B'0'                                                   03 01247
001201 150436 A 1325          ANA     =B'1111111111111110'  RESET OVERLAY REQT FLAG          E  03 01250
001202 150437 A 1326          ANA     =B'1111111111111011'                                   03 01251
001203 055001 A 1327          STA     TBST,1                                                 03 01252
                1333 SL31A    CONT                                                           03 01253
001204 015002 A 1334          LDA     TBPL,1          CLEAR TASK OPEN STATUS BIT             03 01254
001205 150460 A 1335          ANA     =B'1111111111111101'                                   03 01255
001206 055002 A 1336          STA     TBPL,1                                                 03 01256
                1349 SL31     CONT                                                           03 01257
001207 001000 A 1350          JMP     SALRET                                                 03 01260
001210 001571 R
001211 001210 R 1353 FCBLC    DATA    SALFCB                                                 03 01276
                1354 SALFCB   FCB     120,SALBUF,2,0,0,0,0                                   03 01277
001212 000170 A
001213 001720 R
001214 001000 A
001215 000000 A
001216 000000 A
001217 000000 A
001220 000000 A
001221 000000 A
001222 000000 A
001223 000000 A
                1355          EJEC                                                           03 01300
001224 006010 A 1356 SALER    LDAI    0102            ERROR EXIT                             03 01301
001225 000102 A
001226 034166 A 1357 SALER1   LDX     SALLDT                                                 03 01302
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Spare for Loading

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001227 055030 A 1358          STA     TBPSE,1                                                    03 01281
001230 015001 A 1359          LDA     TBST,1                                                     03 01282
001231 110425 A 1360          ORA     BS4                                                        03 01283
001232 055001 A 1361          STA     TBST,1                                                     03 01284
001233 001000 A 1362          JMP     SALRET                                                     03 01285
001234 001571 R
                1377 SA1      CONT                                                               03 01300
001235 015001 A 1382 SALOL    LDA     TBST,1                                                     03 01305
001236 006442 A 1383          BT      RA0+TBS2,SAL07 CHECK IF OVERLAY TASK                       03 01306
001237 001305 R
001240 006411 A 1388          BT      RA1+TBS9,SALO3     CHECK IF FOREGROUND TASK                03 01311
001241 001251 R
001242 010356 A 1389          LDA     V$LIT          BACKGROUND TASK                             03 01312
001243 120424 A 1390          ADD     EIGHT                                                      03 01313
001244 005012 A 1391          TAB                        GET LOC. OF OVERLAY SEGMENT INF. TABLE  03 01314
001245 006030 A 1392          LDXI    FCBBG              GET FILE CONTROL BLOCK LOCATION         03 01315
001246 001501 R
001247 001000 A 1393          JMP     SALO4                                                      03 01316
001250 001255 R
001251 015025 A 1394 SALO3    LDA     TBTLC,1        FOREGROUND TASK                             03 01317
               1395 SA1A      CONT                                                               03 01318
001252 005014 A 1396          TAX                        FILE CONTROL BLOCK LOC.                 03 01319
001253 120467 A 1397          ADD     SEVEN              GET LOC. OF OVERLAY SEGMENT INF. TABLE  03 01320
001254 005012 A 1398          TAB                                                                03 01321
001255 074441 A 1399 SALO4    STX     LOCFCB         SAVE FCB LOCATION                           03 01322
001256 034136 A 1400          LDX     SALLDT                                                     03 01323
001257 035006 A 1401          LDX     TBRSX,1        GET PARAMETER LIST LOC.                     03 01324
               1407 SA1B      CONT                                                               03 01330
001260 015000 A 1408          LDA     0,1            GET TYPE                                    03 01331
001261 054134 A 1409          STA     TYPE                                                       03 01332
001262 016000 A 1410 SALO5    LDA     0,2            SEARCH OVERLAY SEGMENT TABLE FOR NAME       03 01333
001263 001010 A 1411          JAZ     SALO7             SPECIFIED IF OVERLAY SERVICE REQUEST     03 01334
001264 001305 R
001265 135001 A 1412          ERA     1,1               IF 1ST WORD ZERO - SEARCH COMPLETE       03 01335
001266 001016 A 1413          JANZ    SALO6          CHECK 1ST TWO CHARACTERS                    03 01336
001267 001300 R
001270 016001 A 1414          LDA     1,2                                                        03 01337
001271 135002 A 1415          ERA     2,1                                                        03 01338
001272 001016 A 1416          JANZ    SALO6          CHECK 2ND TWO CHARACTERS                    03 01339
001273 001300 R
001274 016002 A 1417          LDA     2,2                                                        03 01340
001275 135003 A 1418          ERA     3,1                                                        03 01341
001276 001010 A 1419          JAZ     SALO8                                                      03 01342
001277 001311 R
001300 005021 A 1420 SALO6    TBA                    GET NEXT ENTRY                              03 01343
001301 120467 A 1421          ADD     SEVEN                                                      03 01344
001302 005012 A 1422          TAB                                                                03 01345
001303 001000 A 1423          JMP     SALO5                                                      03 01346
001304 001262 R
001305 006010 A 1424 SALO7    LDAI    0107           ERROR - OVERLAY NOT IN OVERLAY SEG INF LIB  03 01347
001306 000107 A
001307 001000 A 1427          JMP     SALER1                                                     03 01359
001310 001226 R
               1452 SA2       CONT                                                        V2     03 01375
001311 034405 A 1455 SALO8    LDX     LOCFCB         TASK SEGMENT FOUND                          03 01378
001312 015003 A 1456          LDA     3,1                                                        03 01379
001313 054056 A 1457          STA     LUN                                                        03 01380
001314 016003 A 1458          LDA     3,2                                                        03 01381
001315 055003 A 1459          STA     3,1            FILE ADDRESS OF OVERLAY SEGMENT             03 01382
001316 016004 A 1460          LDA     4,2                                                        03 01383
001317 055000 A 1461          STA     0,1            SEGMENT SIZE                                03 01384
001320 016005 A 1462          LDA     5,2                                                        03 01385
001321 054076 A 1463          STA     SEGENT         OVERLAY SEGMENT ENTRY                       03 01386
001322 016006 A 1464          LDA     6,2                                                        03 01387
001323 054073 A 1465          STA     FILADR         FILE ADDR. OF RELO. BITS.                   03 01388
               1466 SALED7    CONT                                                        V2     03 01389
               1472 SA2A      CONT                                                               03 01395
001324 014045 A 1473          LDA     LUN                                                        03 01396
001325 024371 A 1477          LDB     LOCFCB                                                     03 01400
001326 006505 A 1478          JSR     READ,1                                                     03 01401
001327 001620 R
001330 034064 A 1479          LDX     SALLDT                                                     03 01402
001331 015007 A 1480          LDA     TBRSP,1        STORE RETURN LOC IN X REGISTER.             03 01403
001332 150460 A 1481          ANA     BK15           WITH BIT 15 CLEARED (OF)                    03 01404
001333 055006 A 1482          STA     TBRSX,1                                                    03 01405
001334 014063 A 1483          LDA     SEGENT         GET ENTRY LOCATION                          03 01406
001335 025001 A 1486          LDB     TBST,1                                                     03 01409
001336 006471 A 1487          BT      RB0+TBS9,*+3   CHECK IF FOREGROUND                         03 01410
001337 001341 R
001340 125025 A 1488          ADD     TBTLC,1          YES - ADD RELO.                          03 01411
               1489 SALED9    CONT                                                        V2     03 01412
001341 024054 A 1490          LDB     TYPE           GET TYPE LOAD                               03 01413
001342 006420 A 1491          BT      RB1+B0,*+5     CHECK IF LOAD AND EXECUTE                   03 01414
001343 001347 R
001344 055007 A 1492          STA     TBRSP,1          YES - ENTRY LOC. FOLLOWING OV LOAD.       03 01415
001345 001000 A 1496          JMP     SALO10           LOCATION IN X REGISTER.                   03 01419
001346 001350 R
001347 055006 A 1497          STA     TBRSX,1          NO - LOAD AND RETURN - RETURN WITH ENTRY  03 01420
001350 015001 A 1500 SALO10   LDA     TBST,1         CHECK IF BACKGROUND LOAD                    03 01423
001351 006451 A 1501          BT      RA0+TBS9,SALO12                                            03 01424
001352 001406 R
001353 024343 A 1502          LDB     LOCFCB                                                     03 01425
001354 014123 A 1503          LDA     ONE420         FOREGROUND LOAD - GET RELOCATION FILE       03 01426
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001355 056000 A 1504          STA     0,2          SET UP 120 WORD BUFFER                          03 01427
001356 014040 A 1505          LDA     FLEADR       FILE ADDRESS                                    03 01428
001357 001004 A 1506          JAN     SALD12       IF NEG. NO RELOCATION FILE                      03 01429
001360 001406 R
001361 056003 A 1507          STA     3,2                                                          03 01430
001362 016001 A 1508          LDA     1,2          SAVE OVERLAY BUFFER ADDRESS                     03 01431
001363 054033 A 1509          STA     FLEADR                                                       03 01432
001364 006010 A 1510          LDAI    SALBUF                                                       03 01433
001365 001720 R
001366 056001 A 1511          STA     1,2                                                          03 01434
001367 015025 A 1512          LDA     TBILC,1      SET UP RELOCATION BYST                          03 01435
001370 054070 A 1513          STA     SALBAD+1                                                     03 01436
001371 006010 A 1514 SALD11   LDAI    *-*                                                          03 01437
001372 000000 A
001372               1515 LUN BES     0                                                            03 01438
001373 024323 A 1516          LDB     LDCFCB                                                       03 01439
001374 006505 A 1517          JSR     READ,1                                                       03 01440
001375 001620 R
001376 046003 A 1518          INR     3,2          INCREMENT TO NEXT 120 WORD RECORD               03 01441
001377 002000 A 1519          CALL    RELB                                                         03 01442
001400 001421 R
001401 001010 A 1520          JAZ     SALD11                                                       03 01443
001402 001371 R
001403 024313 A 1521          LDB     LDCFCB                                                       03 01444
001404 014012 A 1522          LDA     FLEADR                                                       03 01445
001405 056001 A 1523          STA     1,2                                                          03 01446
               1524 $ALE10    CONT                                                         V2   03 01447
001406 034310 A 1525 SALD12   LDX     LDCFCB                                                       03 01448
001407 006017 A 1526          LDAE    LUN                                                  V2      03 01449
001410 001372 R
               1532 SA2C      CONT                                                                 03 01455
001411 055003 A 1533          STA     3,1                                                          03 01456
               1539 SA2D      CONT                                                                 03 01462
001412 034002 A 1540          LDX     SALLDT                                                       03 01463
001413 001000 A 1541          JMP     SAL31                                                        03 01464
001414 001177 R
001415 000000 A 1544 SALLDT   DATA    0            LOC. OF TIDB OF TASK TO BE LOADED.              03 01467
001416 000000 A 1545 TYPE     DATA    0                                                            03 01468
001417 000000 A 1546 FLEADR   DATA    0            FILE ADDR. OF RELO. BITS.                       03 01469
001420 000000 A 1547 SEGENT   DATA    0            OVERLAY SEGMENT ENTRY                           03 01470
001421 000000 A 1551 RELD     ENTR                                                                 03 01474
001422 024054 A 1552          LDB     RELADR                                                       03 01475
001423 005004 A 1553          TZX                                                                  03 01476
001424 006015 A 1554 SAL20    LDAE    SALBUF,1                                                     03 01477
001425 001720 R
001426 001002 A 1555          JAP     SAL22        CHECK IF ADDRESS                                03 01478
001427 001430 R
001430 005211 A 1556          CPA                  ADDRESS                                         03 01479
001431 005012 A 1557          TAB                                                                  03 01480
001432 005111 A 1558          IAR                  CHECK IF COMPLETED                              03 01481
001433 001004 A 1559          JAN*    RELD                                                         03 01482
001434 101421 R
001435 005021 A 1560          TBA                                                                  03 01483
001436 124022 A 1561          ADD     CALBAD+1                                                     03 01484
001437 005012 A 1562          TAB                                                                  03 01485
001440 005144 A 1563 SAL21    IXR                                                                  03 01486
001441 005041 A 1564          TXA                  CHECK IF ONE 120 WORD BUFFER CHECKED            03 01487
001442 144033 A 1565          SUB     ONEH20                                                       03 01488
001443 064033 A 1566          STB     RFLADR                                                       03 01489
001444 001010 A 1567          JAZ*    RELD                                                         03 01490
001445 101421 R
001446 001000 A 1568          JMP     SAL20                                                        03 01491
001447 001424 R
001450 074023 A 1569 SAL22    STX     SAL25+1      RELO BITS                                       03 01492
001451 006030 A 1570          LDXI    14                                                           03 01493
001452 000016 A
001453 004241 A 1571 SAL23    LRLA    1            CHECK IF ZERO OR ONE                            03 01494
001454 054013 A 1572          STA     SVA+1                                                        03 01495
001455 001002 A 1573          JAP     SAL24                                                        03 01496
001456 001463 R
001457 016000 A 1574          LDA     0,2          SET - ADD RELOCATION TO WROD                    03 01497
001460 006120 A 1575 SALBAD   ADDI    *-*                                                          03 01498
001461 000000 A
001462 056000 A 1576          STA     0,2                                                          03 01499
001463 005122 A 1577 SAL24    IBR                  INCR BIT COUNT                                  03 01500
001464 001040 A 1578          JX2     SAL25        CHECK IF 15 BITS TESTED.                        03 01501
001465 001473 R
001466 005344 A 1579          DXR                                                                  03 01502
001467 006010 A 1580 SVA      LDAI    *-*                                                          03 01503
001470 000000 A
001471 001000 A 1581          JMP     SAL23                                                        03 01504
001472 001453 R
001473 006030 A 1582 SAL25    LDXI    *-*                                                          03 01505
001474 000000 A
001475 001000 A 1583          JMP     SAL21                                                        03 01506
001476 001446 R
001477 000000 A 1584 RELADR   DATA    0                                                            03 01507
               1585 SALE11    CONT                                                         V2      03 01508
               1591 SA11A     CONT                                                                 03 01514
001500 000170 A 1593 ONEH20   DATA    120          DATA BUFFER SIZE                                03 01515
               1594 FCBBG     FLB     0,0,2,0,0,0    BACKGROUND FILE CONTROL BLOCK (OVERLAY)       03 01516
001501 000000 A
001502 000000 A
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001503 001000 A
001504 000000 A
001505 000000 A
001506 000000 A
001507 000000 A
001510 000000 A
001511 000000 A
001512 000000 A
                    1595          EJEC                                                                  03 01518
                    1596 *     MEMORY RESIDENT TASK SCHEDULED                                      V2  03 01519
001513 005042 A     1597 SALCR    TXB           CORE RESIDENT TASK - SEARCH CORE RESIDENT               03 01520
001514 030341 A     1598          LDX     V$CRDR                                                        03 01521
001515 015000 A     1599 SALCR1   LDA     0,1   TASK LIBRARY                                            03 01522
001516 001010 A     1600          JAZ     SALCR6                                                  V2  03 01523
001517 001611 R
001520 136022 A     1601          ERA     TBKN1,2                                                       03 01524
001521 001016 A     1602          JANZ    SALCR2        CHECK IF 1ST 2 CHAR. MATCH                      03 01525
001522 001604 R
001523 015001 A     1603          LDA     1,1                                                           03 01526
001524 136023 A     1604          ERA     TBKN2,2                                                       03 01527
001525 001016 A     1605          JANZ    SALCR2        CHECK IF 2ND 2 CHAR. MATCH                      03 01528
001526 001604 R
001527 015002 A     1606          LDA     2,1                                                           03 01529
001530 136024 A     1607          ERA     TBKN3,2                                                       03 01530
001531 001016 A     1608          JANZ    SALCR2        CHECK IF 3RD 2 CHAR. MATCH                      03 01531
001532 001604 R
001533 015003 A     1609          LDA     3,1           YES -  SAVE IN ENTRY LOC. AND P REENT.          03 01532
001534 056011 A     1610          STA     TBENTY,2        STACK WORD                                    03 01533
001535 056007 A     1611          STA     TBRSP,2                                                       03 01534
                    1662 SALE12   CONT                                                              V2  03 01584
001536 006010 A     1663          LDAI    003401        SET CORE RESIDENT TASK, PROTECTED TASK,         03 01585
001537 003401 A
001540 116001 A     1664          ORA     TBST,2          FOREGROUND TASK,                              03 01586
001541 056001 A     1665          STA     TBST,2          AND TASK SEARCHED, ALLOCATED AND LOADED.      03 01587
001542 064017 A     1667          STB     SAL2C                                                     E   03 01589
                    1668 *          COMMON RETURN TO DISPATCHER                                         03 01590
001543 R            1669 SALRT2   EQU     *                                                         E   03 01591
001543 006030 A     1670          LDXI    TIBSL2        SAL2 TIBB                                   E   03 01592
001544 000000 E
001545 015002 A     1671          LDA     TBPL,X        SAL2 FLAG                                   E   03 01593
001546 006150 A     1672          ANAI    077777        CLEAR                                       E   03 01594
001547 077777 A
001550 055002 A     1673          STA     TBPL,X        SAL2(TIBB) FLAG                             E   03 01595
001551 015001 A     1674          LDA     TBST,1                                                    E   03 01596
001552 110437 A     1675          ORA     BS14          SET SUSPEND BIT                             E   03 01597
001553 055001 A     1676          STA     TBST,1                                                    E   03 01598
001554 005001 A     1677          TZA                                                               E   03 01599
001555 055022 A     1678          STA     TBKN1,1       CLEAR SAL2 TASK ACTIVE STATUS               E   03 01600
001556 006037 A     1679          LDXE    SAL2C         SCAN TIBB (RUN TASK PROCESSED             EE  03 01601
001557 001562 R
                    1680          EXT     V$DP1                                                     EE  03 01602
001560 001000 A     1681          JMP     V$DP1                                                     EE  03 01603
001561 000000 E
001562 000000 A     1682 SAL2C    DATA    0                                                         E   03 01604
                    1683 *                              ERROR EXIT( SAME AS SALER1)               E   03 01605
001563 055030 A     1684 SALER2   STA     TBRSE,1                                                   E   03 01606
001564 015001 A     1685          LDA     TBST,1                                                    E   03 01607
001565 110425 A     1686          ORA     BS4                                                       E   03 01608
001566 055001 A     1687          STA     TBST,1                                                    E   03 01609
001567 001000 A     1688          JMP     SALRT2                                                    E   03 01610
001570 001543 R
001571 030302 A     1689 SALRET   LDX     V$CTL         (2)                                             03 01611
001572 015001 A     1690          LDA     TBST,1                                                        03 01612
001573 110437 A     1691          ORA     BS14          SET SUSPEND BIT                                 03 01613
001574 055001 A     1692          STA     TBST,1                                                        03 01614
001575 005001 A     1693          TZA                   CLEAR SAL TASK ACTIVE STATUS                    03 01615
001576 055022 A     1694          STA     TBKN1,1                                                       03 01616
001577 100444 A     1695          EXC     DISPIM                                                        03 01617
001600 100747 A     1696          EXC     DISCLK                                                        03 01618
001601 050375 A     1697          STA     V$CTLFG                                                       03 01619
001602 001000 A     1698          JMP     V$DISP                                                        03 01620
001603 000124 E
001604 005041 A     1699 SALCR2   TXA                                                                 03 01621
001605 120423 A     1703          ADD     FOUR                                                          03 01622
001606 005014 A     1704          TAX                                                                 03 01623
001607 001000 A     1705          JMP     SALCR1                                                        03 01624
001610 001513 R
001611 005024 A     1706 SALCR6   TBX                   X=TIBB ADDR                             V2  03 01629
001612 010347 A     1707          LDA     V$FGLB        SET TO FOREGROUND LIB                   V2  03 01629
001613 055010 A     1708          STA     TBRSTS,X                                              V2  03 01630
001614 006077 A     1709          STXE    SAL2C                                                 E   03 01631
001615 001562 R
001616 001000 A     1710          JMP     SALRT2                                                E   03 01632
001617 001543 R
                    1739 SL6      CONT                                                              03 01661
                    1740          EJEC                                                              03 01662
                    1741 *          COMMON I/O HANDLER FOR SAL TASK                                 03 01663
                    1742 *          READ, WRITE, OPEN AND REWIND ARE HANDLED BY THIS ROUTINE        03 01664
                    1743 *          THE I/O ROUTINES ARE CALLED VIA A JUMP-AND-SET IN X REG.        03 01665
                    1744 *          INSTRUCTION WITH THE A REG. CONTAINING LUN. NO. AND B REG.      03 01666
                    1745 *          CONTAINING FILE CONTROL BLOCK LOCATION.                         03 01667
001620 074022 A     1746 READ     STX     RETLOC+1                                                  03 01668
001621 030420 A     1747          LDX     ZERO          READ OP-CODE                                03 01669
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001622 001000 A 1748          JMP     IO                                          03 01670
001623 001651 R
001624 074016 A 1749 WRITE    STX     RETLOC+1                                    03 01671
001625 030421 A 1750          LDX     ONE             WRITE OP-CODE               03 01672
001626 001000 A 1751          JMP     IO                                          03 01673
001627 001651 R
001630 074012 A 1752 OPEN     STX     RETLOC+1                                    03 01674
001631 030466 A 1753          LDX     SIX             OPEN OP-CODE                03 01675
001632 001000 A 1754          JMP     IO                                          03 01676
001633 001651 R
001634 074006 A 1755 REW      STX     RETLOC+1                                    03 01677
001635 030464 A 1756          LDX     THREE           REWIND OP-CODE              03 01700
001636 001000 A 1757          JMP     IO                                          03 01701
001637 001651 R
001640 024022 A 1758 IOEND    LDB     IOREQ+4         RETURN FILE CONTROL BLOCK   03 01702
001641 014017 A 1759          LDA     IOREQ+2                                     03 01703
001642 001000 A 1760 RETLOC   JMP     *-*             RETURN TO CALLER            03 01704
001643 000000 A
001644 006403 A 1761 IOER     BT      RA1+B1,IOEND    IF REWIND EOD STATUS - CONTINUE 03 01705
001645 001640 R
001646 000001 A 1762          HLT     01              EOF STATUS - IRRECOVERABLE CHECKPOINT 03 01706
001647 001000 A 1763          JMP     IOREQ               WRITE ERROR.  ********** 03 01707
001650 001657 R
001651 064011 A 1764 IO       STB     IOREQ+4         STORE FCB LOC. IN I/O REQUEST 03 01710
001652 074031 A 1765          STX     IOREQ+1                                     03 01711
001653 005042 A 1766          TXB                                                 03 01712
001654 004056 A 1767          LRLB    8               SET UP OP-CODE AND LOGICAL UNIT NO. IN 03 01713
001655 005031 A 1768          MERG    03                  I/O REQUEST.            03 01714
001656 054003 A 1769          STA     IOREQ+3                                     03 01715
                1770 IOREQ    READ    0,0,0,0                                     03 01716
001657 006505 A
001660 000047 E
001661 100000 A
001662 000000 A
001663 000000 A
001664 000000 A
001665 000000 A
                1771 STUS     STAT    IOREQ,IOEE,IOEF,IOEND,STUS                  03 01717
001666 006505 A
001667 000000 A
001670 001657 R
001671 001677 R
001672 001702 R
001673 001640 R
001674 001666 R
001675 001000 A 1772          JMP     IOEND                                       03 01720
001676 001640 R
001677 020421 A 1773 IOEE     LDB     ONE             I/O ERROR STATUS  B=1       03 01721
001700 001000 A 1774          JMP     IOE                                         03 01722
001701 001703 R
001702 005002 A 1775 IOEF     TZB                     EOF STATUS  B=0             03 01723
001703 006010 A 1776 IOE      LDAI    *-*             CHECK IF WRITE OR REW OPERATION OF CHECK- 03 01724
001704 000000 A
001705 006400 A 1777          BT      RA1+B0,IOER         POINT FILE - HALT ON ERROR. 03 01725
001706 001644 R
001707 001010 A 1778          JAZ     IOE2            CHECK IF REW ERROR          03 01726
001710 001713 R
001711 001000 A 1779 IOE1     JMP     SAVR            OPEN ERROR - ABORT TASK REQUESTING LOAD. 03 01727
001712 001021 R
                1784 IE1      CONT                                                03 01730
001713 001020 A 1787 IOE2     JBZ     IOE1            IF EOF READ - ABORT TASK TO BE LOADED 03 01731
001714 001711 R
001715 001000 A 1788          JMP     IOREQ               OTHERWISE RETRY READ.   03 01732
001716 001657 R
                1789 IE2      CONT                                                03 01733
001717 000000 A 1790 LOCFCB   DATA    0                                           03 01734
001720          1791 SAVBUF   BSS     120                                         03 01735
                1794          END     C                                           03 01736
                1795          TITLE   V$KMP                                       03 01737
002110 010330 A 1796 V$KMP    LDA     V$TEMP          B = RETURN LOCATION         03 01740
002111 100045 A 1797          EXC     /PM+0           SELECT MASK REG. 0          03 01741
002112 103140 A 1798          CAR     MP                                          03 01742
002113 010031 A 1799          LDA     /$MPM+1                                     03 01743
002114 100145 A 1800          EXC     MPMR1           SELECT MASK REG. 1          03 01744
002115 103145 A 1801          CAR     MP                                          03 01745
002116 010032 A 1802          LDA     V$MPM+2                                     03 01746
002117 100245 A 1803          EXC     MPMR2           SELECT MASK REG. 2          03 01747
002120 103145 A 1804          CAR     MP                                          03 01750
002121 010033 A 1805          LDA     V$MPM+3                                     03 01751
002122 100345 A 1806          EXC     MPMR3           SELECT MASK REG. 3          03 01752
002123 103145 A 1807          CAR     MP                                          03 01753
002124 006700 A 1808          JMP     0,2                                         03 01754
002125 000000 A
                1809 *        EXCLUSIVE OR MEMORY PROTECT MASK WITH CORE ALLOCATION AND STORE 03 01755
                1810 *        IN CORE ALLOCATION MASK.                            03 01756
002126 020464 A 1811 UKMPCA   LDB     THREE                                       03 01757
002127 016330 A 1812          ADD     V$MPM+2         GET MEMORY PROTECT MASK     03 01760
002130 005211 A 1813          CPA                     COMPLEMENT                  03 01761
002131 136334 A 1814          ERA     V$MPM,2         EXCL. OR                    03 01762
002132 056334 A 1815          STA     V$MPM,2         SET UP NEW CORE ALLOCATION MASK 03 01763
002133 001020 A 1816          JBZ     *-3             CHECK IF 4 WORD TABLE UPDATED. 03 01764
002134 002140 R
002135 005322 A 1817          DAR                                                 03 01765
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002136 001000 A 1818          JMP     *-7                                                    03 01740
002137 002127 R
002140 006705 A 1819          IJMP    0,1             RETURN TO CALLER                       03 01741
002141 000000 A
002142 020464 A 1820 BGCK     LDB     THREE                                                  03 01742
002143 016330 A 1821 BGCK1    LDA     V$MPM,2                                                03 01743
002144 005211 A 1822          CPA                                                            03 01744
002145 156334 A 1823          ANA     V$CAM,2         CHECK IF TASK ALLOCATED IN BG AREA     03 01745
002146 001016 A 1824          JANZ    BGCK2                                                  03 01746
002147 002155 R
002150 001020 A 1825          JBZ     BGCK2                                                  03 01747
002151 002155 R
002152 005322 A 1826          IBR                                                            03 01748
002153 001000 A 1827          JMP     BGCK1                                                  03 01749
002154 002143 R
002155 006705 A 1828 BGCK2    IJMP    0,1             RETURN TO CALLER                       03 01750
002156 000000 A
               1829 SALE13    CONT                                                   V2      03 01751
               1830           EJEC                                                           03 01752
               1831 **********************************************************************  03 01753
               1832 *                                                                        03 01754
               1833 *          FINIS TASK                                                    03 01755
               1834 *               THE PURPOSE OF THIS CORE RESIDENT SYSTEM TASK IS TO      03 01756
               1835 *               EXECUTE A ORDERLY TERMINATION OF A TASK DEPENDING        03 01757
               1836 *               UPON A TASKS STATUS.  TO ACTIVATE OTHER TASKS WAITING    03 01758
               1837 *               FOR ALLOCATABLE SPACE.  IF CHECKPOINTED AREA DEALLOCATED 03 01759
               1838 *               BY FOREGROUND TASK, READ IN AND ACTIVATE BACKGROUND      03 01760
               1839 *               TASK.                                                    03 01761
               1840 *                                                                        03 01762
               1841 *               UPON ENTRANCE FROM THE DISPATCHER, THE FOLLOWING REG.    03 01763
               1842 *               ARE SETUP.                                               03 01764
               1843 *                    B = SAL TASK TIDB LOCATION                          03 01765
               1844 *                    X = TIDB LOC. OF TASK EXITING.                      03 01766
               1845 *                    A = UNUSED                                          03 01767
               1846 *                                                                        03 01768
               1847 **********************************************************************  03 01769
               1849          NAME    V$FNIS                                                 03 01771
002157 077324 A 1851 V$FNIS   STX     FNISTK          SAVE LOC. OF TASK EXITING.             03 01773
002160 006451 A 1852 FNIS     BT      RA0+TBS9,FNISBG   CHECK IF BACKGROUND TASK              03 01774
002161 002302 R
002162 006412 A 1853          BT      RA1+TBS10,FNIS12  CHECK IF TASK CORE RESIDENT          03 01775
002163 002356 R
               1860 FNIS0     CONT                                                           03 01782
002164 006440 A 1862          BT      RA0+TBS0,FNIS2  CHECK IF ALLOCATED, IF SO,             03 01784
002165 002222 R
               1863 *                                 DEALLOCATE CORE                        03 01785
002166 015031 A 1866          LDA     TBSIZ,1                                        V2      03 01788
002167 004352 A 1867          LSRA    10                                                     03 01789
002170 054030 A 1869          STA     FNISNA          NO. OF 512 WORD BLOCKS TO BE ALLOCATED. 03 01790
002171 054163 A 1869          STA     FNISNP                                                 03 01791
002172 025025 A 1870          LDB     TBTLC,1         GET BLOCK NUMBER TO DEALLOCATE         03 01792
002173 004151 A 1871          LSRB    9                                                      03 01793
002174 005001 A 1872          TZA                                                            03 01794
002175 174022 A 1873          DIV     SIXTIN          B = BIT LOCATION (0-16)                03 01795
002176 005014 A 1874          TAX                     A = CORE ALLOCATION WORD NUMBER (0 TO 3) 03 01796
002177 016334 A 1875 FNIS1    LDA     V$CAM,2         GET CORE ALLOCATION WORD               03 01797
002200 155441 A 1876          ANA     BR0,1           CLEAR BIT                              03 01798
002201 056334 A 1877          STA     V$CAM,2                                                03 01799
002202 014016 A 1878          LDA     FNISNA          GET NUMBER OF BLOCKS                   03 01800
002203 005311 A 1879          DAR                                                            03 01801
002204 001010 A 1880          JAZ     FNIS2           IF ZERO - CORE DEALLOCATED.            03 01802
002205 002222 R
002206 054012 A 1881          STA     FNISNA                                                 03 01803
002207 005144 A 1882          IXR                                                            03 01804
002210 005041 A 1883          TXA                     CHECK IF DEALLOCATION FLOWS INTO NEXT WORD 03 01805
002211 144006 A 1884          SUB     SIXTIN                                                 03 01806
002212 001016 A 1885          JANZ    FNIS1                                                  03 01807
002213 002177 R
002214 005122 A 1886          IBR                     YES - INCR. B TO GET NEXT WORD.         03 01808
002215 005004 A 1887          TZX                                                            03 01809
002216 001000 A 1888          JMP     FNIS1                                                  03 01810
002217 002177 R
002220 000020 A 1889 SIXTIN   DATA    16                                                     03 01811
002221 000000 A 1890 FNISNA   DATA    0               COUNTER FOR NUMBER OF BLOCKS TO DEALLOCATE 03 01812
               1891 SALE15    CONT                                                   V2      03 01813
002222 010310 A 1893 FNIS2    LDA     V$CKPT                                                 03 01814
002223 001010 A 1897          JAZ     FNIS4                                                  03 01815
002224 002251 R
002225 006505 A 1900          JSR     BGCK,1          CHECK IF FG ALLOCATED IN BG AREA.      03 01822
002226 002142 R
002227 001016 A 1901          JANZ    FNIS4                                                  03 01823
002230 002251 R
               1902 SALE16    CONT                                                   V2      03 01824
002231 020315 A 1903          LDB     V$BTB                                                  03 01825
002232 016001 A 1904          LDA     TBST,2                                                 03 01826
002233 006445 A 1905          BT      RA0+B5,FNIS3    CK IF WRITTEN ON CK FILE, JMP IF NO    V2 03 01827
002234 002247 R
               1941 SALE26    CONT                                                   V2      03 01863
002235 006505 A 1943          JSR     CPMPCA,1                                               03 01865
002236 002126 R
002237 014274 A 1944 FNISRW   LDA     CU              READ CHECKPOINT FILE                   03 01866
002240 024274 A 1945          LDB     FCBCK                                                  03 01867
002241 006505 A 1946          JSR     READ,1                                                 03 01868
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002242 001620 R
                    1952 FR1     CONT
002243 020315 A     1953 FNISC2  LDB     V$BTB
002244 016001 A     1954         LDA     TBST,2          CLEAR CHECK POINT STATUS OF BACKGROUND TAS
002245 150446 A     1955         ANA     BR9
002246 056001 A     1956         STA     TBST,2
002247 005001 A     1957 FNIS3   TZA                     CLEAR CHECKPOINT FLAG.
002250 050310 A     1958         STA     V$CKPT
002251 030303 A     1961 FNIS4   LDX     V$TB            SEARCH ALL TIDBS AND SET BIT 11 IN TBPL
                    1962 *                                  IF BIT 12 IN TBPL OR BIT 5 IN TBST IS
                    1963 *                                  SET.
002252 025001 A     1964         LDB     TBST,1
002253 015002 A     1965         LDA     TBPL,1
002254 006471 A     1968         BT      RB0+TBS9,FNIS6  CHECK IF FOREGROUND TASK
002255 002264 R
002256 006425 A     1969         BT      RB1+TBS5,FNIS5  CHECK IF NOT WAITING FOR CORE ALLOCATIO
002257 002262 R
002260 006454 A     1970         BT      RA0+B12,FNIS6   CHECK IF TASK WAITING FOR BG I/O TO COM
002261 002264 R
002262 110434 A     1971 FNIS5   ORA     BS11            SET FLAG FOR DISPATCHER TO ACTIVE SAL TASK
002263 055002 A     1972         STA     TBPL,1              TO TRY AGAIN TO ALLOCATE TASK
002264 006411 A     1973 FNIS6   BT      RA1+B9,FNIS7        CHECK IF TASK WAITING FOR TIDB.
002265 002273 R
002266 035000 A     1974         LDX     TBIND,1         CHECK IF ALL TASKS SEARCHED.
002267 001046 A     1975         JXNZ    FNIS4+1
002270 002252 R
002271 001000 A     1976         JMP     FNIS12
002272 002356 R
002273 150452 A     1977 FNIS7   ANA     BR9             RESET BIT 9
002274 055002 A     1978         STA     TBPL,1
002275 005021 A     1979         TBA
002276 150457 A     1980         ANA     BR14            SET TASK ACTIVE - TRY SCHEDULE AGAIN.
002277 055001 A     1981         STA     TBST,1
002300 001000 A     1982         JMP     FNIS6+2
002301 002266 R
                    1983 *
002302 010315 A     1984 FNISBG  LDA     V$BTB           CHECK IF  NON-ACTIVE BG TASK ABORTING
002303 001010 A     1985         JAZ     FN5
002304 002310 R
002305 134176 A     1986         SRA     FNISTK          DUE TO SCHEDULING ERROR.
002306 001016 A     1987         JANZ    FNIS4
002307 002251 R
002310 010314 A     1988         LDA     V$TJCP
002311 130315 A     1989         ERA     V$BTB           CHECK IF JCP TASK
002312 005002 A     1990         TZB
002313 060315 A     1991         STB     V$BTB
                    1997 F1      CONT
002314 001010 A     1999         JAZ     FNIS9C
002315 002333 R
002316 020342 A     2000 FNIS8   LDB     V$TBGT          NOT JCP - CHECK IF ANY OTHER BACKGROUND
002317 001026 A     2001         JBNZ    FNIS10              TASKS SCHEDULED.
002320 002351 R
002321 010055 A     2002         LDA     V$JCFG          JCP FLAGS
002322 006403 A     2003         BT      RA1+B3,FNISDP     CHECK IF DUMP FLAG SET
002323 002445 R
002324 020314 A     2004 FNIS8A  LDB     V$TJCP          SET JCP NOT SUSPENDED.
002325 010075 A     2005         LDA     V$PGLB          SET UP KEY AND LU OF LIB WHERE JCP LOADED
002326 056010 A     2006         STA     TBRSTS,2
002327 016001 A     2007 FNIS9   LDA     TBST,2          SET BG TASK ACTIVE AND NOT LOADED.
002330 150457 A     2008         ANA     BR14
002331 150441 A     2009         ANA     BR0
002332 056001 A     2010         STA     TBST,2
002333 015001 A     2013 FNIS9C  LDA     TBST,1          IF NOT LOADED IN MEMORY
002334 006440 A     2014         BT      RA0,FNIS4       DO NOT DEALLOCATE
002335 002251 R
002336 006505 A     2015         JSR     DRMPCA,1        OTHERWISE DEALOCATE
002337 002126 R
002340 005201 A     2016         CONF    01              SET ALL CORE PROTECTED.
002341 050330 A     2017         STA     V$MPM
002342 050331 A     2018         STA     V$MPM+1
002343 050332 A     2019         STA     V$MPM+2
002344 050333 A     2020         STA     V$MPM+3
002345 006506 A     2021 FNIS9B  JSR     V$EMP,2         PROTECT ALL MEMORY
002346 002110 R
                    2022 SALE17  CONT                                                    V2
002347 001000 A     2023         JMP     FNIS4
002350 002251 R
002351 016026 A     2024 FNIS10  LDA     TBCPTH,2        SET TASK WAITING TO BE EXECUTED IN BG
002352 050342 A     2025         STA     V$TBGT              ACTIVE.
002353 001000 A     2026         JMP     FNIS8
002354 002327 R
002355 000000 A     2028 FNISNB  DATA    0               NUMBER OF BLOCKS TO DEALLOCATE.
002356 034125 A     2030 FNIS12  LDX     FNISTK
002357 015001 A     2031         LDA     TBST,1          CHECK IF BIT 1 SET  (UPON TERMINATION,
002360 006441 A     2032         BT      RA0+TBS1,FNIS17     ACTIVATE TASK SCHEDULING THIS TASK)
002361 002370 R
002362 150442 A     2033         ANA     BR1             CLEAR BIT ONE
002363 055001 A     2034         STA     TBST,1
002364 025027 A     2035         LDB     TSATSK,1
002365 016001 A     2036         LDA     TBST,2
002366 150457 A     2037         ANA     BR14            CLEAR SUSPEND OF SCHEDULING TASK
002367 056001 A     2038         STA     TBST,2
002370 015001 A     2039 FNIS17  LDA     TBST,1
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002371 006413 A 2040          BT      RA1+TBS11,FNIS22   CHECK IF CORE RESIDENT TIDB                    03 01962
002372 002440 R
002373 006415 A 2043          BT      RA1+TBS13,*+4      CHECK IF ABORT SET                             03 01965
002374 002377 R
002375 006407 A 2044          BT      RA1+TBS7,FNIS20    CHECK IF TASK SCHEDULED BY TIME DELAY          03 01966
002376 002435 R
                2045 FS1      CONT                                                                      03 01967
                2054 SAE18A   CONT                                                              V2      03 01976
002377 005001 A 2055          TZA                NO - DEALLOCATE TIDB                                   03 01977
002400 055022 A 2056          STA     TBKN1,1      ZERO TASK NAME                                       03 01978
002401 006020 A 2057          LDBI    V$TB                                                              03 01979
002402 000303 A
002403 100747 A 2058 FNIS13   EXC     DISCLK                                                    C.1     03 01980
002404 100444 A 2059          EXC     DISPIM                                                    C.1     03 01981
002405 005041 A 2060 FN13A    TXA              DE-THREAD TASK FROM ACTIVE STACK                 C.1     03 01982
002406 146000 A 2061          SUB     TBTRD,2                                                           03 01983
002407 001010 A 2062          JAZ     FNIS14                                                            03 01984
002410 002414 R
002411 026000 A 2063          LDB     TBTRD,2                                                           03 01985
002412 001000 A 2064          JMP     FN13A                                                     C.1     03 01986
002413 002405 R
002414 015000 A 2065 FNIS14   LDA     TBTRD,1                                                           03 01987
002415 056000 A 2066          STA     TBTRD,2                                                           03 01988
                2089 SALE18   CONT                                                              V2      03 02004
002416 010304 A 2092          LDA     V$UTB              PLACE TIDB IN UNUSED STACK                     03 02007
002417 055000 A 2093          STA     TBTRD,1                                                           03 02008
002420 070304 A 2094          STX     V$UTB                                                             03 02009
002421 001000 A 2095 FNIS15   JMP     SALRET                                                            03 02010
002422 001571 R
                2096 SALE19   CONT                                                              V2      03 02011
002423 015001 A 2099 FNIS16   LDA     TBST,1                                                            03 02014
002424 150456 A 2100          ANA     BR13               CLEAR ABORT                                    03 02015
002425 150455 A 2101 FNIS21   ANA     BR12               CLEAR EXIT                                     03 02016
002426 110437 A 2102          ORA     BS14               SET TASK SUSPEND                               03 02017
002427 055001 A 2103          STA     TBST,1                                                            03 02018
002430 015002 A 2104          LDA     TBPL,1                                                            03 02019
002431 150474 A 2108          ANA     PM77                                                              03 02023
002432 055002 A 2109          STA     TBPL,1                                                            03 02024
002433 001000 A 2110          JMP     SALRET                                                    V2      03 02025
002434 001571 R
002435 150441 A 2111 FNIS20   ANA     PR0                CLEAR TASK LOADED                              03 02026
002436 001000 A 2112          JMP     FNIS21                                                            03 02027
002437 002425 R
002440 006412 A 2114 FNIS22   BT      RA1+TBS10,FNIS16                                          E       03 02029
002441 002423 R
                2153 SALE20   CONT                                                              V2      03 02068
002442 150441 A 2154          ANA     PR0                                                               03 02069
002443 001000 A 2155          JMP     FNIS16+1                                                          03 02070
002444 002424 R
                2156 *        SCHED   P,0,106,'F','JP','DU','MP'                                        03 02071
                2157          EXT     V$EXEC                                                            03 02072
002445 025001 A 2158 FNISDP   LDB     TBST,1             CHECK IF TASK LOADED                           03 02073
002446 006420 A 2160          BT      RA1+TBS0,FNISD                                                    03 02075
002447 002456 R
002450 150444 A 2161          ANA     BR3                NO - CLEAR DUMP FLAG                           03 02076
002451 050055 A 2162          STA     V$JCFG                                                            03 02077
002452 001000 A 2165          JMP     FNISSA                                                            03 02080
002453 002324 R
                2175 SA21A    CONT                                                                      03 02090
002454 010304 A 2170 FNISD    LDA     V$UTB              CHECK IF TIDB AVAILABLE TO ALLOCATE            03 02092
002455 070315 A 2179          STX     V$BTB                                                             03 02091
002456 001010 A 2180          JAZ     SALRET                                                            03 02095
002457 001571 R
                2181 SALE21   CONT                                                              V2      03 02096
002460 030300 A 2182          LDX     /$CTL              CLEAR FINIS ROUTINE TIDB SUSPEND BIT           03 02097
002461 015001 A 2183          LDA     TBST,1                                                            03 02098
002462 150457 A 2184          ANA     BR14                                                              03 02099
002463 055001 A 2185          STA     TBST,1                                                            03 02100
002464 010342 A 2186          LDA     V$FGLB                                                            03 02101
002465 054003 A 2187          STA     FNISKL                                                            03 02102
002466 006505 A 2188          JSR     V$EXEC,1                                                          03 02103
002467 000000 E
002470 000102 A 2189          DATA    0102                                                              03 02104
002471 000000 A 2190 FNISKL   DATA    0                  FOREGROUND LIB. AND KEY                        03 02105
002472 145320 A 2191          DATA    'JCDUMP'                                                          03 02106
002473 142325 A
002474 146720 A
002475 034006 A 2192          LDX     FNISTK             SET JCP OPERATING TASK SUSPENDED               03 02107
002476 006010 A 2193          LDAI    V$DISP             BG TASK EXITS TO DISPATCHER IF                 03 02108
002477 001603 E
002500 055007 A 2194          STA     TBRSP,1               ACTIVATED BY IOC.                           03 02109
002501 055017 A 2195          STA     TBISP,1                                                           03 02110
                2200 FN1      CONT                                                                      03 02115
002502 001000 A 2202          JMP     FNIS16                                                            03 02117
002503 002423 R
002504 000000 A 2203 FNISTK   DATA    0                  TIDB LOCATION OF TASK EXITING.                 03 02118
002505 000000 A 2204 WCPF     FNIB                       WRITE CHECKPOINT FILE                          03 02119
                2215 SALE22   CONT                                                              V2      03 02130
002506 006010 A 2216 REWFG    LDAI    3                  CHECK IF FILE REWINDED                         03 02131
002507 000000 A
002510 001016 A 2217          JANZ    WCPF1                                                             03 02132
002511 002520 R
002512 014021 A 2218          LDA     CU                 REWIND CHECKPOINT FILE                         03 02133
```

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002513 024021 A 2219          LDB     FCBCK                                    03 02131
002514 006505 R 2220          JSR     RCW,1                                    03 02135
002515 001634 R
002516 006047 R 2221          INRE    RCWFG+1          LOCK-OUT REWIND         03 02136
002517 002507 R
002520 010317 R 2206 WCPF1    LDA     V$LLUP                                   03 02141
002521 140316 R 2207          SUB     V$LUP                                    03 02142
002522 005111 A 2208          IAR                                              03 02143
002523 054012 R 2209          STA     FNISFB                                   03 02144
002524 010316 R 2210          LDA     V$LUP                                    03 02145
                2211 SALE23   CONT                                     V2
002525 054011 R 2214          STA     FNISFB+1                                 03 02149
002526 014005 A 2215          LDB     CU                                       03 02150
002527 024005 R 2216          LDB     FCBCK                                    03 02151
002530 006505 R 2217          JSR     WRITE,1                                  03 02152
002531 001624 R
002532 001000 A 2218          JMP*    WCPF                                     03 02157
002533 102505 R
002534 000145 A 2219 CU       DATA    101              LOGICAL UNIT NO OF CHECKPOINT UNIT  03 02160
002535 002536 R 2240 FCBCK    DATA    *+1                                      03 02161
                2241 FNISFB   FCB     3,0,2,'S','  ','  ','  '                03 02162
002536 000000 A
002537 000000 A
002540 001320 A
002541 000000 A
002542 000000 A
002543 000000 A
002544 000000 A
002545 120240 A
002546 120240 A
002547 120240 A
                3130 SYSKIP CONT                                               03 03041
                3131        END                                                03 03047
ENTRY NAMES
002110 R V$EMP   000000 R V$EXCR 002137 R V$FNIS 000232 R V$SAL
EXTERNAL NAMES
001564 E TIDSL2  002477 E V$DISP 001561 E V$DP1  002467 E V$EXEC
001560 E V$IOC   001667 E V$IOST
SYMBOLS
000640 R ALOC    000654 R ALOC1  000655 R ALOC2  000661 R ALOC3
000672 R ALOC4   000705 R ALOC5  000712 R ALOC6  000721 R ALOCSZ
000144 A APIM    000147 R ASCONV 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     002137 R BCCK
002143 R BGCK1   002155 R BGCK2  001007 R BKNUM  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    000423 A BS10
000424 A BS11    000425 A BS12   000426 A BS13   000427 A BS14
000440 A BS15    000420 A BS2    000424 A BS3    000425 A BS4
000426 A BS5     000427 A BS6    000430 A BS7    000431 A BS8
000432 A BS9     000662 R BTEST  001026 R BTET   000047 A CLOCK
000731 R COUNT   002534 R CU     000747 A DISCLK 000745 A DISMP
000444 A DISPIM  000424 A EIGHT  000147 A ENACLK 000645 R ENAMP
000244 A ENAPIM  000023 R ERUR3  000033 C ERUR4  000035 R ERUR5
000105 R ERUR5B  000112 R ERUR6  000115 R ERUR7  000125 R ERURUB
000046 R ERURWR  000143 R ERTIDB 000144 R ERTYPE 000232 R EV754G
001501 R FCBEG   002535 R FCBCK  001211 R FCBLC  000730 R FIFTEN
000465 A FIVE    001417 R FLEADR 002405 R FNI3A   002160 R FNIS
002177 R FNIS1   002351 R FNIS10 002357 R FNIS12 002403 R FNIS13
002414 R FNIS14  002421 R FNIS15 002426 R FNIS16 002370 R FNIS17
002220 R FNIS2   002430 R FNIS20 002425 R FNIS21 002410 R FNIS22
002247 R FNIS3   002251 R FNIS4  002232 R FNIS5  002264 R FNIS6
002273 R FNIS7   002316 R FNIS8  002324 R FNIS8A 002371 R FNIS9
002345 R FNIS9B  002333 R FNIS9C 002302 R FNISBG 002240 R FNISCR
002454 R FNISD   002445 R FNISDP 002506 R FNISFB 002471 R FNISKL
002221 R FNISNA  002355 R FNISNB 002237 R FNISRW 002504 R FNISTK
000423 A FOUR    001601 R ID     001703 R IOE    001711 R IOE1
001713 R IOE2    001677 R IOEE   001702 R IOEF   001640 R IOERR
001644 R IOER    001657 R IORES  000300 A LC     000036 A LOOP
000462 A LHW     001717 R LOCFCB 001372 R LUN    000045 A MP
000175 R MPDCRV  000203 R MPMGR3 000210 R MPMGR4 000215 R MPMGR5
000222 R MPMGR6  000227 R MPMGR7 000045 A MPMR0  000145 A MPMR1
000245 A MPMR2   000345 A MPMR3  000200 R MPMSGV 000420 A MT
000562 R MB.OC   000461 A NEG    000470 A NINE   000410 R NJOBBK
001421 A ONE     001500 R ONEH20 001630 R OPEN   002170 R ORMPCB
001131 R OUTB    000134 R OUTRN  000040 A PIM1   000041 A PIM2
000042 A PIM3    000043 A PIM4   000040 A PIM5   000045 A PIM6
000040 A PIM7    000040 A PIM8   000000 R PSEUDO 000040 A RA0
000000 A RA7     000000 A RB0    000000 A RB1    001628 R READ
001477 R RELADR  001421 R RELP   001612 R RETLOC 001623 R REW
002506 R REWFG   000466 A RHW    000200 R SAL01  000256 R SAL1
000737 R SAL11   000773 R SAL13  000734 R SAL13A 001003 R SAL13B
000766 R SAL13C  000770 R SAL13D 001023 R SAL14  001034 R SAL15
001046 R SAL16   001142 R SAL19  000463 R SAL1A  000474 R SAL2
001424 R SAL20   001440 R SAL21  001450 R SAL22  001453 R SAL23
001463 R SAL24   001473 R SAL25  001562 R SAL2C  000502 R SAL3
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001173 R SAL30   001177 R SAL31   000503 R SAL4    000525 R SAL8
000551 R SAL82   000626 R SAL9    000736 R SALALC  001460 R SALBAD
000554 R SALBG   000576 R SALBG2  000602 R SALBG4  001720 R SALBUF
000313 R SALC2   000321 R SALC3   000315 R SALCE   001513 R SALCR
001515 R SALCR1  001604 R SALCR2  001611 R SALCR6  001224 R SALER
001226 R SALER1  001563 R SALER2  001212 R SALFCB  001022 R SALFL
001415 R SALLDT  001060 R SALLOD  001010 R SALNOA  001124 R SALO1
001350 R SALO10  001371 R SALO11  001406 R SALO12  001130 R SALO2
001251 R SALO3   001255 R SALO4   001262 R SALO5   001300 R SALO6
001305 R SALO7   001311 R SALO8   000512 R SALOFB  001235 R SALOL
001160 R SALRD   001571 R SALRCT  001543 R SALRT2  001420 R SEGENT
000467 A SEVEN   000466 A SIX     002220 R SIXTIN  000727 R SIXTN
001666 R STUS    001467 R SVA     000027 A TBATSK  000026 A TBCPTH
000377 R TBENOK  000011 A TBENTY  000003 A TBEVNT  000021 A TBIO
000014 A TBIS0   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 TBRSC
000007 A TBKSP   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    000031 A TBSIZ
000001 A TBST    000025 A TBTLC   000013 A TBTMIN  000012 A TBTMS
000000 A TBTRD   000471 A TEN     000454 A THREE   001544 E TIDSL2
000422 A TWO     001416 R TYPE    000403 A V$1MIN  000415 A V$BFC
000075 A V$BGLB  000056 A V$BIC1  000315 A V$BTD   000414 A V$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$DATE  002477 E V$DISP  001561 E V$DP1   000355 A V$DSTB
002110 R V$EMP   000376 A V$ERFG  000000 R V$ERDR  002467 E V$EXEC
000347 A V$FGLB  000306 A V$FLRS  002157 R V$FNIS  000350 A V$FREE
000320 A V$IM    000410 A V$IOA   001660 E V$IOC   001607 E V$IOST
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$LLUP  000397 A V$LOSK  000312 A V$LSAL  000340 A V$LUN1
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$OCI   000346 A V$OPCF
000311 A V$OPCL  000363 A V$PIMN  000074 A V$PLCT  000305 A V$PIVD
000232 R V$SAL   000361 A V$SCTL  000302 A V$SCV   000375 A V$SLFG
000303 A V$TB    000342 A V$TDGT  000416 A V$TFC   000314 A V$TJCP
000344 A V$TMN   000343 A V$TMS   000304 A V$UTB   000001 A V75
000001 A VORTEX  002505 R WCPF    002520 R WCPF1   001624 R WRITE
000001 A X       000174 R XDKASC  000420 A ZERO
  0 ERRORS ASSEMBLY COMPLETE


1014  ALOC     1022  1106
1023  ALOC1    1016
1024  ALOC2    1045
1028  ALOC3    1042
1036  ALOC4    1052
1043  ALOC5    1037
1046  ALOC6    1029
1051  ALOCSZ   1006
 411  APIM      421   422
 678  ASCONV    492   499   556   559   562   565   575   578   581
                584   587   697
 436  B         546   548   550   552   571   734   775  1243  1343
                1369  1431  1433  1435  1440  1442  1444  1446  1448
                1450
 391  B11      1081
 392  B12       483   538   618   856  1134
 393  B13       745
 394  B14       572
 395  B15       735   751  1029
 385  B5       1136
 388  B8        921  1079
 389  B9        883   924  1108  1330
   0  BGCK      984  1074
1152  BKNUM    1020  1036  1069
 355  BM17      625  1025  1111  1118  1173  1205  1242  1262  1345
                1368
 351  BM1777    963  1001
 353  BM3       517   598
 356  BM37      804   881
 359  BM377     747  1181
 357  DM77      487   522   539   605   619   753   827   848  1068
                1339
 323  BR0       971
 334  BR11     1185
 336  BR13     1325
 337  BR14      635  1326
 338  BR15      824  1335
 327  BR4       594
 328  BR5      1139
 332  BR9       890
 307  BS0      1048  1324
 317  BS10      853   946  1342
 319  BS12     1184
 320  BS13      639
 321  BS14      643   907
 322  BS15      611   626   630   879
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 309   BS2       809
 311   BS4      1360
 312   BS5      1164  1189
 315   BS8      1096
 316   BS9       813   859  1260  1385
1029   BTEST    1024  1026  1029  1041
1147   BTET     1142
 404   CLOCK     406   407
1057   COUNT     968   973   975  1003  1031  1046  1050
 406   DISCLK   1405
 421   DISPIM   1104
 349   EIGHT    1390
 407   ENACLK   1089
 422   ENAPIM   1088
 591   ER1       532
 603   ER2       616
 677   ER2A      662
 663   ERDCB2    566
 502   ERED1     485
 494   ERDR1     489
 513   ERDR3     483   501
 592   ERDR5     538   541   543
 622   ERDR5A    618   631
 613   ERDR5B    609   621   623
 608   ERDR6     599
 631   ERDR7     601   637
 648   ERDRDB    495   513   530
 512   ERR2      504
 657   ERTIDB    474   496   500   536   570   592
 658   ERTYPE    519
 589   ERV1      572
 708   EV75MG    701
   0   FCBBG    1274  1392
1353   FCBLC    1246  1308
1056   FIFTEN   1027
   0   IOE2      814
 104   LC        185   186   187   188   189   190   191   192   193
                 194   195   196   197   198   201   205   207   208
                 211   212   217   218   219   220   221   222   223
                 224   225   227   228   229   230   231   232   233
                 234   235   236   238   240   241   242   243   245
                 248   249   250   251   263   264   265   266   267
                 268   269   284   285   286   289   294   295   296
 202   LCD1      200
 206   LCD2      204
 214   LCD3      210
 226   LCD4      216
 257   LCD5      254
 262   LCD6      259
 276   LCD7      271
 283   LCD8      278
 159   LCJP      160   161   162   169   170   171   172   173   176
 380   LHW       782
   0   LOC10     569   583
   0   LOC11     569   586
   0   LOC2      534   514
   0   LOC3      534   537
   0   LOC4      534   560
   0   LOC5      534   563
   0   LOC6      534   555
   0   LOC7      569   574
   0   LOC8      569   577
   0   LOC9      569   580
   0   LOCFCB   1399  1438  1455
   0   LUN       749   792   794   798  1245  1290  1307  1441  1457
 439   MAP      1265  1293  1376  1406  1426  1437  1439
 427   MP        423   429   430   431   432   433
 434   MP1       424
 440   MP2       438
 701   MPDCBV    588
 703   MPMGR3    573
 704   MPMGR4    576
 705   MPMGR5    579
 706   MPMGR6    582
 707   MPMGR7    585
 664   MPMSG1    663   663
 665   MPMSG2    547   549   551   553
 666   MPMSG3    554
 667   MPMSG4    558
 668   MPMSG5    561
 669   MPMSG6    564
 702   MPMSGV    701   701
 670   MPMSGZ    663
 671   MPTYP     546   548   550   552
 305   MT        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   336   337   338   339   340   341
                 342   343   344   345   346   347   348   349   350
                 351   352   353   354   355   356   357   358   359
                 360   361
 976   NBLOC     956   960   988
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 831   NJCPEX    800    805
 533   OC        566
 342   ONE       849    969
   0   ONEH20   1298
   0   OPEN      793
   0   ORMPCA    986   1212
 650   OUTB      520    529    648
 653   OUTBN     476    478    480    498    506    508    510
 656   OUTUN     491
1058   PSEUDO   1009   1010   1011   1012   1032   1033   1034   1035   1047
                1049   1061
 369   RA0       483    538    572    618    856    889   1029   1081   1134
                1136   1162   1259   1269   1297   1383
 370   RA1       732    733    735    745    751    921    924   1079   1108
                1270   1330   1388
   0   READ      795   1247   1309
   0   RELD     1310
   0   ROPAGE   1253
 815   S1        812
 822   S1A       817
1176   S5       1170
1320   S6A      1317
1377   SA1      1364
1210   SA16A    1193
1395   SA1A     1387
1407   SA1B     1403
1452   SA2      1429
 737   SAL01     735
1061   SAL11    1066
1138   SAL13    1123   1134   1149
1147   SAL13B   1136
1135   SAL13D   1132
1179   SAL14    1160
1180   SAL15    1162
1188   SAL16    1182
1289   SAL16A   1197
1296   SAL19    1269
 893   SAL1A     889
 859   SAL1A1    856
 853   SAL1A2    850
 899   SAL2      896    902
 903   SAL3      900
1315   SAL30    1259   1303   1311
1323   SAL31    1297
1332   SAL31A   1330
 904   SAL4      898
 917   SAL8      751    888
 945   SAL9A     941
 942   SAL9B     939
 908   SAL9C     935
 967   SAL9Z     961
1004   SAL9      924   1217
1087   SAL9AA   1081
1100   SAL9B     981   1079   1215
1110   SAL9C    1085   1125
1060   SALALC   1053
   0   SALBAD   1306
 970   SALBG     980    983
 904   SALBG2    977
   0   SALBUF    797    912   1300   1350   1430
 767   SALC2     758
 773   SALC3     759    762    765    767
 768   SALCE     766    892
   0   SALCR     748
 866   SALD1A    863
1150   SALD2A   1146
1281   SALD5A   1268
1266   SALD5B   1258
   0   SALDMP   1112   1175
  93   SALE1A     85
1127   SALE3A   1077
1137   SALE3B   1129
 861   SALED1    846
 993   SALED2    952
1075   SALED3    999
 923   SALED4    919
1244   SALED5   1239
1314   SALED6   1295
   0   SALED7   1454
1357   SALER1    769    944    966   1099   1114   1427
1354   SALFCD   1222   1224   1226   1228   1230   1234   1236   1237   1282
                1284   1286   1288   1299   1301   1304   1312   1353
1163   SALFL    1159
   0   SALLDT    736    736    894   1067   1084   1105   1122   1131   1158
                1213   1220   1248   1254   1315   1357   1400
1220   SALLDD   1003   1144
   0   SALMAP   1087
1156   SALND3   1017   1043   1108
   0   SALNUC   1098
1277   SALD1    1270
1282   SALD2    1263   1276
1394   SALD3    1388
1399   SALD4    1393
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1410   $AL05    1423
1420   $AL06    1413   1416
1424   $AL07    1383   1411
1430   $AL08    1419
 911   $ALOFD    781    784    801    802    867
1065   $ALOL     745
1307   $ALRD    1313
   0   $ALRET    886    894    909    985   1090   1174   1177   1187   1310
                1350   1362
   0   $EGENT   1432
 348   $EVEN     481   1397   1421
1055   $IXTN     979   1020
1349   $L31     1338
1330   $L31A    1329
1255   $L5      1250
 277   $LED1A    772
 950   $LED2A    926
   0   $V$ST1   1371
   0   $V$ST2   1373   1406   1439
   0   $V$ST3   1375
  80   TBATSK    763
  79   TBCPTH    899    903    905
 823   TBENDX    819
  27   TBENTY    835    838   1072   1073
  21   TBEVNT    775   1243   1369
  35   TBID     1180
  30   TBISA     839   1221
  31   TBISR     871   1223
  33   TBISP     875   1227
  34   TBISRS    877   1229   1232
  89   TBIST     627
  22   TBISX     873   1225
  87   TBKEY     624   1091   1094   1110   1117   1172   1204   1241   1261
                1344   1367
  36   TBKN1     475    738    739    786
  37   TBKN2     477    740    741    788
  38   TBKN3     479    742    743    790
  88   TBMING   1086   1100   1116   1198   1202   1341
  86   TBNUCL    855
  20   TBPL      571    734    744    750    803    847    878    880    920
                1078   1095   1097   1133   1141   1143   1166   1168   1183
                1186   1334   1336
 148   TBPLED    144
  22   TBRSA     497    505
  23   TBRSB     490    507
  81   TBRSE     482    514    521    537    596    604    617   1358
  25   TBRSP     839   1318   1322
  26   TBRSTS    746    756    760    776    779
  24   TBRSX     509   1401
 105   TBS12     733
 104   TBS13     732
 119   TBS2     1259   1269   1383
 115   TBS5     1162
 109   TBS9     1270   1297   1380
  82   TBSIZ     842    936    945    953   1004   1102   1135
  19   TBST      593    595    610    612    629    634    636    638    640
                642    644    700    832    833    884    891    906    908
                917    922   1080   1107   1135   1138   1140   1161   1163
               1165   1188   1190   1256   1296   1323   1327   1359   1361
               1380   1382
  39   TBTLC     860    997   1041   1235   1252   1277   1279   1305   1319
               1394
  29   TBTMIN    858    865   1251   1301
  28   TBTMS     846   1283
 344   THREE    1013   1040
   0   TIDSL2    728
   0   TYPE     1409
 172   V$BGLB    757
 198   V$BTB     993    995   1130   1157   1194   1201
 212   V$CAM    1014   1038   1052   1063

 193   V$CKPT   1148   1156   1179
 227   V$CRDR    957
 185   V$CTL     641    731    773   1240   1066
   0   V$DISP    472    647
   0   V$EMP     987
 264   V$ERFG    646
 474   V$ERDR    471
   0   V$FNIS    782    783
 162   V$JCFG    928    931    932    954    962    964   1000   1002
 255   V$JOP    1321
 243   V$LIT    1271   1283
 207   V$LLUP    949    952
 205   V$LUP     818    830
   0   V$MALC   1082
   0   V$MLD    1120   1208   1347
 211   V$MPM     970    972
   0   V$PAL    1104
   0   V$PDAL   1200
 730   V$SAL     727
 221   V$ST0    1293   1376   1426   1437
   0   V$SYTA     12     51
 228   V$TBGT    895    897
```

```
197   V$TJCP    764
  3   V75        90    567    699
  1   VORTEX     84    143    150    199    203    209    215    237    239
                244    246    253    258    270    277    423    437    484
                503    531    602    615    655    661    771    778    811
                816    845    862    885    887    916    918    925    951
                998   1076   1128   1145   1169   1192   1211   1214   1216
               1238   1249   1257   1267   1292   1294   1316   1321   1328
               1337   1363   1379   1381   1384   1386   1402   1425   1428
               1453
  0   WCPF      1191
435   X          490    497    537    604    610    612    617    624    627
                629    684    690    696    776    793    795    838    839
                842    847    855    858    860    920    922    936    945
               1078   1080   1082   1086   1091   1094   1095   1097   1100
               1102   1107   1110   1116   1117   1120   1172   1195   1198
               1200   1202   1204   1208   1241   1247   1251   1252   1261
               1341   1344   1347   1367   1380   1434   1436   1443   1445
               1447   1449   1451
698   XDKASC     683    689    695
```

```
        000010 A   97 SS      EQU     8              SS LOGICAL UNIT NUMBER                       03 00089
        000011 A   98 GO      EQU     9              GO LOGICAL UNIT NUMBER                       03 00090
        000003 A   99 SO      EQU     3                                                           03 00091
                  100 *                                                                           03 00092
        000074 A  101 OBSZ    EQU     60             OBJECT RECORD SIZE                           03 00093
                  102 *                                                                           03 00094
000000            103 LB2P1   BSS     1              (=LBUF*2+1)                                  03 00095
000001            104 LB2P8   BSS     1              =LBUF*2+8                                    03 00096
000002            105 LB2P22  BSS     1              =LBUF*2+22                                   03 00097
000003            106 LB2P28  BSS     1              =LBUF*2+28                                   03 00098
000004            107 LB2P36  BSS     1              =LBUF*2+36                                   03 00099
000005            108 LB2P51  BSS     1              =LBUF*2+51                                   03 00100
        000006 R  109 ZBEG    EQU     *                                                           03 00101
000006            110 PGNO    BSS     1              LISTING PAGE NUMBER                          03 00102
000007            111 LCT     BSS     1              LISTING LINE COUNTER                         03 00103
000010            112 ERCT    BSS     1              ERROR COUNT                                  03 00104
000011            113 ERSC    BSS     1              ERROR SUB COUNT                              03 00105
000012            114 ERSK    BSS     4              ERROR STACK                                  03 00106
                  115         IFT     V75                                                      V75*******
000016            116 V75ED   BSS     1              V75 LIST EDIT SWITCH                      V75*******
000017            117 LNCT    BSS     1              LISTING LINE COUNTER                         03 00107
000020            118 PC      BSS     1              PROGRAM LOCATION COUNTER                     03 00108
000021            119 RLC     BSS     1              LOCATION COUNTER RELOCATION                  03 00109
000022            120 AS      BSS     1              ADDRESS SIZE                                 03 00110
000023            121 IWA     BSS     1              INSTRUCTION MODEL                            03 00111
000024            122 SBTA    BSS     1              STORE BYTE ADDRESS                           03 00112
000025            123 RDF     BSS     1              REDEFINE FLAG                                03 00113
000026            124 SIGM    BSS     1              DATA, PZE, MZE SIGN FLAG                     03 00114
000027            125 ENDT    BSS     0              TEMP STORAGE FOR END                         03 00115
000027            126 E       BSS     0              EXPONENT PART OF A FLOATING POINT NUMBER     03 00116
000027            127 TST     BSS     0              TEMP STORAGE FOR INSTRUCTION PROCESSING      03 00117
000027            128 FT1     BSS     1              TEMP STORAGE FOR FORM PROCESSING             03 00118
000030            129 FT2     BSS     1              TEMP STORAGE FOR FORM PROCESSING             03 00119
000031            130 POBP    BSS     1              PREVIOUS OUTPUT BUFFER POINTER               03 00120
000032            131 IADF    BSS     1              INDIRECT ADDRESS FLAG                        03 00121
000033            132 ICP0    BSS     1              INITIAL VALUE OF ICP                         03 00122
000034            133 ICP     BSS     1              INPUT CHACT POINTER                          03 00123
000035            134 MLF     BSS     1              MACRO LEVEL FLAG                             03 00124
000036            135 CODE    BSS     1              LOADER (SUB)CODE                             03 00125
000037            136 SMFL    BSS     1              SUMMARY/DETAIL FLAG                          03 00126
000040            137 LAB2    BSS     4              INSTRUCTION FIELD + LABEL TEMP               03 00127
000044            138 LAB1    BSS     4              LABEL FIELD                                  03 00128
000050            139 RVAL    BSS     1              RELOCATION VALUE OF VAL                      03 00129
000051            140 VAL     BSS     1              VALUE FROM EXPRESSION EVALUATOR              03 00130
000052            141 EP      BSS     1              EXPRESSION POINTER                           03 00131
000053            142 AF      BSS     1              EXPRESSION ARITHMETIC FLAG                   03 00132
000054            143 PRF     BSS     1              PROGRAM RELOCATION FLAG                      03 00133
000055            144 CRF     BSS     1              COMMON RELOCATION FLAG                       03 00134
000056            145 PLF     BSS     1              PRINT LINE FLAG                              03 00135
000057            146 DIPF    BSS     1              DUP IN PROCESS FLAG                          03 00136
000060            147 M       BSS     0              MANTISSA OF FLOATING POINT NUMBER            03 00137
000060            148 IDSA    BSS     2              INPUT DIGIT ACCUMULATOR                      03 00138
000062            149 ZEND    BSS     0              ***************************************      03 00139
000062            150 OBPT    BSS     1              OUTPUT BUFFER POINTER                        03 00140
000063            151 PASS    BSS     1              ASSEMBLY PASS                                03 00141
000064            152 DPF     BSS     1              DEFINED PASS FLAG                            03 00142
000065            153 IBBA    BSS     1              INPUT BUFFER BYTE ADDRESS (=$BUF*2)          03 00143
000066 012367 R   154 BT1     DATA    BDT            BEGIN OP CODE TABLE                          03 00144
000067            155 ET1     BSS     0              END OP CODE TABLE                            03 00145
000067 014750 R   156 BT2     DATA    SMPT           END OP CODE TABLE                            03 00146
000070            157 ET2     BSS     0              END MACRO TABLE                              03 00147
000070            158 BT3     BSS     1              BEGIN RETURN STACK                           03 00148
000071            159 ET3     BSS     1              END RETURN STACK                             03 00149
                  160 *                                                                           03 00150
000072            161 BT4     BSS     1              BEGIN EXPRESSION STACK                       03 00151
000073            162 ET4     BSS     0              END EXPRESSION STACK                         03 00152
000073            163 BT5     BSS     1              BEGIN MACRO PARAMETER TABLE                  03 00153
000074            164 ET5     BSS     0              END MACRO PARAMETER TABLE                    03 00154
000074            165 BT6     BSS     1              BEGIN SYMBOL TABLE                           03 00155
000075            166 ET6     BSS     0              END SYMBOL TABLE                             03 00156
000075            167 BT7     BSS     1              BEGIN DUP TABLE                              03 00157
000076            168 $PCW    BSS     1              PROGRAM CONTROL WORD                         03 00158
000077            169 BDUT    BSS     1              BEGIN DUP TABLE-40                           03 00159
000100 077777 A   170 C1      PZE     -1             MAGNITUDE BITS                               03 00160
000101 100000 A   171 C2      MZE     0              SIGN BIT ONLY                                03 00161
                  172 *                                                                           03 00162
000102 000000 A   173 PIRMD   DATA    0              RMD FLAG                                     03 00163
                  174 *                                                                           03 00164
000103 000000 A   175 PORMD   DATA    0              RMD FLAG                                     03 00165
                  176 *                                                                           03 00166
000104 000000 A   177 SSRMD   DATA    0              RMD FLAG                                     03 00167
                  178 *                                                                           03 00168
000105 000000 A   179 BORMD   DATA    0              RMD FLAG                                     03 00169
                  180 *                                                                           03 00170
000106 000000 A   181 GORMD   DATA    0              RMD FLAG                                     03 00171
                  182 *                                                                           03 00172
000107 000000 A   183 LORMD   DATA    0              RMD FLAG                                 C.1 03 00173
000110 177777 A   184 PIRF    DATA    -1             PI SECTOR RECORD FLAG                        03 00174
                  185 *                                                                           03 00175
000111 177777 A   186 PORF    DATA    -1             PO SECTOR RECORD FLAG                        03 00176
                  187 *                                                                           03 00177
000112 177777 A   188 SSRF    DATA    -1             SS SECTOR RECORD FLAG                        03 00178
                  189 *                                                                           03 00179
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000113 177777 A   190 BORF    DATA    -1          BD SECTOR RECORD FLAG                                  03 00180
                  191 *                                                                                  03 00181
000114 177777 A   192 GORF    DATA    -1          GD SECTOR RECORD FLAG                                  03 00182
                  193 *                                                                                  03 00183
000115 000000 A   194 SRAF    DATA    0                                                                  03 00184
                  195 *                                                                                  03 00185
000116 177777 A   196 DSRF    DATA    -1                                                                 03 00186
                  197 *                                                                                  03 00187
       000117 R   198 TTLBLK  EQU     *                                                                  03 00188
000117 000010 A   199         DATA    8                                                                  03 00189
000120 120240 A   200         DATA    '           '   TITLE INPUT BLOCK                                  03 00190
000121 120240 A
000122 120240 A
000123 120240 A
                  201 *                                 SOURCE RECORDS IN INPUT BUFFER                   03 00191
       000124 R   202 $BUF    EQU     *           SOURCE IN                                              03 00192
000124             203         BSS     120                                                                03 00193
       000314 R   204 LBUF    EQU     *                                                                  03 00194
000314             205         BSS     60                                                                 03 00195
       000074 A   206 LBSZ    EQU     60          LIST BUFFER SIZE                                       03 00196
       000410 R   207 OBUF    EQU     *                                                                  03 00197
000410             208         BSS     180                                                                03 00198
                  209 *                                                                                  03 00199
                  210 *                                                                                  03 00200
000674             211         ORG     *                                                                  03 00201
000674 000124 R   212 BUF$    DATA    $BUF                                                               03 00202
000675 000054 A   213 FRM$    DATA    V$LCNT        VORTEX PAGE LINE COUNT                               03 00203
       000676 R   214 HED     EQU     *                                                                  03 00204
                  215         IFF     VORTEX-1                                                  V2       03 00205
000676 130720 A   216         DATA    '1PAGE NNNN  MM/DD/YY  NAMENAME  VORTEX  DASMR'                  03 00206
000677 140707 A
000700 142640 A
000701 147316 A
000702 147316 A
000703 120240 A
000704 146715 A
000705 127704 A
000706 142257 A
000707 154731 A
000710 120240 A
000711 147301 A
000712 146705 A
000713 147301 A
000714 146705 A
000715 120240 A
000716 153317 A
000717 151324 A
000720 142730 A
000721 120240 A
000722 142301 A
000723 151715 A
000724 151240 A
                  217         IFF     VORTEX-2                                                  V2       03 00207
                  218         DATA    '1PAGE NNNN  MM/DD/YY  NAMENAME  VORTXII DASMR'          V2       03 00208
       000725 R   219 QBBQ    EQU     *                                                                  03 00209
000725 120240 A   220         DATA    '           '   SPACE FOR TITLE                                    03 00210
000726 120240 A
000727 120240 A
000730 120240 A
000731 120240 A
       000732 R   221 QBBR    EQU     *                                                                  03 00211
000732 120240 A   222         DATA    '  HHMM HOURS'                SPACE FOR TIME                      03 00212
000733 144310 A
000734 146715 A
000735 120310 A
000736 147725 A
000737 151323 A
                  223 *                                                                                  03 00213
                  224 *       THIS IS THE ASSEMBLER INITIALIZATION                                       03 00214
                  225 *       NECESSARY AT THE BEGINNING OF PASS ONE.                                    03 00215
                  226 *                                                                                  03 00216
       000740 R   227 P1INIT  EQU     *                                                          V75 ********
000740 005001 A   228 S1      TZA                     INITIATE                                           03 00217
000741 057000 I   229         STA     ERLN            CLEAR ERROR LINE NUMBER                    D       03 00218
000742 057000 I   230         STA     NREC            INPUT RECORD COUNT                                 03 00219
000743 005301 A   231         DECR    1               A=-1                                               03 00220
000744 057000 I   232         STA     PASS            SET PASS 1                                         03 00221
000745 057000 I   233         STA     DSRF            SET MOVE BD RECORD FLAG                            03 00222
000746 010423 A   234         LDA     FOUR            SET DEFINED (=4)                                   03 00223
000747 057000 I   235         STA     DPF             PASS FLAG FOR PASS 1                               03 00224
000750 017000 I   236         LDA     ET6             SET SYMBOL TABLE                                   03 00225
000751 057000 I   237         STA     BT6             EMPTY                                              03 00226
                  238 *                                                                                  03 00227
                  239         TIME                                                                       03 00228
000752 006505 A
000753 000000 E
000754 001200 A
000755 005001 A   240         TZA                     GET TIME IN MIN IN BREG                            03 00229
000756 170471 A   241         DIV     TEN             GET L.O. MIN IN A                                  03 00230
000757 006120 A   242         ADDI    0130260                                                            03 00231
000760 130260 A
000761 006057 A   243         STAE    QBBR+2          STORE IN HEADING                                   03 00232
000762 000734 R
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000762 005001 A  244          TZA                                                          03 00233
000764 170466 A  245          DIV     SIX          GET H. O. MIN                           03 00234
000765 004250 A  246          LRLA    8                                                    03 00235
000766 006127 A  247          ADDE    QBBR+2       ADD L.O. MINUTES                        03 00236
000767 000734 R
000770 006057 A  248          STAE    QBBR+2       STORE IN HEADING                        03 00237
000771 000734 R
000772 005001 A  249          TZA                                                          03 00238
000773 170471 A  250          DIV     TEN          GET HOURS                               03 00239
000774 004250 A  251          LRLA    8            L.O. AND                                03 00240
000775 004470 A  252          LLRL    24             H.O. IN A                             03 00241
000776 006120 A  253          ADDI    0130260                                              03 00242
000777 130260 A
001000 006057 A  254          STAE    QBBR+1       STORE IN HEADING                        03 00243
001001 000733 R
                 255 POPEN    OPEN    POFCB,PO,0,0 OPEN THE 'PO' NAMED FILE W. RWIND OPTION 03 00244
001002 006505 A
001003 000000 E
001004 100000 A
001005 003012 A
001006 000000 E
001007 000000 A
001010 000000 A
                 256 *                                                                    03 00245
                 257 *                                                                    03 00246
                 258 *                        RESTORE ORIGINAL STATE OF MACRO TABLES      03 00247
                 259 *                                                                    03 00248
                 260 *       THIS IS THE ASSEMBLER INITIALIZATION NECESSARY AT THE        03 00249
                 261 *       BEGINNING OF PASS ONE AND PASS TWO.                          03 00250
                 262 *                                                                    03 00251
                 263 *                                                                    03 00252
        001011 R 264 S2       EQU     *                                                  03 00253
001011 017000 I  265          LDA     ET1          END OF OP CODE TABLE                    03 00254
001012 054003 A  266          STA     *+4            IS BEGINNING OF MOVE AREA             03 00255
001013 002000 A  267          CALL    MOVW                                                 03 00256
001014 011761 R
001015 001306 A  268          DATA    BMET-BMPT    NO. OF WORDS TO MOVE                    03 00257
001016 001016 R  269          DATA    *            FROM ADDR= END OF OP CODE TABLE         03 00258
001017 014750 R  270          DATA    BMPT         TO ADDRESS= ORIGINAL END OF OP CODE TABLE 03 00259
001020 006010 A  271          LDAI    EIT                                                  03 00260
001021 014750 R
001022 057000 I  272          STA     ET1          OP CODE TABLE                           03 00261
001023 006010 A  273          LDAI    BMET         BEGINNING OF MACRO EXPANSION TABLE      03 00262
001024 016256 R
001025 057000 I  274          STA     ET2          MACRO EXPANSION TABLE                   03 00263
001026 005001 A  275          T2A                  INITIATE                                03 00264
001027 057000 I  276          STA     CMSZ         COMMON SIZE ACCULULATOR                 03 00265
001030 057000 I  277          STA     ERCT         CLEAR ERROR COUNT FROM PREVIOUS PASS    03 00266
001031 002000 A  278 02000    JMPM    SAR          ALL TEMP. STORAGE (ALSO USED AS A CONSTANT 03 00267
001032 011705 R
001033 000054 A  279          DATA    ZEND-ZBEG                                            03 00268
001034 000006 R  280          DATA    ZBEG                                                 03 00269
001035 047000 I  281          INR     RLC          SET LC ATTRIBUTE TO RELO                03 00270
001036 002000 A  282          JMPM    TOF          REQUEST TOP OF FORM ON LO               03 00271
001037 010066 R
001040 037000 I  283          LDX     ST6          GET BEGIN OF SYMBOL TABLE               03 00272
001041 005141 A  284 S21      INCR    641          A=X+1                                   03 00273
001042 147000 I  285          SUB     ET6                                                  03 00274
001043 001002 A  286          JAP     S22          JUMP IF END OF SYMBOL TABLE             03 00275
001044 001065 R
001045 015004 A  287          LDA     STA,X        GET SYMBOL TABLE ATTRIBUTE WORD         03 00276
001046 150000 L  288          ANA     =0600        EXTRACT ST                              03 00277
001047 130000 L  289          ERA     =0400                                                03 00278
001050 001010 A  290          JAZ     *+4          JUMP IF EXTERNAL                        03 00279
001051 001054 R
001052 001000 A  291 01000    JMP     S23          (ALSO USED AS A CONSTANT)               03 00280
001053 001060 R
                 292 *                            A REG IS ZERO AT THIS POINT             03 00281
001054 055003 A  293          STA     STV,X        SET VALUE WORD TO ZERO                  03 00282
001055 015004 A  294          LDA     STA,X        GET ATTRIBUTE WORD                      03 00283
001056 150000 L  295          ANA     =-4          TURN OFF BITS 0+1                       03 00284
001057 055004 A  296          STA     STA,X                                                03 00285
001060 005041 A  297 S23      TXA                  INCREMENT                               03 00286
001061 120000 L  298          ADD     =5           TABLE                                   03 00287
001062 005014 A  299          TAX                  ADDRESS                                 03 00288
001063 001000 A  300          JMP     S21          KEEP TRYING                             03 00289
001064 001041 R
                 301 *                                                                    03 00290
        001065 R 302 S22      EQU     *                                                    03 00291
001065 017000 I  303          LDA     ET5          INITIATE                                03 00292
001066 057000 I  304          STA     ST5          MACRO PARAMETER TABLE                   03 00293
001067 057000 I  305          STA     ST4          EXPRESSION STACK TO EMPTY               03 00294
001070 017000 I  306          LDA     ST3                                                  03 00295
001071 057000 I  307          STA     ET3          RETURN STACK                            03 00296
001072 005001 A  308          TZA                  INITIATE                                03 00297
001073 057000 I  309          STA     MLF          MACRO LEVEL FLAG                        03 00298
001074 057000 I  310          STA     DUPF         DUP IN PROCESS FLAG                     03 00299
001075 002000 A  311          JMPM    RNR          GET NEXT RECORD                         03 00300
001076 006570 R
001077 002000 A  312          JMPM    ASSR         ASSEMBLE IT                             03 00301
001100 001103 R
001101 001000 A  313          JMP     S22          KEEP TRYING                             03 00302
001102 001065 R
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                    314 *                                                                                   03 00303
                    315 *       THIS IS THE ASSEMBLER PORTION OF THIS PROGRAM                               03 00304
                    316 *     CALLING SEQUENCE                                                              03 00305
                    317 *   JMPM    ASSR                                                                    03 00306
                    318 *  RETURN                                                                           03 00307
                    319 *                                                                                   03 00308
001103 000000 A     320 ASSR  DATA    0                                                                     03 00309
001104 002000 A     321       JMPM    REC           STACK RETURN ADDRESS                                    03 00310
001105 007112 R
001106 005001 A     322 ASSB  TZA                   INITIATE                                                03 00311
001107 057000 I     323       STA     IADF          INDIRECT AUDRESS FLAG                                   03 00312
001110 057000 I     324       STA     ERSC          ERROR SUBCOUNT                                          03 00313
001111 057000 I     325       STA     PLF           PRINT LINE FLAG                                         03 00314
001112 057000 I     326       STA     SIGM          DATA SIGN CONTROL                                       03 00315
001113 057000 I     327       STA     RDF           REDEFINE FLAG                                           03 00316
001114 057000 I     328       STA     RVAL          ATTRUBUTE WORD                                          03 00317
                    329       IFT     V75                                                                   V75********
001115 006057 A     330       STAE    V75ED         DISABLE V75 LIST EDIT                                   V75********
001116 000016 R
001117 030000 L     331       LDX     =72                                                                   03 00318
001120 002000 A     332       JMPM    SBK           SKIP BLANKS                                             03 00319
001121 007126 R
001122 001020 A     333       JBZ     ASR4          JUMP IF RECORD IS BLANK THRU COLUMN 72                  03 00320
001123 001222 R
001124 017000 I     334       LDA     ICP0          RESTORE                                                 03 00321
001125 057000 I     335       STA     ICP           ICP                                                     03 00322
001126 002000 A     336       JMPM    GNC0          GET NEXT CHACT                                          03 00323
001127 007707 R
001130 130000 L     337       ERA     ='*'                                                                  03 00324
001131 001010 A     338       JAZ     ASR4          JUMP IF COMMENT RECORD                                  03 00325
001132 001222 R
001133 002000 A     339       JMPM    ISM           INPUT SYMBOL IN LABEL FIELD                             03 00326
001134 007474 R
001135 000044 R     340       DATA    LAB1          PUT IT INTO LAB1                                        03 00327
001136 002010 A     341       JAZM    IDS           TRY TO INPUT A DIGIT STRING IF NO SYMBOL                03 00328
001137 007521 R
001140 030000 L     342       LDX     =72                                                                   03 00329
001141 002000 A     343       JMPM    SBK           SKIP BLANKS                                             03 00330
001142 007126 R
001143 002000 A     344       JMPM    CTST          COMMA ALLOW TEST                                        03 00331
001144 007677 R
001145 002000 A     345       JMPM    ISM           INPUT SYMBOL IN OPERATION FIELD                         03 00332
001146 007474 R
001147 000040 R     346       DATA    LAB2          PUT IT INTO LAB2                                        03 00333
001150 001010 A     347       JAZ     ASR5          JUMP IF NO OP CODE                                      03 00334
001151 001226 R
001152 002000 A     348       JMPM    OCFD          SEARCH OP CODE TABLE                                    03 00335
001153 007416 R
001154 000040 R     349       DATA    LAB2                                                                  03 00336
001155 001040 A     350       JXZ     ASR5          JUMP IF NOT FOUND                                       03 00337
001156 001226 R
001157 015004 A     351       LDA     4,X           GET ADDRESS WORD                                        03 00338
001160 057000 I     352       STA     IWA                                                                   03 00339
001161 015003 A     353       LDA     3,X                                                                   03 00340
001162 150000 L     354       ANA     =0777         EXTRACT AS                                              03 00341
001163 057000 I     355       STA     AS                                                                    03 00342
001164 015003 A     356       LDA     3,X                                                                   03 00343
001165 004352 A     357       LSRA    10                                                                    03 00344
001166 001010 A     358       JAZ     ASR2          JUMP IF DIRECTIVE                                       03 00345
001167 001176 R
001170 006120 A     359       ADDI    MOPT-1+0100000 +BASE OF TABLE+INDIRECT BIT                            03 00346
001171 112123 R
001172 057000 I     360       STA     MOPJ                                                                  03 00347
001173 006010 A     361       LDAI    MOP                                                                   03 00348
001174 003531 R
001175 001006 A     362       DATA    01006         SKIP NEXT WORD                                          03 00349
001176 015004 A     363 ASR2  LDA     4,X           GET ADDRESS OF DIRECTIVE PROCESSING ROUTIN              03 00350
001177 054021 A     364       STA     ASRJ          SET JUMP ADDRESS                                        03 00351
001200 002000 A     365       JMPM    GNC0          GET NEXT CHACT                                          03 00352
001201 007707 R
001202 130000 L     366       ERA     ='*'                                                                  03 00353
001203 001010 A     367       JAZ     *+4           JUMP IF '*' FOLLOWING OPERATION MNEMONIC                03 00354
001204 001207 R
001205 001000 A     368       JMP     ASR3                                                                  03 00355
001206 001212 R
001207 010000 L     369       LDA     =0100000                                                              03 00356
001210 057000 I     370       STA     IADF          SET INDIRECT ADDRESS FLAG                               03 00357
001211 047000 I     371       INR     ICP           GET PAST ASTERISK                                       03 00358
001212 030000 L     372 ASR3  LDX     =8                                                                    03 00359
001213 002000 A     373       JMPM    SBK           SKIP BLANKS                                             03 00360
001214 007126 R
001215 002000 A     374       JMPM    CTST          COMMA ALLOW TEST                                        03 00361
001216 007677 R
001217 005007 A     375       ZERO    7             A=B=X=0                                                 03 00362
001220 001000 A     376       JMP     0             GO TO IT 'BABY'                                         03 00363
001221 000000 A
001221              377 ASRJ  BES     0                                                                     03 00364
                    378 *                                                                                   03 00365
                    379 *     WE GET HERE IF THE RECORD IS BLANK THRU CHACT 72                              03 00366
                    380 *     OR HAS AN ASTERISK IN CHACT 1.                                                03 00367
                    381 *                                                                                   03 00368
001222 002000 A     382 ASR4  JMPM    LLN           LIST LINE                                               03 00369
001223 010300 R
```

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001224 001000 A   383          JMP     RET*          EXIT ASSR                                  03 00370
001225 007115 R
                  384 *                                                                          03 00371
                  385 *       WE GET HERE IF THE OPERATION FIELD IS VOID OR                      03 00372
                  386 *       IT IS NOT IN THE TABLE.                                            03 00373
                  387 *                                                                          03 00374
001226 002000 A   388 ASR5     JMPM    DFLC*         ASSIGN SYMBOL                              03 00375
001227 007142 R
001230 020000 L   389          LDB     ='OP'                                                    03 00376
001231 002000 A   390          JMPM    ERR           ERROR                                      03 00377
001232 007747 R
001233 057000 I   391          STA     RVAL          RVAL = ABSD                                03 00378
001234 010000 L   392          LDA     =05000                                                   03 00379
001235 057000 I   393          STA     VAL                                                      03 00380
001236 002000 A   394          JMPM    OLV           OUTPUT FIRST 'NOP'                         03 00381
001237 010161 R
001240 002000 A   395          JMPM    OLV           OUTPUT SECOND 'NOP'                        03 00382
001241 010161 R
001242 001000 A   396          JMP     RET           EXIT ASSR                                  03 00383
001243 007115 R
                  397 *                                                                          03 00384
                  398 *       THIS IS THE ORG DIRECTIVE PROCESSING                               03 00385
                  399 *                                                                          03 00386
001244 002000 A   400 ORG      JMPM    ORLC          DO IT                                      03 00387
001245 001254 R
001246 001000 A   401          JMP     BES1          OUTPUT NEW ORIGIN                          03 00388
001247 001321 R
                  402 *                                                                          03 00389
                  403 *       THIS IS THE LOC DIRECTIVE PROCESSING                               03 00390
                  404 *                                                                          03 00391
001250 002000 A   405 LOC      JMPM    ORLC          DO IT                                      03 00392
001251 001254 R
001252 001000 A   406          JMP     BCK           BLANK CHECK                                03 00393
001253 005274 R
                  407 *                                                                          03 00394
                  408 *       THIS IS A SUBROUTINE TO THE LOC & ORG PROCESSING                   03 00395
                  409 *                                                                          03 00396
001254 000000 A   410 ORLC     DATA    0                                                        03 00397
001255 002000 A   411          JMPM    EXN           GET VALUE                                  03 00398
001256 005337 R
001257 057000 I   412          STA     PC            PC = VAL                                   03 00399
001260 067000 I   413          STB     PLC           PLC = RVAL                                 03 00400
001261 002000 A   414          JMPM    DFLC          ASSIGN SYMBOL                              03 00401
001262 007142 R
001263 002000 A   415          JMPM    LL            LIST LOCATION                              03 00402
001264 010205 R
001265 001000 A   416          JMP*    ORLC          RETURN                                     03 00403
001266 101254 R
                  417 *                                                                          03 00404
                  418 *       THIS IS THE BSS DIRECTIVE PROCESSING                               03 00405
                  419 *                                                                          03 00406
001267 002000 A   420 BSS      JMPM    DFLC          ASSIGN SYMBOL                              03 00407
001270 007142 R
001271 002000 A   421          JMPM    IAC           GET VALUE                                  03 00408
001272 005317 R
001273 002000 A   422          JMPM    LL            LIST LOCATION                              03 00409
001274 010205 R
001275 017000 I   423          LDA     VAL                                                      03 00410
001276 001010 A   424          JAZ     BCK           JUMP IF VAL = 0 (BSS 0)                    03 00411
001277 005274 R
001300 127000 I   425          ADD     PC                                                       03 00412
001301 057000 I   426          STA     PC            LC = LC + VAL                              03 00413
001302 001000 A   427          JMP     BES1          OUTPUT NEW ORIGIN                          03 00414
001303 001321 R
                  428 *                                                                          03 00415
                  429 *       THIS IS THE BES DIRECTIVE PROCESSING                               03 00416
                  430 *                                                                          03 00417
001304 002000 A   431 BES      JMPM    IAC           GET VALUE                                  03 00418
001305 005317 R
001306 127000 I   432          ADD     PC                                                       03 00419
001307 005311 A   433          DAR                                                              03 00420
001310 057000 I   434          STA     PC            LC = LC + VAL - 1                          03 00421
001311 002000 A   435          JMPM    DFLC          ASSIGN SYMBOL                              03 00422
001312 007142 R
001313 002000 A   436          JMPM    LL            LIST LOCATION                              03 00423
001314 010203 R
001315 047000 I   437          INR     PC            LC = LC + 1                                03 00424
001316 017000 I   438          LDA     VAL                                                      03 00425
001317 001010 A   439          JAZ     BCK           JUMP IF VAL = 0 (BES 0)                    03 00426
001320 005274 R
001321 002000 A   440 BES1     JMPM    OORG          OUTPUT NEW ORIGIN                          03 00427
001322 010644 R
001323 001000 A   441          JMP     BCK                                                      03 00428
001324 005274 R
                  442 *                                                                          03 00429
                  443 *       THIS IS THE SET DIRECTIVE PROCESSING                               03 00430
                  444 *                                                                          03 00431
001325 047000 I   445 SET      INR     RDF           SET REDEFINE FLAG                          03 00432
                  446 *                                                                          03 00433
                  447 *       THIS IS THE EQU DIRECTIVE PROCESSING                               03 00434
                  448 *                                                                          03 00435
001326 017000 I   449 EQU      LDA     LAB1                                                     03 00436
001327 020000 L   450          LDB     ='NS'                                                    03 00437
```

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001330 002010 A   451          JAZM    ERR          ERROR IF NO SYMBOL IN LABEL FIELD          03 00438
001331 007747 R
001332 002000 A   452          JMPM    EXN          GET VALUE                                  03 00439
001333 005337 R
001334 002000 A   453          JMPM    DEFI         ASSIGN SYMBOL                              03 00440
001335 007164 R
001336 002000 A   454          JMPM    LV           LIST VALUE                                 03 00441
001337 010223 R
001340 001000 A   455          JMP     BCK          BLANK CHECK                                03 00442
001341 005274 R
                  456 *                                                                        03 00443
                  457 *        THIS IS THE CALL DIRECTIVE PROCESSING                           03 00444
                  458 *                                                                        03 00445
001342 002000 A   459 CALL     JMPM    DFLC         ASSIGN SYMBOL                              03 00446
001343 007142 R
001344 002000 A   460          JMPM    EXP          GET VALUE                                  03 00447
001345 005476 R
001346 057000 I   461          STA     T5T          SAVE VALUE                                 03 00448
001347 067000 I   462          STB     T5T+1        SAVE ATTRIBUTES                            03 00449
001350 005002 A   463          TZB                  RELO = ABSO                                03 00450
001351 014000 A   464          LDA     *+1          VAL = 02000 (JMPM)                         03 00451
001352 002000 A   465          JMPM    DSUB         OUTPUT AN ABSOLUTE 02000                   03 00452
001353 001704 R
001354 017000 I   466          LDA     T5T          GET VALUE                                  03 00453
001355 027000 I   467          LDB     T5T+1        GET ATTRUBUTES                             03 00454
001356 001000 A   468          JMP     DA3          GO TO DATA DIRECTIVE TO FINISH CALL PROCES 03 00455
001357 001400 R
                  469 *                                                                        03 00456
                  470 *        THIS IS THE MZE DIRECTIVE PROCESSING                            03 00457
                  471 *                                                                        03 00458
001360 047000 I   472 MZE      INR     SIGM                                                    03 00459
                  473 *                                                                        03 00460
                  474 *        THIS IS THE PZE DIRECTIVE PROCESSING                            03 00461
                  475 *                                                                        03 00462
001361 047000 I   476 PZE      INR     SIGM                                                    03 00463
                  477 *                                                                        03 00464
                  478 *        THIS IS THE DATA DIRECTIVE PROCESSING                           03 00465
                  479 *                                                                        03 00466
001362 002000 A   480 DATA     JMPM    DFLC         ASSIGN SYMBOL                              03 00467
001363 007142 R
001364 002000 A   481          JMPM    IADC         CHECK FOR NO INDIRECT ADDRESSING           03 00468
001365 010007 R
001366 002000 A   482 DA1      JMPM    GNC0         GET NEXT CHACT                             03 00469
001367 007707 R
001370 140000 L   483          SUB     ='''' 
                                                                                               03 00470
001371 001010 A   484          JAZ     DAQ          JUMP IF QUOTE                              03 00471
001372 001410 R
001373 140000 L   485          SUB     =')'-''''
                                                                                               03 00472
001374 001010 A   486          JAZ     DA7          JUMP IF RIGHT PARENTHESIS                  03 00473
001375 001462 R
001376 002000 A   487          JMPM    EXP          GET VALUE                                  03 00474
001377 005476 R
001400 002000 A   488 DA3      JMPM    DSUB         OUTPUT DATA WORD                           03 00475
001401 001704 R
001402 002000 A   489 DA2      JMPM    CTST         ALLOW A COMMA                              03 00476
001403 007677 R
001404 001010 A   490          JAZ     DA1          JUMP IF COMMA                              03 00477
001405 001366 R
001406 001000 A   491          JMP     BCK          OTHERWISE, GO TO BLANK CHECK               03 00478
001407 005274 R
                  492 *                                                                        03 00479
                  493 *        WE GET HERE TO INPUT A CHARACTER STRING                         03 00480
                  494 *                                                                        03 00481
001410 047000 I   495 DAQ      INR     ICP          INCREMENT CHACT POINTER                    03 00482
001411 005001 A   496 DAQ2     TZA                  INITIATE                                   03 00483
001412 057000 I   497 DAQ3     STA     VAL          VAL                                        03 00484
001413 002000 A   498          JMPM    GNC1                                                    03 00485
001414 007737 R
001415 001010 A   499          JAZ     DAQ7         JUMP IF EOL                                03 00486
001416 001455 R
001417 130000 L   500          ERA     ='''' 
                                                                                               03 00487
001420 001010 A   501          JAZ     DAQ4         JUMP IF QUOTE                              03 00488
001421 001436 R
001422 017000 I   502 DAQ6     LDA     VAL
                                                                                               03 00489
001423 001010 A   503          JAZ     DAQ1         JUMP IF NO CHACTS YET                      03 00490
001424 001433 R
001425 005031 A   504          MERG    031          A=A.OR.B                                   03 00491
001426 005002 A   505          TZB                                                             03 00492
001427 002000 A   506          JMPM    DSUB         OUTPUT                                     03 00493
001430 001704 R
001431 001000 A   507          JMP     DAQ2                                                    03 00494
001432 001411 R
                  508 *                                                                        03 00495
001433 004470 A   509 DAQ1     LLRL    NBIT+8                                                  03 00496
001434 001000 A   510          JMP     DAQ3                                                    03 00497
001435 001412 R
                  511 *                                                                        03 00498
001436 002000 A   512 DAQ4     JMPM    GNC0         GET NEXT CHACT                             03 00499
001437 007707 R
001440 130000 L   513          ERA     ='''' 
                                                                                               03 00500
001441 001010 A   514          JAZ     DAQ5         JUMP IF DOUBLE QUOTE                       03 00501
001442 001452 R
001443 017000 I   515 DAQ8     LDA     VAL                                                     03 00502
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001444 001010 A   516          JAZ     DA2          JUMP IF NO CHACT LEFTOVER                  03 00503
001445 001402 R
001446 110000 L   517          ORA     =' '         SUPPLY TRAILING BLANK CHACT                03 00504
001447 005002 A   518          TZB                                                             03 00505
001450 001000 A   519          JMP     DA3                                                     03 00506
001451 001400 R
                  520 *                                                                        03 00507
001452 047000 I   521 DAQ5     INR     ICP          INCREMENT INPUT CHACT POINTER              03 00508
001453 001000 A   522          JMP     DAQ6                                                    03 00509
001454 001422 R
                  523 *                                                                        03 00510
001455 020000 L   524 DAQ7     LDB     ='MQ'                                                   03 00511
001456 002000 A   525          JMPM    ERR          ERROR MISSING QUOTE SIGN                   03 00512
001457 007747 R
001460 001000 A   526          JMP     DAQ8                                                    03 00513
001461 001443 R
                  527 *                                                                        03 00514
                  528 *        WE GET HERE TO INPUT A FLOATING POINT NUMBER                    03 00515
                  529 *                                                                        03 00516
001462 047000 I   530 DAF      INR     ICP          INCREMENT INPUT CHACT POINTER              03 00517
001463 005001 A   531          TZA                  INITIATE                                   03 00518
001464 054214 A   532          STA     MD           MANTISSA FRACTIONAL DIGIT COUNT            03 00519
001465 057000 I   533          STA     M            MSH OF MANTISSA                            03 00520
001466 057000 I   534          STA     M+1          LSH OF MANTISSA                            03 00521
001467 057000 I   535          STA     E            MSH OF EXPONENT                            03 00522
001470 057000 I   536          STA     E+1          LSH OF EXPONENT                            03 00523
001471 002000 A   537          JMPM    ISG          INPUT SIGN                                 03 00524
001472 007502 R
001473 054206 A   538          STA     MS           OF MANTISSA                                03 00525
001474 002000 A   539          JMPM    IDN          INPUT DECIMAL NUMBER                       03 00526
001475 007656 R
001476 000060 R   540          DATA    M            PUT IT INTO M                              03 00527
001477 002000 A   541          JMPM    GNC0         GET NEXT CHACT                             03 00528
001500 007707 R
001501 130000 L   542          ERA     ='.'                                                    03 00529
001502 001010 A   543          JAZ     DAF1         JUMP IF DECIMAL POINT                      03 00530
001503 001540 R
001504 002000 A   544 DAF2     JMPM    GNC0         GET NEXT CHACT                             03 00531
001505 007707 R
001506 130000 L   545          ERA     ='E'                                                    03 00532
001507 003010 A   546          XAZ     DAF          INCREMENT INPUT CHACT POINTER IF 'E'       03 00533
001510 001462 R
001511 002000 A   547          JMPM    ISG          INPUT SIGN                                 03 00534
001512 007502 R
001513 054167 A   548          STA     ES           OF EXPONENT                                03 00535
001514 002000 A   549          JMPM    IDN          INPUT DECIMAL EXPONENT                     03 00536
001515 007656 R
001516 000027 R   550          DATA    E            PUT IT INTO E                              03 00537
001517 017000 I   551          LDA     E+1                                                     03 00538
001520 024162 A   552          LDB     ES                                                      03 00539
001521 001020 A   553          JBZ     *+4          JUMP IF POSITIVE EXPONENT SIGN             03 00540
001522 001525 R
001523 005211 A   554          CPA                  TWOES                                      03 00541
001524 005111 A   555          XAR                  COMPLEMENT                                 03 00542
001525 144153 A   556          SUB     MD                                                      03 00543
001526 054152 A   557          STA     MD           MD = EXP - NUMBER OF FRACTIONAL DIGITS     03 00544
001527 006010 A   558          LDAI    -NBIT*2-126  INITIALIZE                                 03 00545
001530 177542 A
001531 057000 I   559          STA     *            EXPONENT                                   03 00546
001532 017000 I   560          LDA     M                                                       03 00547
001533 027000 I   561          LDB     M+1                                                     03 00548
001534 001030 A   562          JIF     AZ+BZ,DAF8   JUMP IF NUMBER IS ZERO                     03 00549
001535 001663 R
001536 001000 A   563          JMP     DAF3         OTHERWISE CONVERT IT                       03 00550
001537 001555 R
                  564 *                                                                        03 00551
                  565 *        WE GET HERE TO INPUT THE FRACTIONAL PART OF THE NUMBER          03 00552
                  566 *                                                                        03 00553
001540 047000 I   567 DAF1     INR     ICP          INCREMENT INPUT CHACT POINTER              03 00554
001541 002000 A   568          JMPM    IDN          INPUT DECIMAL NUMBER                       03 00555
001542 007656 R
001543 000060 R   569          DATA    M            PUT IT IN TO M                             03 00556
001544 054134 A   570          STA     MD           SAVE NUMBER OF FRACTIONAL DIGITS           03 00557
001545 001000 A   571          JMP     DAF2                                                    03 00558
001546 001504 R
                  572 *                                                                        03 00559
001547 047000 I   573 DAF4     INR     E            ADJUST EXPONENT                            03 00560
001550 017000 I   574          LDA     M            GET MSH                                    03 00561
001551 027000 I   575          LDB     M+1          GET LSH                                    03 00562
001552 004401 A   576          LASL    1            MOVE OVER ONE                              03 00563
001553 057000 I   577 DAF5     STA     M                                                       03 00564
001554 067000 I   578          STB     M+1                                                     03 00565
001555 004241 A   579 DAF3     LRLA    1                                                       03 00566
001556 001002 A   580          JAP     DAF4         JUMP IF NOT YET NORMALIZED                 03 00567
001557 001547 R
001560 014120 A   581          LDA     MD                                                      03 00568
001561 001010 A   582          JAZ     DAF7         JUMP IF DONE (NO. OF FRACTIONAL DIGITS = 0 03 00569
001562 001635 R
001563 001004 A   583          JAN     DAF6         JUMP IF                                    03 00570
001564 001604 R
                  584 *        MULTIPLY BY TEN                                                 03 00571
001565 005311 A   585          DAR                  DECREMENT FRACTIONAL                       03 00572
001566 054112 A   586          STA     MD           DIGIT COUNT                                03 00573
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001567 017000 I  587          LDA     E               INCREMENT                                    03 00574
001570 140423 A  588          SUB     FOUR            EXPONENT (=4)                                03 00575
001571 057000 I  589          STA     E               BY FOUR (M*16)                               03 00576
001572 017000 I  590          LDA     M                                                            03 00577
001573 027000 I  591          LDB     M+1                                                          03 00578
001574 004501 A  592          LASR    1               (M*16)/2                                     03 00579
001575 057000 I  593          STA     M                                                            03 00580
001576 067000 I  594          STB     M+1                                                          03 00581
001577 004502 A  595          LASR    2               (M*16)/8                                     03 00582
001600 002000 A  596          JMPM    DAF5            5*(M*16)/8=M*10                              03 00583
001601 007663 R
001602 001000 A  597          JMP     DAF5            KEEP TRYING                                  03 00584
001603 001553 R
                 598 *                DIVIDE BY TEN                                                03 00585
001604 044074 A  599 DAF6     INR     MD              INCREMENT DIGIT COUNTER                      03 00586
001605 017000 I  600          LDA     M                                                            03 00587
001606 027000 I  601          LDB     M+1                                                          03 00588
001607 004501 A  602          LASR    1               M/2                                          03 00589
001610 057000 I  603          STA     M                                                            03 00590
001611 067000 I  604          STB     M+1                                                          03 00591
001612 004501 A  605          LASR    1               M/4                                          03 00592
001613 002000 A  606          JMPM    DAF5            3M/4                                         03 00593
001614 007663 R
001615 057000 I  607          STA     M                                                            03 00594
001616 067000 I  608          STB     M+1                                                          03 00595
001617 004503 A  609          LASR    3               3M/32                                        03 00596
001620 002000 A  610          JMPM    DAF5            59M/64                                       03 00597
001621 007663 R
001622 030466 A  611          LDX     SIX             INITIATE ITTERATION COUNT (=6)               03 00598
001623 004503 A  612          LASR    3               LASR 4 IS 59M/512                            03 00599
001624 004501 A  613          LASR    1                                                            03 00600
001625 002000 A  614          JMPM    DAF5                                                         03 00601
001626 007663 R
001627 004503 A  615          LASR    3                                                            03 00602
001630 005344 A  616          DXR                                                                  03 00603
001631 001040 A  617          JXZ     DAF5            JUMP IF END OF ITTERATION COUNT              03 00604
001632 001553 R
001633 001000 A  618          JMP     *-7             KEEP TRYING                                  03 00605
001634 001624 R
                 619 *                                                                             03 00606
                 620 *        WE GET HERE TO PUT THE FLOATING POINT NUMBER TOGETHER                03 00607
                 621 *                                                                             03 00608
001635 017000 I  622 DAF7     LDA     E               GET EXPONENT                                 03 00609
001636 001004 A  623          JAN     DAF9            JUMP IF NO EXPONENT UNDERFLOW                03 00610
001637 001647 R
001640 001019 A  624          JAZ     DAF9            JUMP IF NO EXPONENT UNDERFLOW                03 00611
001641 001647 R
001642 020000 L  625          LDB     ='SZ'           EXPONENT UNDERFLOW                           03 00612
001643 002000 A  626          JMPM    ERR                                                          03 00613
001644 007747 R
001645 001000 A  627          JMP     DAF8                                                         03 00614
001646 001663 R
                 628 *                                                                             03 00615
001647 020000 L  629 DAF9     LDB     ='SZ'                                                        03 00616
001650 120000 L  630          ADD     =0377                                                        03 00617
001651 002004 A  631          JANM    ERR             JUMP IF EXPONENT TOO LARGE                   03 00618
001652 007747 R
001653 005001 A  632          TZA                                                                  03 00619
001654 147000 I  633          SUB     E               MAKE EXPONENT POSITIVE                       03 00620
001655 027000 I  634          LDB     M               GET MSH OF MANTISSA                          03 00621
001656 004407 A  635          LASL    NBIT-9          PUT EXPONENT AND MSH OF MANTISSA TOGETHER    03 00622
001657 034022 A  636          LDX     MS                                                           03 00623
001660 001040 A  637          JXZ     *+3             JUMP IF POSITIVE MANTISSA                    03 00624
001661 001663 R
001662 005211 A  638          CPA                                                                  03 00625
001663 057000 I  639 DAF8     STA     M                                                            03 00626
001664 005001 A  640          TZA                                                                  03 00627
001665 004410 A  641          LASL    8                                                            03 00628
001666 027000 I  642          LDB     M+1             GET LSH OF MANTISSA                          03 00629
001667 004407 A  643          LASL    NBIT-9                                                       03 00630
001670 057000 I  644          STA     M+1                                                          03 00631
001671 017000 I  645          LDA     M                                                            03 00632
001672 005002 A  646          TZB                                                                  03 00633
001673 002000 A  647          JMPM    DSUB            OUTPUT FIRST WORD                            03 00634
001674 001704 R
001675 017000 I  648          LDA     M+1                                                          03 00635
001676 005002 A  649          TZB                                                                  03 00636
001677 001000 A  650          JMP     DA3             OUTPUT SECOND WORD + KEEP TRYING             03 00637
001700 001400 R
001701 000000 A  651 MD       DATA    0               NUMBER OF FRACTIONAL DIGITS IN MANTISSA      03 00638
001702 000000 A  652 MS       DATA    0               SIGN OF MANTISSA                             03 00639
001703 000000 A  653 ES       DATA    0               SIGN OF EXPONENT                             03 00640
                 654 *                                                                             03 00641
                 655 *                                                                             03 00642
                 656 *        THIS IS A SUBROUTINE TO SET THE SIGN OF THE NUMBER                   03 00643
                 657 *        IN THE A REGISTER ACCORDING TO THE CONTENTS OF SIGM                  03 00644
                 658 *        AND OUTPUT IT AND THE RELOCATABILITY IN THE B REGISTER               03 00645
                 659 *                                                                             03 00646
001704 000000 A  660 DSUB     DATA    0                                                            03 00647
001705 037000 I  661          LDX     SIGM                                                         03 00648
001706 001040 A  662          JXZ     *+3             JUMP IF DATA                                 03 00649
001707 001715 R
001710 157000 I  663          ANA     =1              TURN OFF SIGN BIT                            03 00650
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001711 005344 A   664          DXR
001712 001040 A   665          JXZ     DS1             JUMP IF PZE                                  03 00652
001713 001710 R
001714 117000 I   666          ORA     =2              MUST BE MZE (=SIGN BIT)                      03 00653
001715 057000 I   667 DS1      STA     VAL                                                          03 00654
001716 067000 I   668          STB     RVAL                                                         03 00655
001717 002000 A   669          JMPM    OLV             OUTPUT                                       03 00656
001720 010161 R
001721 001000 A   670          JMP*    DSUB            RETURN                                       03 00657
001722 101704 R
                  671 *                                                                             03 00658
                  672 *        THIS IS THE NULL DIRECTIVE PROCESSING                                03 00659
                  673 *                                                                             03 00660
001723 002000 A   674 NULL     JMPM    DFLC            ASSIGN SYMBOL                                03 00661
001724 007142 R
001725 002000 A   675          JMPM    LL              LIST LOCATION                                03 00662
001726 010205 R
001727 001000 A   676          JMP     RET                                                          03 00663
001730 007115 R
                  677 *                                                                             03 00664
                  678 *        THIS IS THE COMN DIRECTIVE PROCESSING                                03 00665
                  679 *                                                                             03 00666
001731 002000 A   680 COMN     JMPM    IAC             GET VALUE                                    03 00667
001732 005317 R
001733 027000 I   681          LDB     CMSZ            GET COMMON SIZE ALREADY ACCUMULATED          03 00668
001734 067000 I   682          STB     VAL                                                          03 00669
001735 127000 I   683          ADD     CMSZ                                                         03 00670
001736 057000 I   684          STA     CMSZ            NEW ACCUMULATED COMMON SIZE                  03 00671
001737 005021 A   685          TBA                                                                  03 00672
001740 020000 L   686          LDB     =2                                                           03 00673
001741 067000 I   687          STB     RVAL                                                         03 00674
001742 002000 A   688          JMPM    DEFI            ASSIGN SYMBOL                                03 00675
001743 007164 R
001744 002000 A   689          JMPM    LV              LIST VALUE                                   03 00676
001745 010223 R
001746 001000 A   690          JMP     BCK             EXIT TO BLANK CHECK ROUTINE                  03 00677
001747 005274 R
                  691 *                                                                             03 00678
                  692 *        THIS IS THE EXT DIRECTIVE PROCESSING                                 03 00679
                  693 *                                                                             03 00680
001750 002000 A   694 EXT      JMPM    LLN             LIST LINE                                    03 00681
001751 010300 R
001752 005001 A   695 EXT1     TZA                                                                  03 00682
001753 020000 L   696          LDB     =0400           ST = 2                                       03 00683
001754 002000 A   697          JMPM    DEFI            ASSIGN SYMBOL                                03 00684
001755 007164 R
001756 002000 A   698          JMPM    ISM             INPUT SYMBOL                                 03 00685
001757 007474 R
001760 000044 R   699          DATA    LAB1            PUT IT INTO LAB1                             03 00686
001761 001010 A   700          JAZ     BCK             JUMP IF NO SYMBOL                            03 00687
001762 005274 R
001763 002000 A   701          JMPM    CTST            ALLOW A COMMA                                03 00688
001764 007677 R
001765 001000 A   702          JMP     EXT1            KEEP TRYING                                  03 00689
001766 001752 R
                  703 *                                                                             03 00690
                  704 *        THIS IS THE NAME DIRECTIVE PROCESSING                                03 00691
                  705 *                                                                             03 00692
001767 002000 A   706 NAME     JMPM    LLN             LIST LINE                                    03 00693
001770 010300 R
001771 002000 A   707          JMPM    ISM             INPUT SYMBOL                                 03 00694
001772 007474 R
001773 000044 R   708          DATA    LAB1            PUT IT INTO LAB1                             03 00695
001774 001010 A   709          JAZ     NAM4            JUMP IF NO SYMBOL                            03 00696
001775 002040 R
001776 002000 A   710 NAM3     JMPM    LFND            SEARCH SYMBOL TABLE                          03 00697
001777 007346 R
002000 000044 R   711          DATA    LAB1                                                         03 00698
002001 001040 A   712          JXZ     NAM1            JUMP IF NOT FOUND                            03 00699
002002 002030 R
002003 015004 A   713          LDA     STA,X           GET ATTRIBUTE WORD                           03 00700
002004 150000 L   714          ANA     =0600           EXTRACT ST                                   03 00701
002005 130000 L   715          ERA     =0400                                                        03 00702
002006 001010 A   716          JAZ     NAM1            JUMP IF EXTERNALLY DEFINED                   03 00703
002007 002030 R
002010 015004 A   717          LDA     STA,X           GET ATTRIBUTE WORD                           03 00704
002011 110000 L   718          ORA     =0200           ST = 1                                       03 00705
002012 055004 A   719          STA     STA,X                                                        03 00706
002013 150423 A   720          ANA     FOUR            EXTRACT D1 (=4)                              03 00707
002014 027000 I   721          LDB     =SY0            (='SY')                                      03 00708
002015 002010 A   722          JAZM    ERR             ERROR IF NOT DEFINED IN PASS 1               03 00709
002016 007747 R
002017 002000 A   723 NAM2     JMPM    CTST            COMMA ALLOW TEST                             03 00710
002020 007677 R
002021 002000 A   724          JMPM    ISM             INPUT SYMBOL                                 03 00711
002022 007474 R
002023 000044 R   725          DATA    LAB1            PUT IT INTO LAB1                             03 00712
002024 001010 A   726          JAZ     BCK             JUMP IF NO SYMBOL                            03 00713
002025 005274 R
002026 001000 A   727          JMP     NAM3            KEEP TRYING                                  03 00714
002027 001776 R
                  728 *                                                                             03 00715
002030 020000 L   729 NAM1     LDB     =0200           ST = 1                                       03 00716
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002031 002000 A   730          JMPM    DEFI          ASSIGN SYMBOL                                  03 00717
002032 007164 R
002033 015004 A   731          LDA     STA,X         GET ATTRIBUTE WORD                             03 00718
002034 150000 L   732          ANA     =-5           TURN OFF BIT-2                                 03 00719
002035 055004 A   733          STA     STA,X                                                        03 00720
002036 001000 A   734          JMP     NAM2                                                         03 00721
002037 002017 R
                  735 *                                                                            03 00722
002040 020000 L   736 NAM4     LDB     ='NS'                                                        03 00723
002041 002000 A   737          JMPM    ERR                                                          03 00724
002042 007747 R
002043 001000 A   738          JMP     BCK                                                          03 00725
002044 005274 R
                  739 *                                                                            03 00726
                  740 *        THIS IS THE SMRY DIRECTIVE PROCESSING                               03 00727
                  741 *                                                                            03 00728
002045 005101 A   742 SMRY     INCR    1             SET SUMMARY FLAG                               03 00729
                  743 *                                                                            03 00730
                  744 *        THIS IS THE DETL DIRECTIVE PROCESSING                               03 00731
                  745 *                                                                            03 00732
002046 057000 I   746 DETL     STA     SMFL          SET/RESET SUMMARY FLAG                         03 00733
002047 001000 A   747          JMP     CONT                                                         03 00734
002050 002063 R
                  748 *                                                                            03 00735
                  749 *        THIS IS THE EJEC DIRECTIVE PROCESSING                               03 00736
                  750 *                                                                            03 00737
        002051 R  751 EJEC     EQU     *                                                            03 00738
002051 005101 A   752          INCR    1                                                            03 00739
002052 157000 I   753          ANA     $PCW          EXTRACT BIT-0 ($PCW)                           03 00740
002053 001016 A   754          JANZ    CONT          DO NOT EJECT LISTING                    E.1    ********
002054 002065 R
002055 006017 A   755          LDAE*   FRM$          IF WE JUST DID TOF,                     E.1    ********
002056 100675 R
002057 006140 A   756          SUBI    2             DO NOT DO REDUNDANT TOF.                E.1    ********
002060 000002 A
002061 006147 A   757          SUBE    LCT                                                   E.1    ********
002062 000007 R
002063 002016 A   758          JANZM   TOF           OTHERWISE, DO TOF.                      E.1    ********
002064 010066 R
                  759 *                                                                            03 00742
                  760 *        THIS IS THE CONT DIRECTIVE PROCESSING                               03 00743
                  761 *                                                                            03 00744
002065 002000 A   762 CONT     JMPM    LLN           LIST LINE                                      03 00745
002066 010300 R
002067 001000 A   763          JMP     RET           EXIT ASSEMBLER                                 03 00746
002070 007115 R
                  764 *                                                                            03 00747
                  765 *        THIS IS THE NLIS DIRECTIVE PROCESSING                               03 00748
                  766 *                                                                            03 00749
002071 002000 A   767 NLIS     JMPM    LLN           LIST THE 'NLIS' LINE                           03 00750
002072 010300 R
002073 047000 I   768          INR     $LIST         SET NOLIST FLAG                                03 00751
002074 001000 A   769          JMP     RET                                                          03 00752
002075 007115 R
                  770 *                                                                            03 00753
                  771 *        THIS IS THE LIST DIRECTIVE PROCESSING                               03 00754
                  772 *                                                                            03 00755
002076 005001 A   773 LISTF    TZA                                                                  03 00756
002077 057000 I   774          STA     $LIST                                                        03 00757
002100 002000 A   775          JMPM    LLN                                                          03 00758
002101 010300 R
002102 001000 A   776          JMP     RET                                                          03 00759
002103 007115 R
                  777 *                                                                            03 00760
                  778 *        THIS IS THE SPACE DIRECTIVE PROCESSING                              03 00761
                  779 *                                                                            03 00762
002104 002000 A   780 SPAC     JMPM    LIST          LIST A BLANK LINE                              03 00763
002105 010117 R
002106 001000 A   781          JMP     RET           EXIT ASSEMBLER                                 03 00764
002107 007115 R
                  782 *                                                                            03 00765
                  783 *        THIS IS THE GOTO DIRECTIVE PROCESSING                               03 00766
                  784 *                                                                            03 00767
002110 002000 A   785 GOTO     JMPM    GNC0          GET NEXT CHACT                                 03 00768
002111 007707 R
002112 002000 A   786          JMPM    ISA           IS IT ALPHA                                    03 00769
002113 010030 R
002114 001002 A   787          JAP     GOT1          JUMP IF ALPHA                                  03 00770
002115 002150 R
002116 002000 A   788          JMPM    IDS           INPUT DIGIT STRING                             03 00771
002117 007521 R
002120 017000 I   789          LDA     /DSA          (FOR NUMERIC LABEL IN GOTO)                    03 00772
002121 057000 I   790          STA     LAB1          SAVE VALUE                                     03 00773
002122 002000 A   791          JMPM    GTS                                                          03 00774
002123 002212 R
002124 002000 A   792 GOT2     JMPM    RNR           READ NEXT RECORD                               03 00775
002125 006570 R
002126 002000 A   793          JMPM    GNC0          GET NEXT CHACT                                 03 00776
002127 007707 R
002130 002000 A   794          JMPM    ISD           IS IT A DIGIT                                  03 00777
002131 010054 R
002132 001002 A   795          JAP     *+4           JUMP IF DIGIT                                  03 00778
002133 002136 R
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002134 001000 A  796          JMP     GOT7        OTHERWISE IGNORE                    03 00779
002135 002144 R
                 797 *                                                                03 00780
002136 002000 A  798          JMPM    IDS         INPUT DIGIT STRING                  03 00781
002137 007521 R
002140 017000 I  799          LDA     IDSA        (FOR NUMERIC LABEL IN GOTO)         03 00782
002141 137000 I  800          ERA     LAB1                                            03 00783
002142 001010 A  801          JAZ     GOT5        JUMP IF MATCH                       03 00784
002143 002206 R
002144 002000 A  802 GOT7     JMPM    GOTL        LIST SKIPPED LINE                   03 00785
002145 002225 R
002146 001000 A  803          JMP     GOT2        KEEP TRYING                         03 00786
002147 002124 R
                 804 *                                                                03 00787
002150 002000 A  805 GOT1     JMPM    ISM         INPUT SYMBOL                        03 00788
002151 007474 R
002152 000044 R  806          DATA    LAB1        PUT IT IN LAB1                      03 00789
002153 002000 A  807          JMPM    GTS                                             03 00790
002154 002212 R
002155 002000 A  808 GOT3     JMPM    RNR         READ NEXT RECORD                    03 00791
002156 006570 R
002157 002000 A  809          JMPM    ISM         INPUT SYMBOL                        03 00792
002160 007474 R
002161 000040 R  810          DATA    LAB2        PUT IT LAB2                         03 00793
002162 017000 I  811          LDA     LAB1+1                                          03 00794
002163 137000 I  812          ERA     LAB2+1                                          03 00795
002164 001010 A  813          JAZ     *+4         JUMP IF FIRST TWO CHACTS MATCH      03 00796
002165 002170 R
002166 001000 A  814          JMP     GOT4                                            03 00797
002167 002202 R
002170 017000 I  815          LDA     LAB1+2                                          03 00798
002171 137000 I  816          ERA     LAB2+2                                          03 00799
002172 001010 A  817          JAZ     *+4         JUMP IF SECOND TWO CHACTS MATCH     03 00800
002173 002176 R
002174 001000 A  818          JMP     GOT4                                            03 00801
002175 002202 R
002176 017000 I  819          LDA     LAB1+3                                          03 00802
002177 137000 I  820          ERA     LAB2+3                                          03 00803
002200 001010 A  821          JAZ     GOT5        JUMP IF THIRD TWO CHACTS MATCH      03 00804
002201 002206 R
002202 002000 A  822 GOT4     JMPM    GOTL        LIST SKIPPED LINE                   03 00805
002203 002225 R
002204 001000 A  823          JMP     GOT3        KEEP TRYING                         03 00806
002205 002155 R
                 824 *                                                                03 00807
002206 017000 I  825 GOT5     LDA     ICP0        RESTORE INPUT                       03 00808
002207 057000 I  826          STA     ICP         CHACT POINTER                       03 00809
002210 001000 A  827          JMP     ASSB        GO AND ASSEMBLE THE LINE            03 00810
002211 001106 R
                 828 *                                                                03 00811
                 829 *    THIS IS A SUBROUTINE TO THE GOTO DIRECTIVE PROCESSING       03 00812
                 830 *                                                                03 00813
002212 000000 A  831 GTS      DATA    0                                               03 00814
002213 002000 A  832          JMPM    CTST        COMMA ALLOW TEST                    03 00815
002214 007677 R
002215 054022 A  833          STA     GOT         SET GOTO LIST FLAG                  03 00816
002216 002000 A  834          JMPM    BCKS        BLANK CHECK                         03 00817
002217 005302 R
002220 017000 I  835          LDA     SMFL                                            03 00818
002221 002010 A  836          JAZM    LLN         LIST 'GOTO' LINE                    03 00819
002222 010300 R
002223 001000 A  837          JMP*    GTS         RETURN                              03 00820
002224 102210 R
                 838 *                                                                03 00821
                 839 *    THIS IS A SUBROUTINE TO THE GOTO DIRECTIVE                  03 00822
                 840 *    TO LIST THE SKIPPED LINES                                   03 00823
                 841 *                                                                03 00824
002225 000000 A  842 GOTL     DATA    0                                               03 00825
002226 014011 A  843          LDA     GOT                                             03 00826
002227 001010 A  844          JAZ*    GOTL        RETURN IF SUPPRESS                  03 00827
002230 102225 R
002231 005001 A  845          TZA                                                     03 00828
002232 057000 I  846          STA     PLF         RESET SOURCE LINE SUPPRESS FLAG     03 00829
002233 017000 I  847          LDA     SMFL                                            03 00830
002234 002010 A  848          JAZM    LLN         LIST LINE                           03 00831
002235 010300 R
002236 001000 A  849          JMP*    GOTL        RETURN                              03 00832
002237 102225 R
002240 000000 A  850 GOT      DATA    0                                               03 00833
                 851 *                                                                03 00834
                 852 *    THIS IS THE OPSY DIRECTIVE PROCESSING                       03 00835
                 853 *                                                                03 00836
002241 017000 I  854 OPSY     LDA     LAB1                                            03 00837
002242 001010 A  855          JAZ     OPS1        JUMP IF NO SYMBOL IN LABEL FIELD    03 00838
002243 002303 R
002244 002000 A  856          JMPM    ISM         INPUT SYMBOL                        03 00839
002245 007474 R
002246 000040 R  857          DATA    LAB2        PUT IT IN LAB2                      03 00840
002247 001010 A  858          JAZ     OPS1        JUMP IF NO SYMBOL IN VARIABLE FIELD 03 00841
002250 002303 R
002251 002000 A  859          JMPM    OCFD        SEARCH OP CODE TABLE                03 00842
002252 007416 R
002253 000040 R  860          DATA    LAB2                                            03 00843
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002254 001040 A   861          JXZ     OPS2          JUMP IF NOT FOUND                          03 00844
002255 002305 R
002256 077000 I   862          STX     LAB2          SAVE OP CODE POINTER                       03 00845
002257 010000 L   863          LDA     =5                                                       03 00846
002260 002000 A   864          JMPM    GS1           GET SPACE TABLE #1                         03 00847
002261 011441 R
002262 001004 A   865          JAN     OPS4          JUMP IF NO SPACE                           03 00848
002263 002277 R
002264 017000 I   866          LDA     LAB1+1        GET FIRST TWO CHACTS                       03 00849
002265 055000 A   867          STA     STS,X         STORE INTO TABLE                           03 00850
002266 017000 I   868          LDA     LAB1+2        GET SECOND TWO CHACTS                      03 00851
002267 055001 A   869          STA     STS+1,X       STORE INTO TABLE                           03 00852
002270 017000 I   870          LDA     LAB1+3        GET THIRD TWO CHACTS                       03 00853
002271 055002 A   871          STA     STS+2,X       STORE INTO TABLE                           03 00854
002272 027000 I   872          LDB     LAB2          GET OLD OP CODE POINTER                    03 00855
002273 016004 A   873          LDA     STA,B         GET OLD ATTRIBUTE WORD                     03 00856
002274 055004 A   874          STA     STA,X         STORE INTO TABLE                           03 00857
002275 016003 A   875          LDA     STV,B         GET OLD VALUE WORD                         03 00858
002276 055003 A   876          STA     STV,X         STORE INTO TABLE                           03 00859
002277 002000 A   877 OPS4     JMPM    LLN           LIST LINE                                  03 00860
002300 010300 R
002301 001000 A   878          JMP     RCK           GO  TO BLANK CHECK ROUTINE                 03 00861
002302 005274 R
                  879 *                                                                        03 00862
002303 020000 L   880 OPS1     LDB     ='NS'                                                    03 00863
002304 001006 A   881          DATA    01006         *SKIP NEXT WORD                            03 00864
002305 027000 I   882 OPS2     LDB     QSYQ          (='SY')                                    03 00865
002306 002000 A   883          JMPM    ERR                                                      03 00866
002307 007747 R
002310 001000 A   884          JMP     OPS4                                                     03 00867
002311 002277 R
                  885 *                                                                        03 00868
                  886 *        THIS IS THE DUP DIRECTIVE PROCESSING                            03 00869
                  887 *                                                                        03 00870
002312 017000 I   888 DUP      LDA     DIPF                                                     03 00871
002313 001010 A   889          JAZ     DUP1          JUMP IF NO DUP IN PROCESS                  03 00872
002314 002324 R
002315 020000 L   890          LDB     ='DP'         ERROR                                      03 00873
002316 002000 A   891          JMPM    ERR           NESTED DUP'S NOT ALLOWED                   03 00874
002317 007747 R
002320 002000 A   892          JMPM    LLN           LIST NESTED 'DUP' LINE                     03 00875
002321 010300 R
002322 001000 A   893          JMP     RET           EXIT ASSEMBLER                             03 00876
002323 007115 R
                  894 *                                                                        03 00877
002324 047000 I   895 DUP1     INR     DIPF          SET DUP IN PROCESS FLAG                    03 00878
002325 002000 A   896          JMPM    IAC           GET FIRST PARAMETER                        03 00879
002326 005317 R
002327 054122 A   897          STA     DPCT          SAVE DUP COUNT                             03 00880
002330 002000 A   898          JMPM    CTST          COMMA ALLOW TEST                           03 00881
002331 007677 R
002332 001010 A   899          JAZ     *+5           JUMP IF COMMA                              03 00882
002333 002337 R
002334 005102 A   900          INCR    2             B=1                                        03 00883
002335 001000 A   901          JMP     DUP2                                                     03 00884
002336 002351 R
                  902 *                                                                        03 00885
002337 002000 A   903          JMPM    IAC           GET SECOND PARAMETER                       03 00886
002340 005317 R
002341 005012 A   904          TAB                   SAVE VALUE IN B-REG.                       03 00887
002342 140423 A   905          SUB     FOUR          (=4)                                       03 00888
002343 001004 A   906          JAN     DUP2          JUMP IF .LE. 3                             03 00889
002344 002351 R
002345 020000 L   907          LDB     ='SZ'                                                    03 00890
002346 002000 A   908          JMPM    ERR                                                      03 00891
002347 007747 R
002350 020000 L   909          LDB     =3                                                       03 00892
002351 064101 A   910 DUP2     STB     DPLN          SAVE DUPLICATE LINES                       03 00893
002352 002000 A   911          JMPM    RCKS          BLANK CHECK                                03 00894
002353 005302 R
002354 017000 I   912          LDA     SNFL                                                     03 00895
002355 002010 A   913          JAZM    LLN           LIST 'DUP' LINE                            03 00896
002356 010300 R
002357 017000 I   914          LDA     BDUT          INITIATE                                   03 00897
002360 054020 A   915          STA     DUP3          BEGIN OF DUP TABLE                         03 00898
002361 017000 I   916          LDA     LNCT          SAVE                                       03 00899
002362 054062 A   917          STA     DUPC          LINE COUNT                                 03 00900
002363 014067 A   918          LDA     DPLN                                                     03 00901
002364 005311 A   919 DUP6     DNR                   DECREMENT DUP COUNT                        03 00902
002365 001004 A   920          JAN     DUP7          JUMP IF END OF LINE COUNT                  03 00903
002366 002405 R
002367 054064 A   921          STA     DUP5                                                     03 00904
002370 002000 A   922          JMPM    RNR           READ NEXT RECORD                           03 00905
002371 006570 R
002372 014006 A   923          LDA     DUP3                                                     03 00906
002373 124003 A   924          ADD     D40           (=40)                                      03 00907
002374 054004 A   925          STA     DUP3                                                     03 00908
002375 002000 A   926          JMPM    MOVW          SAVE RECORD                                03 00909
002376 011761 R
002377 000050 A   927 D40      DATA    40            COUNT (ALSO USED AS A CONSTANT)            03 00910
002400 000124 R   928          DATA    $BUF          'FROM' ADDRESS                             03 00911
002401 000000 A   929 DUP3     DATA    0             'TO' ADDRESS                               03 00912
002402 014051 A   930          LDA     DUP5          GET CURRENT COUNT                          03 00913
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002403 001000 A   931          JMP     DUP6                                    03 00914
002404 002364 R
                  932 *                                                        03 00915
002405 014044 A   933 DUP7     LDA     DPCT    GET DUP COUNT                   03 00916
002406 005311 A   934          DAR                                             03 00917
002407 001004 A   935          JAN     DUP9    JUMP IF END OF COUNT            03 00918
002410 002446 R
002411 054040 A   936          STA     DPCT                                    03 00919
002412 014032 A   937          LDA     DUP5                                    03 00920
002413 057000 I   938          STA     LNCT                                    03 00921
002414 017000 I   939          LDA     BDUT    INITIATE                        03 00922
002415 054014 A   940          STA     DUP4    BEGIN OF DUP TABLE              03 00923
002416 014034 A   941          LDA     DPLN    GET DUP LINE COUNT              03 00924
002417 005311 A   942 DUP8     DAR                                             03 00925
002420 001004 A   943          JAN     DUP7    JUMP IF END OF LINE COUNT       03 00926
002421 002405 R
002422 054021 A   944          STA     DUP8                                    03 00927
002423 014006 A   945          LDA     DUP4                                    03 00928
002424 127000 I   946          ADD     D40     (=40)                           03 00929
002425 054004 A   947          STA     DUP4                                    03 00930
002426 047000 I   948          INR     LNCT    INCREMENT LISTING LINE COUNT    03 00931
002427 002000 A   949          JMPM    MOVW    PUT NEXT RECORD INTO $BUF       03 00932
002430 011761 R
002431 000050 A   950          DATA    10      COUNT                           03 00933
002432 000000 A   951 DUP4     DATA    0       'FROM' ADDRESS                  03 00934
002433 000124 R   952          DATA    $BUF    'TO' ADDRESS                    03 00935
002434 017000 I   953          LDA     IBBA    INITIATE                        03 00936
002435 057000 I   954          STA     ICP     INPUT CHACT POINTER             03 00937
002436 057000 I   955          STA     ICP0                                    03 00938
002437 002000 A   956          JMPM    ASSR    ASSEMBLE THE RECORD             03 00939
002440 001103 R
002441 014002 A   957          LDA     DUP8                                    03 00940
002442 001000 A   958          JMP     DUP8                                    03 00941
002443 002412 R
002444 000000 A   959 DUP8     DATA    0                                       03 00942
002445 000000 A   960 DUPC     DATA    0                                       03 00943
                  961 *                                                        03 00944
                  962 *       WE GET HERE AT THE END OF A DUP                  03 00945
                  963 *                                                        03 00946
002446 005001 A   964 DUP9     IZA             RESET                           03 00947
002447 057000 I   965          STA     DIFF    DUP IN PROCESS FLAG             03 00948
002450 001000 A   966          JMP     RET     EXIT ASSEMBLER                  03 00949
002451 007115 R
002452 000000 A   967 DPCT     DATA    0       DUP COUNT                       03 00950
002453 000000 A   968 DPLN     DATA    0       DUP LINE COUNT                  03 00951
002454 000000 A   969 DUP5     DATA    0       TEMP STORAGE FOR DUP            03 00952
                  970 *                                                        03 00953
                  971 *       THIS IS THE IFT DIRECTIVE PROCESSING             03 00954
                  972 *                                                        03 00955
002455 005101 A   973 IFT      INCR    1       SET IF FLAG                     03 00956
                  974 *                                                        03 00957
                  975 *       THIS IS THE IFF DIRECTIVE PROCESSING             03 00958
                  976 *                                                        03 00959
002456 054102 A   977 IFF      STA     IFFG    SET/RESET IF FLAG               03 00960
002457 002000 A   978          JMPM    IAC     GET VALUE                       03 00961
002460 005317 R
002461 002000 A   979          JMPM    CTST    ALLOW A COMMA                   03 00962
002462 007677 R
002463 001010 A   980          JAZ     IF1     JUMP IF COMMA                   03 00963
002464 002512 R
002465 002000 A   981 IFE      JMPM    BCKS    BLANK CHECK                     03 00964
002466 005302 R
002467 017000 I   982          LDA     SMFL
002470 002010 A   983          JAZM    LLN     LIST 'IFF' OR 'IFT' LINE        03 00966
002471 010300 R
002472 017000 I   984          LDA     VAL                                     03 00967
002473 001010 A   985          JAZ     *+3     JUMP IF VALUE IS ZERO           03 00968
002474 002476 R
002475 005101 A   986          INCR    1       A=1                             03 00969
002476 134062 A   987          ERA     IFTG                                    03 00970
002477 001010 A   988          JAZ     RET     EXIT ASSEMBLER IF CONDITION MET 03 00971
002500 007115 R
002501 002000 A   989          JMPM    RNR     READ NEXT RECORD                03 00972
002502 006570 R
002503 005001 A   990          IZA                                             03 00973
002504 057000 I   991          STA     PLF     RESET SOURCE LINE SUPPRESS FLAG 03 00974
002505 017000 I   992          LDA     SMFL                                    03 00975
002506 002010 A   993          JAZM    LLN     LIST IT                         03 00976
002507 010300 R
002510 001000 A   994          JMP     RET     EXIT ASSEMBLER                  03 00977
002511 007115 R
                  995 *                                                        03 00978
002512 017000 I   996 IF1      LDA     VAL                                     03 00979
002513 054046 A   997          STA     IFTP    SAVE VALUE OF FIRST EXPRESSION  03 00980
002514 002000 A   998          JMPM    CTST    COMMA ALLOW TEST                03 00981
002515 007677 R
002516 001010 A   999          JAZ     IF3     JUMP IF 'A,,B' FORM             03 00982
002517 002554 R
                 1000 *                                                        03 00983
                 1001 *       WE GET HERE FOR THE FORM 'A,B,C'                03 00984
                 1002 *                                                        03 00985
002520 002000 A  1003          JMPM    IAC     GET SECOND VALUE                03 00986
002521 005317 R
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002522 014037 A 1004          LDA     IFTP                                                    03 00987
002523 147000 I 1005          SUB     VAL             A-B                                     03 00988
002524 001002 A 1006          JAP     IF5             JUMP IF A .GE. B                        03 00989
002525 002545 R
002526 017000 I 1007          LDA     VAL                                                     03 00990
002527 054032 A 1008          STA     IFTP            SAVE VALUE OF SECOND EXPRESSION         03 00991
002530 002000 A 1009          JMPM    CTST            COMMA ALLOW TEST                        03 00992
002531 007677 R
002532 002000 A 1010          JMPM    IAC             GET THIRD VALUE                         03 00993
002533 005317 R
002534 144025 A 1011          SUB     IFTP            C-B                                     03 00994
002535 001004 A 1012          JAN     IF2             JUMP IF B .GT. C                        03 00995
002536 002541 R
002537 005101 A 1013          INCR    1               A=1                                     03 00996
002540 001006 A 1014          DATA    01006           SKIP NEXT WORD                          03 00997
002541 005001 A 1015 IF2      TZA                                                             03 00998
002542 057000 I 1016 IF4      STA     VAL                                                     03 00999
002543 001000 A 1017          JMP     IFE                                                     03 01000
002544 002465 R
                   1018 *                                                                     03 01001
002545 002000 A 1019 IF5      JMPM    CTST            COMMA ALLOW TEST                        03 01002
002546 007677 R
002547 002000 A 1020          JMPM    IAC             GET THIRD VALUE ANYWAY                  03 01003
002550 005317 R
002551 005001 A 1021          TZA                                                             03 01004
002552 001000 A 1022          JMP     IF2                                                     03 01005
002553 002541 R
                   1023 *                                                                     03 01006
                   1024 *     WE GET HERE FOR THE FORM 'A,,B'                                 03 01007
                   1025 *                                                                     03 01008
002554 002000 A 1026 IF3      JMPM    IAC             GET SECOND VALUE                        03 01009
002555 005317 R
002556 134003 A 1027          ERA     IFTP                                                    03 01010
002557 001000 A 1028          JMP     IF4                                                     03 01011
002560 002542 R
002561 000000 A 1029 IFFG     DATA    0               IF FLAG                                 03 01012
002562 000000 A 1030 IFTP     DATA    0               TEMP STORAGE FOR IFT/IFF PROCESSING     03 01013
                   1031 *                                                                     03 01014
                   1032 *     THIS IS THE END DIRECTIVE PROCESSING                            03 01015
                   1033 *                                                                     03 01016
002563 002000 A 1034 END      JMPM    DFLC            ASSIGN SYMBOL                           03 01017
002564 007142 R
002565 005001 A 1035          TZA                                                             03 01018
002566 057000 I 1036          STA     *LIST                                                   03 01019
002567 017000 I 1037          LDA     PASS                                                    03 01020
002570 001002 A 1038          JAP     CN8             JUMP IF PASS 2                          03 01021
002571 003052 R
                   1039 *                                                                     03 01022
                   1040 *     THIS IS THE END OF PASS 1                                       03 01023
                   1041 *                                                                     03 01024
002572 005101 A 1042          INCR    1               A=+1                                    03 01025
002573 057000 I 1043          STA     PASS            SET PASS 2                              03 01026
002574 010000 L 1044          LDA     =010            SET DEFINED                             03 01027
002575 057000 I 1045          STA     DPF             PASS FLAG FOR PASS 2                    03 01028
                   1046 *                                                                     03 01029
002576 006010 A 1047          LDAI    WRPD            STATUS CHECK PD                         03 01030
002577 006737 R
002600 002000 A 1048          CALL    STAT                 BEFORE STARTING PASS 2             03 01031
002601 006752 R
                   1049 *                                                                     03 01032
                   1050 *                          CHECK STATUS OF RMD DEVICES                03 01033
                   1051 *                               AT END OF PASS 1                      03 01034
                   1052 *                                                                     03 01035
002602 006030 A 1053          LDXI    PDFCB           SAVE FCB                                03 01036
002603 001006 E
002604 006020 A 1054          LDRI    SSFCB                                                   03 01037
002605 000000 E
002606 006010 A 1055          LDAI    *BUF            INITIALIZE                              03 01038
002607 000124 R
002610 055001 A 1056          STA     1,1             FCB BUFFER ADDR                         03 01039
002611 056001 A 1057          STA     1,2                                                     03 01040
002612 017000 I 1058          LDA     PDRMD           IS PD NON RMD                           03 01041
002613 001010 A 1059          JAZ     CN04            YES                                     03 01042
002614 002637 R
002615 006017 A 1060          LDAE    PIRMD           IS PI RMD ?                             03 01043
002616 000100 R
002617 001016 A 1061          JANZ    CN04            YES--RECORD ALREADY WRITTEN             03 01044
002620 002637 R
002621 017000 I 1062          LDA     PDRF            IS PD AT THE BEGINNING OF A SECTOR#     03 01045
002622 001010 A 1063          JAZ     CN04            YES                                     03 01046
002623 002637 R
                   1064 *                                                                     03 01047
                   1065 *                                                                     03 01048
002624 R 1066 FPDWR   EQU     *               WRITE FINAL SOURCE RECORDS ON PD                03 01049
                   1067       WRITE   PDFCB,PD,0,1                                           03 01050
002624 006505 A
002625 001003 E
002626 100000 A
002627 010412 A
002630 002603 E
002631 000000 A
002632 000000 A
                   1068 *                                                                     03 01051
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002633 006010 A 1069          LDAI    FPDWR           STATUS CHECK                          03 01052
002634 002624 R
002635 002000 A 1070          CALL    STAT            PD WRITE                              03 01053
002636 006762 R
                1071 *                                                                      03 01054
        002637 R 1072 EN04    EQU     *                                                     03 01055
                1073          CLOSE   PDFCB,PD,0,1    CLOSE AND UPDATE PD                   03 01056
002637 006505 A
002640 002625 E
002641 100000 A
002642 013412 A
002643 002630 E
002644 000000 A
002645 000000 A
                1074 *                                                                      03 01057
002646 006010 A 1075          LDAI    EN04            STATUS CHECK                          03 01058
002647 002637 R
002650 002000 A 1076          CALL    STAT            PD CLOSE                              03 01059
002651 006762 R
                1077 *                                                                      03 01060
002652 017000 I 1078          LDA     SSRMD           IS SS AN RMD#                         03 01061
002653 001010 A 1079          JAZ     EN9A            NO                                    03 01062
002654 002715 R
002655 014520 A 1080          LDA     PDSS            ARE PD AND SS THE SAME?               03 01063
002656 001010 A 1081          JAZ     *+4                                                   03 01064
002657 002662 R
002660 001000 A 1082          JMP     EN05            NO                                    03 01065
002661 002675 R
                1083 *                                                                      03 01066
        002662 R 1084 EN05    EQU     *                                                     03 01067
                1085          OPEN    SSFCB,SS,0,0    OPEN AND REWIND SS                    03 01068
002662 006505 A
002663 002640 E
002664 100000 A
002665 003010 A
002666 002605 E
002667 000000 A
002670 000000 A
                1086 *                                                                      03 01069
002671 006010 A 1087          LDAI    EN05            STATUS CHECK WITHOUT BOD ERROR EXIT   03 01070
002672 002662 R
002673 002000 A 1088          CALL    STAT                                                  03 01071
002674 006762 R
        002675 R 1089 EN08    EQU     *                                                     03 01072
002675 006017 A 1090          LDAE    PIRMD           PI ON RMD FLAG                        03 01073
002676 000102 R
002677 001016 A 1091          JANZ    EN09            JUMP IF YES                           03 01074
002700 002710 R
002701 017000 I 1092          LDA     SSRF            IS SS ON SECTOR BOUNDARY#             03 01075
002702 001004 A 1093          JAN     EN11            NO                                    03 01076
002703 002754 R
                1094 *                                                                      03 01077
002704 002000 A 1095          CALL    SSREAD          READ 1ST SECTOR OF SS TO START PASS 2 03 01078
002705 012327 R
002706 001000 A 1096          JMP     EN11                                                  03 01079
002707 002754 R
002710 005301 A 1097 EN09     DECR    01              SET SS RECORD FLAG                    03 01080
002711 006057 A 1098          STAE    SSRF            TO BEGIN OF SECTOR                    03 01081
002712 000112 R
002713 001000 A 1099          JMP     EN11                                                  03 01082
002714 002754 R
        002715 R 1100 EN9A    EQU     *                                                     03 01083
002715 014460 A 1101          LDA     PDSS            ARE PD AND SS THE SAME?               03 01084
002716 001010 A 1102          JAZ     *+4                                                   03 01085
002717 002722 R
002720 001000 A 1103          JMP     EN10-1          NO, REPOSSITION BY SKIPPING RECORDS.  03 01086
002721 002733 R
                1104 *                                                                      03 01087
                1105          REW     SSFCB,SS,0,1    REWIND SS AND WAIT FOR COMPLETION     03 01088
002722 006505 A
002723 002660 E
002724 100000 A
002725 001410 A
002726 002666 E
002727 000000 A
002730 000000 A
002731 001000 A 1106          JMP     EN11                                                  03 01089
002732 002754 R
                1107 *                                                                      03 01090
002733 027000 I 1108          LDB     NREC            NO. OF RECORDS IN SOURCE ASSEMBLY     03 01091
        002734 R 1109 EN10    EWD     *                                                     03 01092
                1110          CREC    SSFCB,SS,0,1    RESET SS FOR PASS 2                   03 01093
002734 006505 A
002735 002720 E
002736 100000 A
002737 012010 A
002740 002726 E
002741 000000 A
002742 000000 A
                1111 *                                                                      03 01094
002743 006010 A 1112          LDAI    EN10            STATUS CHECK THE SS FILE              03 01095
002744 002734 R
002745 002000 A 1113          CALL    STAT                                                  03 01096
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002746 006762 R
                1114 *                                                                  03 01097
002747 005322 A 1115        DBR             COUNT IT DOWN                               03 01098
002750 001020 A 1116        JBZ     EN11    UNTIL POSITIONED AT FIRST REC,              03 01099
002751 002754 R
002752 001000 A 1117        JMP     EN10    SKIP BACKWARDS ONE MORE REC.                03 01100
002753 002734 R
       002754 R 1118 EN11   EQU     *                                                   03 01101
002754 005001 A 1119        TZA                                                         03 01102
002755 002000 A 1120        JMPM    SAR     CLEAR OBUF                                  03 01103
002756 011705 R
002757 000074 A 1121        DATA    OBSZ                                                03 01104
002760 000410 R 1122        DATA    OBUF                                                03 01105
002761 017000 I 1123        LDA     OBBQ    BLANK FILL THE LIST BUFFER                  03 01106
002762 002000 A 1124        CALL    SAR                                                 03 01107
002763 011705 R
002764 000074 A 1125        DATA    LBSZ                                                03 01108
002765 000314 R 1126        DATA    LBUF                                                03 01109
002766 006010 A 1127        LDAI    064400  INITIALIZE                                  03 01110
002767 064400 A
002770 057000 I 1128        STA     OBUF    RECORD CONTROL WORD                         03 01111
002771 017000 I 1129        LDA     PC      SET                                         03 01112
002772 057000 I 1130        STA     OBUF+2  PROGRAM SIZE                                03 01113
002773 002000 A 1131        JMPM    MOVW    SET TITLE                                   03 01114
002774 011761 R
002775 000004 A 1132        DATA    4                                                   03 01115
002776 000120 R 1133        DATA    TTLBLK+1                                            03 01116
002777 000413 R 1134        DATA    OBUF+3                                              03 01117
003000 002000 A 1135        JMPM    MOVW    SET DATE                                    03 01118
003001 011761 R
003002 000004 A 1136        DATA    4                                                   03 01119
003003 000070 A 1137        DATA    V$DATE                                              03 01120
003004 000417 R 1138        DATA    OBUF+7                                              03 01121
003005 006010 A 1139        LDAI    OBUF+11 INITIATE                                    03 01122
003006 000423 R
003007 057000 I 1140        STA     OBPT    OUTPUT BUFFER POINTER                       03 01123
003010 010000 L 1141        LDA     =010000                                             03 01124
003011 057000 I 1142        STA     CODE    LOADER SUBCODE 010                          03 01125
003012 037000 I 1143        LDX     BT6     GET BEGIN OF SYMBOL TABLE                   03 01126
003013 005141 A 1144 EN12    INCR    X41     A=X+1                                       03 01127
003014 147000 I 1145        SUB     ET6                                                 03 01128
003015 001002 A 1146        JAP     EN13    JUMP IF END OF SYMBOL TABLE                 03 01129
003016 003031 R
003017 015004 A 1147        LDA     STA,X   GET SYMBOL TABLE ATTRIBUTE WORD             03 01130
003020 150000 L 1148        ANA     =0600   EXTRACT ST                                  03 01131
003021 130000 L 1149        ERA     =0200                                               03 01132
003022 002010 A 1150        JAZM    NOUT    JUMP IF ENTRY NAME                          03 01133
003023 003440 R
003024 005041 A 1151        TXA                                                         03 01134
003025 120000 L 1152        ADA     =5                                                  03 01135
003026 005014 A 1153        TAX                                                         03 01136
003027 001000 A 1154        JMP     EN12    KEEP TRYING                                 03 01137
003030 003013 R
                1155 *                                                                  03 01138
       003031 R 1156 EN13   EQU     *                                                   03 01139
003031 014016 A 1157        LDA     CMSZ    GET COMMON SIZE                             03 01140
003032 001010 A 1158        JAZ     S2      JUMP IF NO COMMON                           03 01141
003033 001011 R
003034 006010 A 1159        LDAI    011040  LOADER SUBCODE 011 + POINTER 2              03 01142
003035 011040 A
003036 057000 I 1160        STA     CODE                                                03 01143
003037 006030 A 1161        LDXI    NCOM                                                03 01144
003040 003045 R
003041 002000 A 1162        JMPM    NOUT    OUTPUT COMMON SIZE                          03 01145
003042 003440 R
003043 001000 A 1163        JMP     S2      NOW TRY PASS 2                              03 01146
003044 001011 R
003045 141717 A 1164 NCOM    DATA    'COMMON'                                            03 01147
003046 146715 A
003047 147716 A
003050 000000 A 1165 CMSZ    DATA    0       COMMON SIZE ACCUMULATOR                     03 01148
003051 000016 A 1166        DATA    016     ATTRIBUTE WORD                              03 01149
                1167 *                                                                  03 01150
                1168 *       THIS IS THE END OF PASS 2                                  03 01151
                1169 *                                                                  03 01152
003052 002000 A 1170 EN2     JMPM    GNC0    GET NEXT CHAR                               03 01153
003053 007707 R
003054 001010 A 1171        JAZ     EN21    JUMP IF EOL (NO EXECUTION ADDRESS)          03 01154
003055 003075 R
003056 130000 L 1172        ERA     =' '                                                03 01155
003057 001010 A 1173        JAZ     EN21    JUMP IF BLANK (NO EXECUTION ADDRESS)        03 01156
003060 003075 R
003061 002000 A 1174        JMPM    EXN     GET VALUE                                   03 01157
003062 005337 R
003063 010000 L 1175        LDA     =07000                                              03 01158
003064 057000 I 1176        STA     CODE    LOADER SUB CODE 07                          03 01159
003065 002000 A 1177        JMPM    ARPT    GET RELO                                    03 01160
003066 011136 R
003067 002000 A 1178        JMPM    OUTR    OUTPUT EXECUTION ADDRESS TO LOADER TEXT     03 01161
003070 011016 R
003071 002000 A 1179        JMPM    TW                                                  03 01162
003072 010251 R
003073 002000 A 1180        JMPM    BCKS    BLANK CHECK                                 03 01163
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003074 005302 R
003075 002000 A 1181 EN21     JMPM     LLN              LIST LINE                                03 01164
003076 010300 R
003077 006010 A 1182          LDAI     012000                                                    03 01165
003100 012000 A
003101 057000 I 1183          STA      CODE             LOADER SUBCODE 012                       03 01166
003102 037000 I 1184          LDX      BT6              GET BEGIN OF SYMBOL TABLE                03 01167
003103 005141 A 1185 EN23     INCR     041              A=X+1                                    03 01168
003104 147000 I 1186          SUB      ET6                                                       03 01169
003105 001002 A 1187          JAP      EN22             JUMP IF END OF SYMBOL TABLE              03 01170
003106 003121 R
003107 015004 A 1188          LDA      STA,X            GET SYMBOL TABLE ATTRIBUTE WORD          03 01171
003110 150000 L 1189          ANA      =0600            EXTRACT ST                               03 01172
003111 130000 L 1190          ERA      =0400                                                     03 01173
003112 002010 A 1191          JAZM     NOUT             JUMP IF EXTERNAL NAME                    03 01174
003113 003440 R
003114 005041 A 1192          TXA                                                                03 01175
003115 120000 L 1193          ADD      =5                                                        03 01176
003116 005014 A 1194          TAX                                                                03 01177
003117 001000 A 1195          JMP      EN23                                                      03 01178
003120 003103 R
                1196 *                                                                           03 01179
003121 017000 I 1197 EN22     LDA      OBUF                                                      03 01180
003122 006150 A 1198          AMAI     0173777          TURN OFF BIT 11                          03 01181
003123 173777 A
003124 057000 I 1199          STA      OBUF                                                      03 01182
003125 002000 A 1200          JMPM     WRIT             OUTPUT LAST LOADER TEXT RECORD           03 01183
003126 011303 R
003127 017000 I 1201          LDA      $PCW             GET PROGRAM CONTROL WORD ($PCW)          03 01184
003130 004255 A 1202          LRLA     MBIT-3           PUT BIT 2 INTO A(SIGN)                   03 01185
003131 001004 A 1203          JAN      EN2A             JUMP IF MEMORY MAP SUPPRESS              03 01186
003132 003246 R
003133 002000 A 1204          JMPM     MOVW                                                      03 01187
003134 011761 R
003135 000006 A 1205          DATA     6                                                         03 01188
003136 003377 R 1206          DATA     ENM1             'ENTRY NAMES '                           03 01189
003137 000314 R 1207          DATA     LBUF                                                      03 01190
003140 002000 A 1208          JMPM     LST              LIST SUBHEADING                          03 01191
003141 010145 R
003142 037000 I 1209          LDX      BT6              GET BEGIN OF SYMBOL TABLE                03 01192
003143 005141 A 1210 EN24     INCR     041              A=X+1                                    03 01193
003144 147000 I 1211          SUB      ET6                                                       03 01194
003145 001002 A 1212          JAP      EN25             JUMP IF END OF SYMBOL TABLE              03 01195
003146 003161 R
003147 015004 A 1213          LDA      STA,X            GET SYMBOL TABLE ATTRIBUTE WORD          03 01196
003150 150000 L 1214          ANA      =0600            EXTRACT ST                               03 01197
003151 130000 L 1215          ERA      =0200                                                     03 01198
003152 002010 A 1216          JAZM     LOUT             JUMP IF ENTRY NAME                       [illegible]
003153 003461 R
003154 005041 A 1217          TXA                                                                03 01200
003155 120000 L 1218          ADD      =5                                                        03 01201
003156 005014 A 1219          TAX                                                                03 01202
003157 001000 A 1220          JMP      EN24             KEEP TRYING                              03 01203
003160 003143 R
                1221 *                                                                           [illegible]
       003161 R 1222 EN25     EQU      *                                                         [illegible]
003161 017000 I 1223          LDA      LB2P1            (=LBUF*2+1)                              [illegible]
003162 147000 I 1224          SUB      SBTA                                                      [illegible]
003163 002004 A 1225          JANM     LST              LIST LINE IF SOMETHING TO LIST           [illegible]
003164 010145 R
003165 002000 A 1226          JMPM     MOVW                                                      [illegible]
003166 011761 R
003167 000010 A 1227          DATA     8                                                         [illegible]
003170 003405 R 1228          DATA     ENM2             'EXTERNAL NAMES'                         [illegible]
003171 000314 R 1229          DATA     LBUF                                                      [illegible]
003172 002000 A 1230          JMPM     LST              LIST SUBHEADING                          [illegible]
003173 010145 R
003174 037000 I 1231          LDX      BT6              GET BEGIN OF SYMBOL TABLE                [illegible]
003175 005141 A 1232 EN26     INCR     041              A=X+1                                    [illegible]
003176 147000 I 1233          SUB      ET6                                                       [illegible]
003177 001002 A 1234          JAP      EN27             JUMP IF END OF SYMBOL TABLE              [illegible]
003200 003213 R
003201 015004 A 1235          LDA      STA,X            GET SYMBOL TABLE ATTRIBUTE WORD          [illegible]
003202 150000 L 1236          ANA      =0600            EXTRACT ST                               [illegible]
003203 130000 L 1237          ERA      =0400                                                     [illegible]
003204 002010 A 1238          JAZM     LOUT             JUMP IF EXTERNAL NAME                    [illegible]
003205 003461 R
003206 005041 A 1239          TXA                                                                [illegible]
003207 120000 L 1240          ADD      =5                                                        [illegible]
003210 005014 A 1241          TAX                                                                [illegible]
003211 001000 A 1242          JMP      EN26             KEEP TRYING                              [illegible]
003212 003175 R
                1243 *                                                                           [illegible]
       003213 R 1244 EN27     EQU      *                                                         [illegible]
003213 017000 I 1245          LDA      LB2P1            (=LBUF*2+1)                              [illegible]
003214 147000 I 1246          SUB      SBTA                                                      [illegible]
003215 002004 A 1247          JANM     LST              LIST LINE IF SOMETHING TO LIST           [illegible]
003216 010145 R
003217 002000 A 1248          JMPM     MOVW                                                      03 01231
003220 011761 R
003221 000004 A 1249          DATA     4                                                         03 01232
003222 003417 R 1250          DATA     ENM3             'SYMBOLS '                               [illegible]
003223 000314 R 1251          DATA     LBUF                                                      [illegible]
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003224 002000 A 1252          JMPM    LST     LIST SUBHEADING                                  03 01235
003225 010145 R
003226 037000 I 1253          LDX     BT6     GET BEGIN OF SYMBOL TABLE                        03 01236
003227 005141 A 1254 EN28     INCR    041     A=X+1                                            03 01237
003230 147000 I 1255          SUB     ET6                                                      03 01238
003231 001002 A 1256          JAP     EN29    JUMP IF END OF SYMBOL TABLE                      03 01239
003232 003242 R
003233 002000 A 1257          JMPM    LOUT    OUTPUT SYMBOL                                    03 01240
003234 003461 R
003235 005041 A 1258          TXA                                                              03 01241
003236 120000 L 1259          ADD     =5                                                       03 01242
003237 005014 A 1260          TAX                                                              03 01243
003240 001000 A 1261          JMP     EN28    KEEP TRYING                                      03 01244
003241 003227 R
                1262 *                                                                         03 01245
        003242 R 1263 EN29    EQU     *                                                        03 01246
003242 017000 I 1264          LDA     LBPP1   (=LBUF*2+1)                                      03 01247
003243 147000 I 1265          SUB     SBTA                                                     03 01248
003244 002004 A 1266          JANM    LST     LIST LINE IF SOMETHING TO LIST                   03 01249
003245 010145 R
        003246 R 1267 EN2A    EQU     *                                                        03 01250
003246 017000 I 1268          LDA     ERCT    GET ERROR COUNTER                                03 01251
003247 002000 A 1269          JMPM    B2A     CONVERT TO ASCII                                 03 01252
003250 012030 R
003251 057000 I 1270          STA     LBUF                                                     03 01253
003252 067000 I 1271          STB     LBUF+1                                                   03 01254
003253 002000 A 1272          JMPM    MOVW                                                     03 01255
003254 011761 R
003255 000015 A 1273          DATA    13                                                       03 01256
003256 003423 R 1274          DATA    EMM4                                                     03 01257
003257 000316 R 1275          DATA    LBUF+2  ' ERRORS ASSEMBLY COMPLETE '                     03 01258
003260 017000 I 1276          LDA     ERLN    LAST ERROR LINE NUMBER                   D       03 01259
003261 001010 A 1277          JAZ     EN2B    DONT REF IN NO ERRORS                    D       03 01260
003262 003275 R
003263 002000 A 1278          CALL    B2A                                              D       03 01261
003264 012030 R
003265 057000 I 1279          STA     LBUF+16 STORE IN                                 D       03 01262
003266 067000 I 1280          STB     LBUF+17 MESSAGE                                  D       03 01263
003267 006010 A 1281          LDAI    ' ('                                             D       03 01264
003270 120250 A
003271 057000 I 1282          STA     LBUF+15                                          D       03 01265
003272 006010 A 1283          LDAI    ') '                                             D       03 01266
003273 124640 A
003274 057000 I 1284          STA     LBUF+18                                          D       03 01267
        003275 R 1285 EN2B    EQU     *                                                D       03 01268
003275 002000 A 1286          JMPM    LST     LIST MESSAGE UNCONDITIONALLY                     03 01269
003276 010145 R
        003277 R 1287 EN2H    EQU     *                                                        03 01270
003277 006030 A 1288          LDXI    BOFCB                                                    03 01271
003300 000000 E
003301 006020 A 1289          LDBI    GOFCB                                                    03 01272
003302 000000 E
003303 006010 A 1290          LDAI    OBUF+60 RESET BUFF ADDR                                  03 01273
003304 000504 R
003305 055001 A 1291          STA     1,1                                                      03 01274
003306 056001 A 1292          STA     1,2                                                      03 01275
003307 017000 I 1293          LDA     $PCW    CHECK FOR BO SUPPRESS                            03 01276
003310 004256 A 1294          LRLA    NBIT-2                                                   03 01277
003311 001004 A 1295          JAN     EN2I    SKIP BO WRITE IF SUPPRESS BIT SET                03 01278
003312 003342 R
003313 017000 I 1296          LDA     BORMD   IS BO AN RMD?                                    03 01279
003314 001010 A 1297          JAZ     EN2I    NO, PROCESS GO FILE                              03 01280
003315 003342 R
003316 017000 I 1298          LDA     BORF    IS BO POSITIONED AT START OF RMD SECTOR          03 01281
003317 001004 A 1299          JAN     EN2I    YES, PROCESS GO UNIT                             03 01282
003320 003342 R
                1300 *                                                                         03 01283
003321 006010 A 1301          LDAI    WRBO    STATUS CHECK LAST                                03 01284
003322 011227 R
003323 002000 A 1302          CALL    STAT    BO WRITE                                         03 01285
003324 006762 R
                1303 *                                                                         03 01286
        003325 R 1304 BOWR    EQU     *                                                        03 01287
                1305          WRITE   BOFCB,BO,0,0 WRITE BO AND WAIT FOR COMPLETION            03 01288
003325 006505 A
003326 002735 E
003327 100000 A
003330 000407 A
003331 003300 E
003332 000000 A
003333 000000 A
                1306 *                                                                         03 01289
003334 006010 A 1307          LDAI    BOWR    STATUS CHECK                                     03 01290
003335 003325 R
003336 002000 A 1308          CALL    STAT    THE BO WRITE                                     03 01291
003337 006762 R
003340 005301 A 1309          DECR    1       START BO OF NEXT ASSEMBLY                        03 01292
003341 057000 I 1310          STA     BORF    ON EVEN SECTOR BOUNDARY                          03 01293
                1311 *                                                                         03 01294
        003342 R 1312 EN2I    EQU     *                                                        03 01295
                1313 *                                                                         03 01296
003342 017000 I 1314          LDA     $PCW    GO OPTION SPECIFIED                              03 01297
003343 001002 A 1315          JAP     S1      NO                                               03 01298
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003344 000740 R
                    1316 *
                                                                                                03 01299
003345 017000 I     1317          LDA     GORMD       IS GO FILE ON RMD?                        03 01300
003346 001010 A     1318          JAZ     S1          NO, START NEXT ASSEMBLY                   03 01301
003347 000740 R
003350 017000 I     1319          LDA     GORF        IS NXT GO REC POSITIONED AT START OF SECT 03 01302
003351 001004 A     1320          JAN     S1          YES                                       03 01303
003352 000740 R
                    1321 *                                                                      03 01304
003353 006010 A     1322          LDAI    WRGO        STATUS CHECK LAST                         03 01305
003354 011255 R
003355 002000 A     1323          CALL    STAT        GO WRITE                                  03 01306
003356 006762 R
                    1324 *                                                                      03 01307
                    1325 *                                                                      03 01308
          003357 R  1326 GOWR     EQU     *                                                     03 01309
                    1327          WRITE   GOFCB,GO,0,0  WRITE GO FILE AND WAIT                03 01310
003357 006505 A
003360 003326 E
003361 130000 A
003362 000417 A
003363 003300 E
003364 000000 A
003365 000000 A
                    1328 *                                                                      03 01311
003366 006010 A     1329          LDAI    GOWR        STATUS CHECK                              03 01312
003367 003357 R
003370 002000 A     1330          CALL    STAT        GO WRITE                                  03 01313
003371 006762 R
003372 005301 A     1331          DECR    1           START GO OF NEXT ASSEMBLY                 03 01314
003373 057000 I     1332          STA     GORF        ON EVEN SECTOR BOUNDARY                   03 01315
003374 001000 A     1333          JMP     S1          ASSEMBLE NEXT PROG                        03 01316
003375 000740 R
003376              1334 POSS     BSS     1           PO/SS COMPARE FLAG (=0, PO=SS)            03 01317
                    1335 *                                                                      03 01318
003377 120305 A     1336 ENM1     DATA    ' ENTRY NAMES'                                        03 01319
003400 147324 A
003401 151331 A
003402 120316 A
003403 140715 A
003404 142723 A
003405 120305 A     1337 ENM2     DATA    ' EXTERNAL NAMES'                                     03 01320
003406 154324 A
003407 142700 A
003410 147301 A
003411 146200 A
003412 147301 A
003413 146705 A
003414 151640 A
003415 142700 A     1338 QEXQ     DATA    'EX'        (ALSO USED AS A CONSTANT)                 03 01321
003416 151701 A     1339 QSYQ     DATA    'SY'        (ALSO USED AS A CONSTANT)                 03 01322
003417 120323 A     1340 ENM3     DATA    ' SYMBOLS'                                            03 01323
003420 154715 A
003421 141317 A
003422 146000 A
003423 120005 A     1341 ENM4     DATA    ' ERRORS ASSEMBLY COMPLETE '                          03 01324
003424 151300 A
003425 142722 A
003426 151640 A
003427 140720 A
003430 151705 A
003431 146700 A
003432 146301 A
003433 120303 A
003434 147715 A
003435 150314 A
003436 142724 A
003437 000000 A
                    1342 QEBQ     BES     0           (ALSO USED AS A CONSTANT)                 03 01325
                    1343 *                                                                      03 01326
                    1344 *        THIS IS A SUBROUTINE TO THE END DIRECTIVE PROCESSING          03 01327
                    1345 *        TO OUTPUT A NAME IN THE SYMBOL TABLE TO THE LOADER TEXT       03 01328
                    1346 *        WITH THE LOADER (SUB)CODE SPECIFIED IN SYMBOLIC LOCATION CODE 03 01329
                    1347 *        CALLING SEQUENCE                                              03 01330
                    1348 *        JMPM    NOUT        WITH X REG POINTING TO SYMBOL TABLE ENTRY 03 01331
                    1349 *        RETURN              X REG NOT DESTROYED                       03 01332
                    1350 *                                                                      03 01333
003440 000000 A     1351 NOUT     DATA    0                                                     03 01334
003441 013000 A     1352          LDA     STS,X                                                 03 01335
003442 057000 I     1353          STA     LAB1+1                                                03 01336
003443 013001 A     1354          LDA     STS+1,X                                               03 01337
003444 057000 I     1355          STA     LAB1+2                                                03 01338
003445 013002 A     1356          LDA     STS+2,X                                               03 01339
003446 057000 I     1357          STA     LAB1+3                                                03 01340
003447 015004 A     1358          LDA     STC,X       GET SYMBOL TABLE ATTRIBUTE WORD           03 01341
003450 057000 I     1359          STA     RVAL                                                  03 01342
003451 015003 A     1360          LDA     STV,X       GET SYMBOL TABLE VALUE WORD               03 01343
003452 057000 I     1361          STA     VAL                                                   03 01344
003453 077000 I     1362          STX     SNDT        SAVE X REG                                03 01345
003454 002000 A     1363          JMPM    OUT4        OUTPUT NAME TO LOADER TEXT                03 01346
003455 011070 R
003456 037000 I     1364          LDX     SNDT        RESTORE X REG                             03 01347
003457 001000 A     1365          JMP*    NOUT        RETURN                                    03 01348
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003460 103440 R
                    1366 *                                                                                  03 01349
                    1367 *      THIS IS A SUBROUTINE TO THE END DIRECTIVE PROCESSING                        03 01350
                    1368 *      TO OUTPUT A NAME IN THE SYMBOL TABLE TO THE LIST BUFFER                     03 01351
                    1369 *      CALLING SEQUENCE                                                            03 01352
                    1370 *      JMPM    LOUT            WITH X REG POINTING TO SYMBOL TABLE ENTRY           03 01353
                    1371 *      RETURN                  X REG NOT DESTROYED                                 03 01354
                    1372 *                                                                                  03 01355
003461 000000 A     1373 LOUT   DATA    0                                                                   03 01356
003462 025003 A     1374        LDB     STV,X           GET SYMBOL TABLE VALUE WORD                         03 01357
003463 002000 A     1375        JMPM    OO              OUTPUT OCTAL                                        03 01358
003464 010263 R
003465 015004 A     1376        LDA     STA,X           GET SYMBOL TABLE ATTRIBUTE WORD                     03 01359
003466 057000 I     1377        STA     RVAL                                                                03 01360
003467 002000 A     1378        JMPM    TOUT            OUTPUT SYMBOL TYPE                                  03 01361
003470 010575 R
003471 015000 A     1379        LDA     STS,X                                                               03 01362
003472 004350 A     1380        LSRA    8                                                                   03 01363
003473 002000 A     1381        JMPM    SBT             OUTPUT FIRST CHACT                                  03 01364
003474 011765 R
003475 015000 A     1382        LDA     STS,X                                                               03 01365
003476 002000 A     1383        JMPM    SBT             OUTPUT SECOND CHACT                                 03 01366
003477 011765 R
003500 015001 A     1384        LDA     STS+1,X                                                             03 01367
003501 004350 A     1385        LSRA    8                                                                   03 01368
003502 002000 A     1386        JMPM    SBT             OUTPUT THIRD CHACT                                  03 01369
003503 011765 R
003504 015001 A     1387        LDA     STS+1,X                                                             03 01370
003505 002000 A     1388        JMPM    SBT             OUTPUT FOURTH CHACT                                 03 01371
003506 011765 R
003507 015002 A     1389        LDA     STS+2,X                                                             03 01372
003510 004350 A     1390        LSRA    8                                                                   03 01373
003511 002000 A     1391        JMPM    SBT             OUTPUT FIFTH CHACT                                  03 01374
003512 011763 R
003513 015002 A     1392        LDA     STS+2,X                                                             03 01375
003514 002000 A     1393        JMPM    SBT             OUTPUT SIXTH CHACT                                  03 01376
003515 011765 R
003516 047000 I     1394        INR     SBTA            AND A BLANK CHACT                                   03 01377
003517 017000 I     1395        LDA     SBTA                                                                03 01378
003520 147000 I     1396        SUB     LB2P51          (=LBUF*2+51)                                        03 01379
003521 001004 A     1397        JAN*    LOUT            RETURN IF NOT END OF LINE                           03 01380
003522 103461 R
003523 077000 I     1398        STX     ENDT            SAVE X REGISTER                                     03 01381
003524 002000 A     1399        JMPM    LST             LIST LINE                                           03 01382
003525 010145 R
003526 037000 I     1400        LDX     ENDT            RESTORE X REGISTER                                  03 01383
003527 001000 A     1401        JMP*    LOUT            RETURN                                              03 01384
003530 103461 R
                    1402 *                                                                                  03 01385
                    1403 *      THIS IS THE START OF THE MACHINE INSTRUCTION,                               03 01386
                    1404 *      MACRO EXPANSION, AND FORM EXPANSION PROCESSING ROUTINES                     03 01387
                    1405 *                                                                                  03 01388
003531 002000 A     1406 MOP    JMPM    DFLC            ASSIGN SYMBOL                                       03 01389
003532 007142 R
003533 001000 A     1407        JMP     0               GO TO IT                                            03 01390
003534 000000 A
003534              1408 MOPJ   BES     0                                                                   03 01391
                    1409 *                                                                                  03 01392
                    1410 *      THIS IS THE FORM DIRECTIVE PROCESSING                                       03 01393
                    1411 *                                                                                  03 01394
003535 017000 I     1412 FORM   LDA     LAB1                                                                03 01395
003536 001010 A     1413        JAZ     FRM9            JUMP IF NO SYMBOL IN LABEL FIELD                    03 01396
003537 003626 R
003540 005001 A     1414        TZA                     INITIATE                                            03 01397
003541 057000 I     1415        STA     FT1             FORM DEFINITION WORD                                03 01398
003542 057000 I     1416        STA     FT2             FORM BIT ACCUMULATOR                                03 01399
003543 002000 A     1417 FRM3   JMPM    IAC             GET VALUE                                           03 01400
003544 005317 R
003545 005014 A     1418        TAX                     SAVE VALUE IN X REGISTER                            03 01401
003546 017000 I     1419        LDA     FT1             GET FORM DEFINITION WORD                            03 01402
003547 027000 I     1420        LDB     B2              (=SIGN BIT)                                         03 01403
003550 001040 A     1421 FRM1   JXZ     FRM2            JUMP IF END OF COUNT                                03 01404
003551 003557 R
003552 004441 A     1422        LLRL    1                                                                   03 01405
003553 005344 A     1423        DXR                     DECREMENT COUNT                                     03 01406
003554 047000 I     1424        INR     FT2             INCREMENT FORM BIT ACCUMULATOR                      03 01407
003555 001000 A     1425        JMP     FRM1                                                                03 01408
003556 003550 R
                    1426 *                                                                                  03 01409
003557 057000 I     1427 FRM2   STA     FT1             SAVE PARTIAL FORM DEFINITION WORD                   03 01410
003560 002000 A     1428        JMPM    CTST            ALLOW A COMMA                                       03 01411
003561 007677 R
003562 001010 A     1429        JAZ     FRM3            JUMP IF COMMA                                       03 01412
003563 003543 R
003564 017000 I     1430        LDA     FT2                                                                 03 01413
003565 001010 A     1431        JAZ     FRM7            JUMP IF SUM OF FORM BITS .EQ. ZERO                  03 01414
003566 003630 R
003567 140000 L     1432        SUB     =NBIT+1                                                             03 01415
003570 001002 A     1433        JAP     FRM7            JUMP IF SUM OF FORM BITS .GT. NBIT                  03 01416
003571 003630 R
003572 002000 A     1434        JMPM    MOFD            SEARCH OPERATION CODE TABLE                         03 01417
003573 007416 R
003574 000044 R     1435        DATA    LABI                                                                03 01418
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003575 001040 A 1436          JXZ     FRMA        JUMP IF NOT FOUND                    03 01419
003576 003603 R
003577 015003 A 1437          LDA     3,X                                              03 01420
003600 130000 L 1438          ERA     =O04000                                          03 01421
003601 001010 A 1439          JAZ     FRM5        JUMP IF FORM REDEFINITION            03 01422
003602 003620 R
003603 010000 L 1440 FRMA     LDA     =5                                               03 01423
003604 002000 A 1441          JMPM    GS1         GET SPACE TABLE #1                   03 01424
003605 011441 R
003606 001004 A 1442          JAN     FRM8        JUMP IF NO ROOM                      03 01425
003607 003622 R
003610 017000 I 1443          LDA     LAB1+1                                           03 01426
003611 055000 A 1444          STA     0,X                                              03 01427
003612 017000 I 1445          LDA     LAB1+2                                           03 01428
003613 055001 A 1446          STA     1,X                                              03 01429
003614 017000 I 1447          LDA     LAB1+3                                           03 01430
003615 055002 A 1448          STA     2,X                                              03 01431
003616 010000 L 1449          LDA     =O04000                                          03 01432
003617 055003 A 1450          STA     3,X         STORE CONTROL WORD                   03 01433
003620 017000 I 1451 FRM5     LDA     FT1                                              03 01434
003621 055004 A 1452          STA     4,X         STORE FORM DEFINITION WORD           03 01435
003622 002000 A 1453 FRM8     JMPM    LLN         LIST LINE                            03 01436
003623 010000 R
003624 001000 A 1454          JMP     BCK         EXIT TO BLANK CHECK ROUTINE          03 01437
003625 005274 R
                1455 *                                                                 03 01438
003626 020000 L 1456 FRM9     LDB     ='NS'                                            03 01439
003627 001006 A 1457          DATA    U1006       SKIP NEXT WORD                       03 01440
003630 020000 L 1458 FRM7     LDB     ='SZ'                                            03 01441
003631 002000 A 1459          JMPM    ERR                                              03 01442
003632 007747 R
003633 001000 A 1460          JMP     FRM8                                             03 01443
003634 003622 R
                1461 *                                                                 03 01444
                1462 *        THIS IS THE FORM EXPANSION PROCESSOR                     03 01445
                1463 *                                                                 03 01446
003635 002000 A 1464 FEX      JMPM    DFLC        ASSIGN SYMBOL                        03 01447
003636 007142 R
003637 005001 A 1465          IZA                 INITIATE                             03 01448
003640 057000 I 1466          STA     FT1         FORM CONSTRUCTION WORD               03 01449
003641 057000 I 1467          STA     FT2         FORM BIT ACCUMULATOR                 03 01450
003642 017000 I 1468          LDA     IWA         GET FORM DEFINITION WORD             03 01451
003643 001004 A 1469          JAN     FEX1        JUMP IF LEFT JUSTIFIED               03 01452
003644 003652 R
003645 117000 I 1470          DPA     02          (=SIGN BIT)                          03 01453
003646 004241 A 1471          LRLA    1                                                03 01454
003647 047000 I 1472          INR     FT2         INCREMENT BIT ACCUMULATOR            03 01455
003650 001002 A 1473          JAP     *-3         JUMP IF NOT LEFT JUSTIFIED YET       03 01456
003651 003645 R
003652 057000 I 1474 FEX1     STA     IWA                                              03 01457
003653 002000 A 1475 FEX3     JMPM    IGC         GET VALUE                            03 01458
003654 005317 R
003655 005002 A 1476          TZB                                                      03 01459
003656 017000 I 1477          LDA     IWA         GET FORM DEFINITION WORD             03 01460
003657 004241 A 1478          LRLA    1                                                03 01461
003660 004041 A 1479          LRLB    1                                                03 01462
003661 005122 A 1480          ISR                                                      03 01463
003662 047000 I 1481          INR     FT2         INCREMENT FORM BIT ACCUMULATOR       03 01464
003663 001002 A 1482          JAP     *-4         JUMP IF NOT END OF FIELD DEFINITION  03 01465
003664 003657 R
003665 057000 I 1483          STA     IWA         SAVE REMAINDER OF FORM DEFINITION    03 01466
003666 005024 A 1484          TBX                 SAVE MASK                            03 01467
003667 005221 A 1485          COMP    021         A=.NOT.B                             03 01468
003670 157000 I 1486          AND     VAL                                              03 01469
003671 001010 A 1487          JAZ     FEX2        JUMP IF POSITIVE FIELD FITS          03 01470
003672 003702 R
003673 005031 A 1488          MERG    031         A=A.OR.B                             03 01471
003674 005111 A 1489          IAR                                                      03 01472
003675 001010 A 1490          JAZ     FEX2        JUMP IF NEGATIVE FIELD FITS          03 01473
003676 003702 R
003677 020000 L 1491          LDB     ='SZ'                                            03 01474
003700 002000 A 1492          JMPM    ERR                                              03 01475
003701 007747 R
003702 005041 A 1493 FEX2     TXA                 GET MASK                             03 01476
003703 027000 I 1494          LDB     FT1         GET PARTIAL ASSEMBLED WORD           03 01477
003704 004341 A 1495          LRRA    1           MAKE ROOM FOR                        03 01478
003705 004041 A 1496          LRLB    1           NEXT FIELD                           03 01479
003706 001010 A 1497          JAZ     *+4         JUMP IF ROOM MADE                    03 01480
003707 003712 R
003710 001000 A 1498          JMP     *-4         OTHERWISE KEEP TRYING                03 01481
003711 003704 R
003712 005041 A 1499          TXA                 GET MASK                             03 01482
003713 157000 I 1500          AND     VAL         TRUNCATE FIELD IF NECESSARY          03 01483
003714 005031 A 1501          MERG    031         PUT TOGETHER                         03 01484
003715 057000 I 1502          STA     FT1         SAVE PARTIAL WORD                    03 01485
003716 002000 A 1503          JMPM    CMAT        COMMA ALLOW TEST                     03 01486
003717 007677 R
003720 001010 A 1504          JAZ     FEX3        JUMP IF COMMA                        03 01487
003721 003653 R
003722 010000 L 1505          LDA     =NBIT                                            03 01488
003723 147000 I 1506          SUB     FT2                                              03 01489
003724 037000 I 1507          LBX     FT1                                              03 01490
003725 020000 L 1508          LDB     ='SZ'                                            03 01491
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003726 002004 A 1509          JANM    ERR             JUMP IF TOO MANY FIELDS                    03 01492
003727 007747 R
003730 077000 I 1510          STX     VAL                                                        03 01493
003731 002000 A 1511          JMPM    OLV             OUTPUT LOCATION AND VALUE                  03 01494
003732 010161 R
003733 001000 A 1512          JMP     BCK             EXIT TO BLANK CHECK ROUTINE                03 01495
003734 005274 R
                      1513 *                                                                     03 01496
                      1514 *    THIS IS THE MACRO DIRECTIVE PROCESSING                           03 01497
                      1515 *                                                                     03 01498
003735 002000 A 1516 MAC      JMPM    LLN             LIST 'MAC' LINE                            03 01499
003736 010300 R
003737 017000 I 1517          LDA     LAB1                                                       03 01500
003740 001010 A 1518          JAZ     MAC2            JUMP IF NO LABEL                           03 01501
003741 003747 R
003742 017000 I 1519          LDA     DUPF                                                       03 01502
003743 001010 A 1520          JAZ     MAC1            JUMP IF NO DUP IN PROCESS                  03 01503
003744 003756 R
003745 020000 L 1521          LDB     ='DP'           ERROR                                      03 01504
003746 001006 A 1522          DATA    01006           SKIP NEXT LINE                             03 01505
003747 020000 L 1523 MAC2     LDB     ='NS'                                                      03 01506
003750 002000 A 1524          JMPM    ERR                                                        03 01507
003751 007747 R
003752 002000 A 1525 MAC4     JMPM    LE              LIST ERRORS                                03 01508
003753 010525 R
003754 001000 A 1526          JMP     RET                                                        03 01509
003755 007113 R
                      1527 *                                                                     03 01510
003756 002000 A 1528 MAC1     JMPM    DCFD            SEARCH OPERATION CODE TABLE                03 01511
003757 007416 R
003760 000044 R 1529          DATA    LAB1                                                       03 01512
003761 001040 A 1530          JXZ     MAC8            JUMP IF NOT FOUND                          03 01513
003762 003767 R
003763 015003 A 1531          LDA     3,X                                                        03 01514
003764 137000 I 1532          ERA     02000           (=02000)                                   03 01515
003765 001010 A 1533          JAZ     MAC7            JUMP IF MACRO REDEFINITION                 03 01516
003766 004004 R
003767 010003 L 1534 MAC8     LDA     =5                                                         03 01517
003770 002000 A 1535          JMPM    GS1             GET SPACE TABLE #1                         03 01518
003771 011441 R
003772 001004 A 1536          JAN     MAC4            JUMP IF NO ROOM IN TABLE #1                03 01519
003773 003752 R
003774 017000 I 1537          LDA     LAB1+1                                                     03 01520
003775 055000 A 1538          STA     0,X                                                        03 01521
003776 017000 I 1539          LDA     LAB1+2                                                     03 01522
003777 055001 A 1540          STA     1,X                                                        03 01523
004000 017000 I 1541          LDA     LAB1+3                                                     03 01524
004001 055002 A 1542          STA     2,X                                                        03 01525
004002 017000 I 1543          LDA     D2000           SET TABLE ENTRY TYPE (=02000)              03 01526
004003 055003 A 1544          STA     3,X             TO MACRO (1)                               03 01527
004004 077000 I 1545 MAC7     STX     LAB1            SAVE MACRO DEFINITION POINTER              03 01528
004005 017000 I 1546          LDA     ET2                                                        03 01529
004006 147000 I 1547          SUB     BT2             MAKE POINTER RELATIVE TO BASE OF TABLE #2  03 01530
004007 055004 A 1548          STA     4,X             SET MACRO POINTER ADDRESS                  03 01531
004010 017000 I 1549 MAC3     LDA     BIT             INITIATE                                   03 01532
004011 127000 I 1550          ADD     BT2             STORE BYTE                                 03 01533
004012 057000 I 1551          STA     SBTA            ADDRESS                                    03 01534
004013 002000 A 1552          JMPM    RNR             READ NEXT RECORD                           03 01535
004014 006570 R
004015 030000 L 1553          LDX     =72                                                        03 01536
004016 002000 A 1554          JMPM    SBK             SKIP BLANK CHACTS                          03 01537
004017 007126 R
004020 001020 A 1555          JPZ     MAC9            JUMP IF BLANK THRU COLUMN 72               03 01538
004021 004277 R
004022 017000 I 1556          LDA     ICP0            RE-INITIATE                                03 01539
004023 057000 I 1557          STA     ICP             INPUT CHACT POINTER                        03 01540
004024 002000 A 1558          JMPM    GNC0            GET NEXT CHACT                             03 01541
004025 007707 R
004026 130000 L 1559          ERA     ='*'                                                       03 01542
004027 001010 A 1560          JAZ     MAC9            JUMP IF COMMENT                            03 01543
004030 004277 R
                      1561 *                                                                     03 01544
                      1562 *    PACK LABEL FIELD                                                 03 01545
                      1563 *                                                                     03 01546
004031 002000 A 1564 MACA     JMPM    GNC1            GET NEXT CHACT                             03 01547
004032 007737 R
004033 001010 A 1565          JAZ     MACF            JUMP IF END OF LINE                        03 01548
004034 004251 R
004035 140000 L 1566          SUB     =' '                                                       03 01549
004036 001010 A 1567          JPZ     MACB            JUMP IF BLANK                              03 01550
004037 004050 R
004040 140000 L 1568          SUB     =',-' '                                                    03 01551
004041 001010 A 1569          JAZ     MACB            JUMP IF COMMA                              03 01552
004042 004050 R
004043 005021 A 1570          TBA                                                                03 01553
004044 002000 A 1571          JMPM    SBT             STORE CHACT                                03 01554
004045 011765 R
004046 001000 A 1572          JMP     MACA            KEEP TRYING                                03 01555
004047 004031 R
                      1573 *                                                                     03 01556
                      1574 *    PACK OPERATION FIELD                                             03 01557
                      1575 *                                                                     03 01558
004050 030000 L 1576 MACB     LDX     =72                                                        03 01559
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004051 002000 A 1577          JMPM    SBK             SKIP BLANK CHACTS                    03 01560
004052 007126 R
004053 002000 A 1578          JMPM    CTST            COMMA ALLOW TEST                     03 01561
004054 007677 R
004055 017000 I 1579          LDA     ICP             SAVE                                 03 01562
004056 057000 I 1580          STA     ICP0            INPUT CHACT POINTER                  03 01563
004057 017000 I 1581          LDA     SBTA            SAVE STORE                           03 01564
004060 054213 A 1582          STA     MACM            BYTE ADDRESS                         03 01565
004061 002000 A 1583          JMPM    ISM             INPUT OP CODE                        03 01566
004062 007474 R
004063 000040 R 1584          DATA    LAB2            PUT IT INTO LAB2                     03 01567
004064 017000 I 1585          LDA     ICP0            RESTORE                              03 01568
004065 057000 I 1586          STA     ICP             INPUT CHACT POINTER                  03 01569
004066 014205 A 1587          LDA     MACM            RESTORE STORE                        03 01570
004067 057000 I 1588          STA     SBTA            BYTE ADDRESS                         03 01571
004070 017000 I 1589          LDA     LAB2+1                                               03 01572
004071 130000 L 1590          ERA     ='DU'                                                03 01573
004072 005012 A 1591          TAB                                                          03 01574
004073 017000 I 1592          LDA     LAB2+2                                               03 01575
004074 130000 L 1593          ERA     ='P '                                                03 01576
004075 001030 A 1594          JIF     AZ+BZ,MAC6      JUMP IF 'DUP    '                    03 01577
004076 004317 R
004077 017000 I 1595          LDA     LAB2+1                                               03 01578
004100 130000 L 1596          ERA     ='MA'                                                03 01579
004101 005012 A 1597          TAB                                                          03 01580
004102 017000 I 1598          LDA     LAB2+2                                               03 01581
004103 130000 L 1599          ERA     ='C '                                                03 01582
004104 001030 A 1600          JIF     AZ+BZ,MAC6      JUMP IF 'MAC    '                    03 01583
004105 004317 R
               1601           IFF     V75                                          V75=********
               1602           GOTO    1                                            V75=A*******
004106 005301 A 1603          DECR    1                                            V75=?*******
004107 054111 A 1604          STA     MACCHC          CLEAR CHARACTER COUNTER      V75=********
004110 054111 A 1605          STA     MACCMC          AND COMMA COUNTER            V75=********
               1606 1         CONT                                                 V75=********
004111 010000 L 1607          LDA     =' '                                                 03 01584
004112 002000 A 1608 MACC     JMPM    SBT             STORE CHACT                          03 01585
004113 011765 R
004114 002000 A 1609          JMPM    GNC1            GET NEXT CHACT                       03 01586
004115 007737 R
004116 001010 A 1610          JAZ     MACF            JUMP IF END OF LINE                  03 01587
004117 004251 R
004120 140000 L 1611          SUB     =' '                                                 03 01588
004121 001010 A 1612          JAZ     MACD            JUMP IF BLANK                        03 01589
004122 004223 R
004123 140000 L 1613          SUB     =',-' '                                              03 01590
               1614           IFT     V75                                          V75=********
004124 001010 A 1615          JAZ     MACC2           JUMP IF COMMA                V75=********
004125 004132 R
               1616           IFF     V75                                          V75=********
               1617           JAZ     MACD            JUMP IF COMMA                        03 01591
               1618           IFT     V75                                          V75=********
004126 044072 A 1619 MACC1    INR     MACCHC          BUMP CHARACTER COUNT         V75=********
004127 005021 A 1620          TBA                                                          03 01592
004130 001000 A 1621          JMP     MACC            KEEP TRYING                          03 01593
004131 004112 R
               1622           IFF     V75                                          V75=********
               1623           GOTO    1                                            V75=********
004132 017000 I 1624 MACC2    LDA     $PCW                                         V75=********
004133 006443 A 1625          BT      043,MACD        'E' PARAMETER SET ?          V75=********
004134 004223 R
004135 014064 A 1626          LDA     MACCMC                                       V75=********
004136 001002 A 1627          JAP     MACC5           1ST COMMA ?                  V75=********
004137 004204 R
004140 002000 A 1628          CALL    SOFD            YES. LOOK UP OP              V75=********
004141 007416 R
004142 000040 R 1629          DATA    LAB2                                         V75=********
004143 001040 A 1630          JXZ     MACI            FIND ?                       V75=********
004144 004223 R
004145 015003 A 1631          LDA     3,X             YES                          V75=********
004146 004352 A 1632          LSRA    10                                           V75=********
004147 147000 I 1633          SUB     EIGHT                                        V75=********
004150 001016 A 1634          JANZ    MACD            V75 OP ?                     V75=********
004151 004223 R
004152 015003 A 1635          LDA     3,X             YES                          V75=********
004153 150463 A 1636          ANA     R1W                                          V75=********
004154 005012 A 1637          TAB                                                  V75=********
004155 140465 A 1638          SUB     FIVE                                         V75=********
004156 001010 A 1639          JAZ     MACC3           2-COMMA OP ?                 V75=********
004157 004167 R
004160 006010 A 1640          LDAI    0325            NO                           V75=********
004161 000325 A
004162 156421 A 1641          ANA     BSC,B                                        V75=********
004163 001010 A 1642          JAZ     MACD            1-COMMA OP ?                 V75=********
004164 004223 R
004165 001000 A 1643          JMP     MACC4           YES                          V75=********
004166 004171 R
004167 006047 A 1644 MACC3    INRE    V75ED           SET EDIT FLAGS               V75=********
004170 000016 R
004171 006047 A 1645 MACC4    INRE    V75ED                                        V75=********
004172 000016 R
004173 044026 A 1646          INR     MACCMC          BUMP COMMA COUNT             V75=********
004174 014024 A 1647          LDA     MACCHC                                       V75=********
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004175 001002 A 1648          JAP     MACC6       1ST CHAR ?                          V75********
004176 004216 R
004177 017000 I 1649          LDA     SBTA        YES                                 V75********
004200 005311 A 1650          DAR                 BACK UP CHARACTER POINTER           V75********
004201 057000 I 1651          STA     SBTA                                            V75********
004202 001000 A 1652          JMP     MACC6                                           V75********
004203 004216 R
004204 006017 A 1653 MACC5    LDAE    V75ED                                           V75********
004205 000016 R
004206 005311 A 1654          DAR                                                     V75********
004207 001010 A 1655          JAZ     MACD        2-COMMA OP ?                        V75*********
004210 004223 R
004211 044010 A 1656          INR     MACCMC      YES. BUMP COMMA COUNT               V75********
004212 014007 A 1657          LDA     MACCMC                                          V75********
004213 140422 A 1658          SUB     TWO                                             V75********
004214 001002 A 1659          JAP     MACD        EXIT IF MORE THAN 2 COMMAS          V75********
004215 004223 R
004216 020000 L 1660 MACC6    LDB     =',
004217 001000 A 1661          JMP     MACC1       STORE COMMA                         V75********
004220 004126 R
004221 000000 A 1662 MACCHC   DATA    0           CHARACTER COUNTER                   V75********
004222 000000 A 1663 MACCMC   DATA    0           COMMA COUNTER                       V75********
               1664 1         CONT                                                    V75********
               1665 *                                                                 03 01594
               1666 *         PACK VARIABLE FIELD                                     03 01595
               1667 *                                                                 03 01596
004223 030000 L 1668 MACD     LDX     =8                                              03 01597
004224 002000 A 1669          JMPM    SBK         SKIP BLANK CHACTS                   03 01598
004225 007126 R
004226 002000 A 1670          JMPM    CTST        COMMA ALLOW TEST                    03 01599
004227 007677 R
004230 005004 A 1671          TZX                 INITIATE QUOTE FLAG                 03 01600
004231 010000 L 1672          LDA     =' '                                            03 01601
004232 002000 A 1673 MACE     JMPM    SBT         STORE CHACT                         03 01602
004233 011765 R
004234 002000 A 1674          JMPM    GNC1        GET NEXT CHACT                      03 01603
004235 007737 R
004236 001010 A 1675          JAZ     MACF        JUMP IF END OF LINE                 03 01604
004237 004251 R
004240 140000 L 1676          SUB     =' '                                            03 01605
004241 001050 A 1677          JIF     AZ+XZ,MACF  JUMP IF TERMINAL BALNK              03 01606
004242 004251 R
004243 140467 A 1678          SUB     SEVEN       (='''''_' ')                        03 01607
004244 003010 A 1679          XAZ     XCPY        COMPLEMENT X REG IF QUOTE           03 01608
004245 013612 R
004246 005021 A 1680          TBA                                                     03 01609
004247 001000 A 1681          JMP     MACE        KEEP TRYING                         03 01610
004250 004232 R
               1682 *                                                                 03 01611
004251 027000 I 1683 MACF     LDB     SBTA                                            03 01612
004252 002000 A 1684          JMPM    BYTE                                            03 01613
004253 012012 R
004254 006150 A 1685          ANAI    -256        EXTRACT                             03 01614
004255 177400 A
004256 001001 A 1686          JOF     *+3         JUMP IF RIGHT BYTE                  03 01615
004257 004261 R
004260 005001 A 1687          TZA                 FOR LEFT BYTE CLEAR WORD            03 01616
004261 056000 A 1688          STA     0,B         STORE LAST TWO CHACTS               03 01617
004262 005123 A 1689          INCR    B23         A=B=B+1                             03 01618
004263 147000 I 1690          SUB     BT7                                             03 01619
004264 054007 A 1691          STA     MACM        SAVE COUNT                          03 01620
004265 002000 A 1692          JMPM    GS2         GET SPACE IN TABLE #2               03 01621
004266 011501 R
004267 001004 A 1693          JAN     MAC5        JUMP IF NO SPACE                    03 01622
004270 004322 R
004271 074004 A 1694          STX     MACM+2      TO ADDRESS                          03 01623
004272 002000 A 1695          JMPM    MOVW        MOVE CONDENSED LINE INTO TABLE      03 01624
004273 011761 R
004274 000000 A 1696 MACM     DATA    0           COUNT                               03 01625
004275 000000 A 1697          DATA    0           FROM ADDRESS ($COM)                 03 01626
004276 000000 A 1698          DATA    0           TO ADDRESS                          03 01627
004277 005001 A 1699 MAC9     TZA                 RESET                               03 01628
004300 057000 I 1700          STA     PLF         PRINT SUPPRESS FLAG                 03 01629
004301 002000 A 1701          JMPM    LLN         LIST LINE                           03 01630
004302 010300 R
004303 017000 I 1702          LDA     LA32+1                                          03 01631
004304 130000 L 1703          ERA     ='EM'                                           03 01632
004305 005012 A 1704          TAB                                                     03 01633
004306 017000 I 1705          LDA     LA32+2                                          03 01634
004307 130000 L 1706          ERA     ='AC'                                           03 01635
004310 005032 A 1707          MERG    B32         B=R.OR.A                            03 01636
004311 017000 I 1708          LDA     LA32+3                                          03 01637
004312 137000 I 1709          ERA     QBBQ        (='   ')                          03 01638
004313 001030 A 1710          JIF     AZ+BZ,RET   EXIT IF 'EMAC  '                    03 01639
004314 007115 R
004315 001000 A 1711          JMP     MAC3        OTHERWISE KEEP TRYING               03 01640
004316 004010 R
               1712 *                                                                 03 01641
               1713 *         WE GET HERE IF A 'DUP' OR A 'MAC' WERE FOUND INSIDE A MACRO DEF 03 01642
               1714 *                                                                 03 01643
004317 020000 L 1715 MAC6     LDB     ='DP'                                           03 01644
004320 002000 A 1716          JMPM    ERR                                             03 01645
004321 007747 R
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004322 005001 A 1717 MAC5   TZA                    RESET                                  03 01646
004323 057000 I 1718        STA     FLF            PRINT SUPPRESS FLAG                    03 01647
004324 002000 A 1719        JMPM    LLN            LIST LINE                              03 01648
004325 010300 R
004326 037000 I 1720        LDX     LAB1           GET MACRO POINTER                      03 01649
004327 005001 A 1721        TZA                    CLEAR OUT MACRO NAME                   03 01650
004330 055001 A 1722        STA     1,X            IN OP. CODE TABLE                      03 01651
004331 055002 A 1723        STA     2,X            SO IT CANNOT BE FOUND                  03 01652
004332 001000 A 1724        JMP     RET                                                   03 01653
004333 007115 R
                1725 *                                                                    03 01654
                1726 *      THIS IS THE MACRO EXPANSION PROCESSOR                         03 01655
                1727 *                                                                    03 01656
004334 017000 I 1728 MEX    LDA     DIDF                                          C.1     03 01657
004335 001016 A 1729        JANZ    MEX8           JUMP IF DUP IN PROCESS         C.1     03 01658
004336 004441 R
004337 002000 A 1730        JMPM    DFLC           ASSIGN SYMBOL                  C.1     03 01659
004340 007142 R
004341 037000 I 1731        LDX     =1/            INITIATE                               03 01660
004342 005001 A 1732        TZA                    P(0) VALUE                             03 01661
004343 055000 A 1733        STA     0,X            P(0) ATTRIBUTE                         03 01662
004344 055001 A 1734        STA     1,X            GET NEXT CHACT                         03 01663
004345 002000 A 1735        JMPM    GNC0           JUMP IF EOL                            03 01664
004346 007707 R
004347 001010 A 1736        JAZ     MEX6           JUMP IF BLANK                          03 01665
004350 004375 R
004351 130000 L 1737        ERA     =' '                                                  03 01666
004352 001010 A 1738        JAZ     MEX6           GET VALUE                              03 01667
004353 004375 R
004354 002000 A 1739 MEX2   JMPM    EXP            INCREMENT P(0)                         03 01668
004355 005476 R
004356 047000 I 1740        INR*    BTZ            GET P(0)                               03 01669
004357 017000 I 1741        LDA*    BTZ            2*P(0)                                 03 01670
004360 127000 I 1742        ADD*    BTZ            +BASE OF TABLE                         03 01671
004361 127000 I 1743        ADD     BTZ                                                   03 01672
004362 005014 A 1744        TAX                                                           03 01673
004363 017000 I 1745        LDA     VAL                                                   03 01674
004364 055000 A 1746        STA     0,X                                                   03 01675
004365 017000 I 1747        LDA     RVAL                                                  03 01676
004366 055001 A 1748        STA     1,X                                                   03 01677
004367 002000 A 1749        JMPM    CTST           COMMA TEST                             03 01678
004370 007677 R
004371 001010 A 1750        JAZ     MEX2           JUMP IF COMMA                          03 01679
004372 004354 R
004373 002000 A 1751        JMPM    BCKS           BLANK CHECK                            03 01680
004374 005302 R
004375 010000 L 1752 MEX6   LDA     =2                                                    03 01681
004376 002000 A 1753        JMPM    GSS            GET SPACE TABLE #5                     03 01682
004377 011572 R
004400 001004 A 1754        JAN     MEX5           JUMP IF NO SPACE                       03 01683
004401 004451 R
004402 017000 I 1755        LDA     ICP            STACK                                  03 01684
004403 055000 A 1756        STA     0,X            INPUT CHACT POINTER                    03 01685
004404 017000 I 1757        LDA     ICP0           STACK                                  03 01686
004405 055001 A 1758        STA     1,X                                                   03 01687
004406 005101 A 1759        INCR    1              A=+1                                   03 01688
004407 127000 I 1760        ADD*    BTZ            1+P(0)                                 03 01689
004410 004241 A 1761        LRLA    1              2*(1+P(0))                             03 01690
004411 054013 A 1762        STA     MEX3           SAVE SIZE                              03 01691
004412 002000 A 1763        JMPM    GSS            GET SPACE TABLE #5                     03 01692
004413 011572 R
004414 001004 A 1764        JAN     MEX7           JUMP IF NO SPACE                       03 01693
004415 004446 R
004416 074010 A 1765 .      STX     MEX3+2         TO ADDRESS                             03 01694
004417 017000 I 1766 .      LDA     INA                                                   03 01695
004420 127000 I 1767        ADD     INC                                                   03 01696
004421 057000 I 1768        STA     ICP                                                   03 01697
004422 057000 I 1769        STA     ICP0                                                  03 01698
004423 002000 A 1770        JMPM    GLVN                                                  03 01699
004424 011761 R
004425 000000 A 1771 MEX3   DATA    0              COUNT                                  03 01700
004426 000000 A 1772        DATA    0              FROM ADDRESS ($COM)                    03 01701
004427 000000 A 1773        DATA    0              TO ADDRESS                             03 01702
004430 002000 A 1774        JMPM    LLN            LIST MACRO CALL LINE                   03 01703
004431 010300 R
004432 047000 I 1775        INR     MLF            INCREMENT MACRO LEVEL FLAG             03 01704
004433 002000 A 1776 MEX4   JMPM    ASSR           ASSEMBLE NEXT LINE                     03 01705
004434 001103 R
004435 002000 A 1777        JMPM    RNR            READ NEXT RECORD                       03 01706
004436 006570 R
004437 001000 A 1778        JMP     MEX4           KEEP TRYING                            03 01707
004440 004433 R
004441 020000 L 1779 MEX8   LDB     ='DF'                                         C.1     03 01708
004442 002000 A 1780        JMPM    ERR            ERROR                          C.1     03 01709
004443 007747 R
004444 001000 A 1781        JMP     MEX5                                          C.1     03 01710
004445 004451 R
                1782 *                                                                    03 01711
004446 010000 L 1783 MEX7   LDA     =-2                                                   03 01712
004447 002000 A 1784        JMPM    GSS            DELETE SPACE FROM TABLE #5             03 01713
004450 011572 R
004451 002000 A 1785 MEX5   JMPM    LLN            LIST LINE                              03 01714
004452 010300 R
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004453 001000 A 1786          JMP     RET                                                    03 01715
004454 007115 R
                1787 *
                1788 *      THIS IS THE EMAC DIRECTIVE PROCESSING                            03 01716
                1789 *                                                                       03 01717
                                                                                             03 01718
004455 017000 I 1790 EMAC     LDA     MLF             GET MACRO LEVEL FLAG                   03 01719
004456 005311 A 1791          DAR                     DECREMENT                              03 01720
004457 001004 A 1792          JAN     EMA1            JUMP IF NOT WITHIN A MACRO             03 01721
004460 004500 R
004461 057000 I 1793          STA     MLF                                                    03 01722
004462 005301 A 1794          DECR    1               A=-1                                   03 01723
004463 147000 I 1795          SUB*    BT5             GET SIZE OF ENTRY                      03 01724
004464 004201 A 1796          ASLA    1               *2                                     03 01725
004465 002000 A 1797          JMPM    GS5             DELETE SPACE FROM TABLE #5             03 01726
004466 011572 R
004467 025000 A 1798          LDB     0,X             UNSTACK                                03 01727
004470 067000 I 1799          STB     ICP             INPUT CHACT POINTER                    03 01728
004471 025001 A 1800          LDB     1,X             UNSTACK                                03 01729
004472 067000 I 1801          STB     ICP0                                                   03 01730
004473 010000 L 1802          LDA     =-2                                                    03 01731
004474 002000 A 1803          JMPM    GS5             DELETE SPACE FROM TABLE #5             03 01732
004475 011572 R
004476 001000 A 1804          JMP     RET             EXIT ASSEMBLER                         03 01733
004477 007115 R
                1805 *                                                                       03 01734
004500 027000 I 1806 EMA1     LDB     QEBQ            (='E ')                                03 01735
004501 002000 A 1807          JMPM    ERR                                                    03 01736
004502 007747 R
004503 002000 A 1808          JMPM    LLN             LIST LINE                              03 01737
004504 010300 R
004505 001000 A 1809          JMP     RET             EXIT ASSEMBLER                         03 01738
004506 007115 R
                1810 *                                                                       03 01739
                1811 *      THIS IS THE TYPE ONE MACHINE INSTRUCTION PROCESSING              03 01740
                1812 *                                                                       03 01741
004507 002000 A 1813 T1       JMPM    EXP             GET VALUE                              03 01742
004510 005476 R
004511 005021 A 1814          TBA                                                            03 01743
004512 150000 L 1815          ANA     =0600           EXTRACT ST                             03 01744
004513 130000 L 1816          ERA     =0400                                                  03 01745
004514 001010 A 1817          JAZ     T1C             JUMP IF EXTERNAL                       03 01746
004515 004725 R
004516 005021 A 1818          TBA                                                            03 01747
004517 150000 L 1819          ANA     =0100000        EXTRACT IADF BIT-15                    03 01748
004520 001010 A 1820          JAZ     T13             JUMP IF  NO INDIRECT ADDRESSING        03 01749
004521 004573 R
004522 002000 A 1821          JMPM    LITC            LITERAL CHECK                          03 01750
004523 007773 R
004524 017000 I 1822          LDA     RVAL                                                   03 01751
004525 150000 L 1823          ANA     =3              EXTRACT RELO                           03 01752
004526 001010 A 1824          JAZ     T12             JUMP IF ABSO                           03 01753
004527 004563 R
004530 017000 I 1825 T1H      LDA     RVAL                                                   03 01754
004531 150000 L 1826          ANA     =0100000        EXTRACT INDIRECT ADDRESS FLAG BIT-15   03 01755
004532 117000 I 1827          ORA     VAL                                                    03 01756
004533 057000 I 1828          STA     VAL                                                    03 01757
004534 017000 I 1829 T11      LDA     IWA                                                    03 01758
004535 110000 L 1830          ORA     =07000          MAKE INSTRUCTION INDIRECT              03 01759
004536 057000 I 1831          STA     IWA                                                    03 01760
004537 017000 I 1832          LDA     RVAL                                                   03 01761
004540 117000 I 1833          ORA     02000           SET T1 INDIRECT ADDR. FLAG BIT-10 (=02000) 03 01762
004541 057000 I 1834          STA     RVAL            FOR LISTING                            03 01763
004542 010000 L 1835 T14      LDA     =000000         LOADER CODE = 3                        03 01764
004543 057000 I 1836          STA     CODE                                                   03 01765
004544 002000 A 1837          JMPM    OUT3                                                   03 01766
004545 011044 R
004546 017000 I 1838          LDA     IWA             PUT IWA INTO                           03 01767
004547 057000 I 1839          STA     VAL             VAL FOR LISTING                        03 01768
004550 012000 A 1840          JMPM    LLV                                                    E.2 ********
004551 010170 R
004552 017000 I 1841          LDA     SPCW                                                   E.2********
004553 150423 A 1842          ANA     334                                                    E.2********
004554 001010 A 1843          JAZ     BCK             EXIT IF NO I OPTION                    E.2********
004555 005274 R
004556 004212 A 1844          LDB     QIIE                                                   E.2********
004557 002000 A 1845          JMPM    ERR             FLAG ERROR                             E.2********
004560 007747 R
004561 001000 A 1846          JMP     BCK                                                    E.2********
004562 005274 R
                1847 *                                                                       03 01770
004563 017000 I 1848 T12      LDA     VAL                                                    03 01771
004564 147000 I 1849          SUB     01000           (=512)                                 03 01772
004565 001002 A 1850          JAP     T1H             JUMP IF .GT. 511                       03 01773
004566 004530 R
004567 017000 I 1851          LDA     IWA                                                    03 01774
004570 110000 L 1852 T1X      ORA     =07000          MAKE INSTRUCTION INDIRECT              03 01775
004571 001000 A 1853          JMP     T16                                                    03 01776
004572 004630 R
                1854 *                                                                       03 01777
004573 005021 A 1855 T13      TBA                                                            03 02000
004574 157000 I 1856          ANA     01000           EXTRACT LITERAL FLAG BIT-9 (=01000)    03 02001
004575 001010 A 1857          JAZ     T15             JUMP IF NOT LITERAL                    03 02002
004576 004601 R
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004577 001000 A 1858          JMP     T14                                                  03 01781
004600 004542 R
                      1859 *                                                               03 01782
004601 005021 A 1860  T15     TBA                                                          03 01783
004602 150000 L 1861          ANA     =3          EXTRACT RELO                             03 01784
004603 130000 L 1862          ERA     =2                                                   03 01785
004604 001010 A 1863          JAZ     T1H         JUMP IF COMMON                           03 01786
004605 004530 R
004606 017000 I 1864          LDA     VAL                                                  03 01787
004607 001004 A 1865          JAN     T1H         JUMP IF VALUE NEGATIVE                   03 01788
004610 004530 R
004611 002000 A 1866          JMPM    CTST        COMMA ALLOW TEST                         03 01789
004612 007677 R
004613 001010 A 1867          JAZ     T1G         JUMP IF COMMA                            03 01790
004614 004656 R
004615 017000 I 1868          LDA     RVAL                                                 03 01791
004616 150000 L 1869          ANA     =3          EXTRACT RELO                             03 01792
004617 001010 A 1870          JAZ     *+4         JUMP IF ABSO                             03 01793
004620 004623 R
004621 001000 A 1871          JMP     T17                                                  03 01794
004622 004640 R
                      1872 *                                                               03 01795
004623 017000 I 1873          LDA     VAL                                                  03 01796
004624 140000 L 1874          SUB     =2048                                                03 01797
004625 001002 A 1875          JAP     T17         JUMP IF .GT. 2047                        03 01798
004626 004640 R
004627 017000 I 1876          LDA     IWA                                                  03 01799
004630 117000 I 1877  T16     ORA     VAL                                                  03 01800
004631 057000 I 1878  T18     STA     VAL                                                  03 01801
004632 010000 L 1879          LDA     =0100000    LOADER CODE = 4                          03 01802
004633 057000 I 1880          STA     CODE                                                 03 01803
004634 002000 A 1881          JMPM    OUT2        OUTPUT WORD TO LOADER TEXT               03 01804
004635 011016 R
004636 001000 A 1882          JMP     T1D                                                  03 01805
004637 004765 R
                      1883 *                                                               03 01806
      004640 R 1884  T17     EQU     *                                                    03 01807
004640 017000 I 1885          LDA     PC                                                   03 01808
004641 147000 I 1886          SUB     VAL                                                  03 01809
004642 001002 A 1887          JAP     T11         JUMP IF LC BEHIND OR .EQ. TO WHERE       03 01810
004643 004534 R
004644 005211 A 1888          CPA                                                          03 01811
004645 147000 I 1889          SUB     D1000       (=512)                                   03 01812
004646 001002 A 1890          JAP     T11         JUMP IF BEYOND 512 FORWARD               03 01813
004647 004534 R
004650 120000 L 1891          ADD     =035000     MAKE ADDRESS POSITIVE AND RELATIVE       03 01814
004651 117000 I 1892          ORA     IWA                                                  03 01815
004652 005002 A 1893          TAB                 SET RVAL                                 03 01816
004653 067000 I 1894          STB     RVAL        TO ABSO                                  03 01817
004654 001000 A 1895          JMP     T18                                                  03 01818
004655 004631 R
                      1896 *                                                               03 01819
004656 017000 I 1897  T1G     LDA     RVAL                                                 03 01820
004657 150000 L 1898          ANA     =3          EXTRACT RELO                             03 01821
004660 001010 A 1899          JAZ     T19         JUMP IF ABSO                             03 01822
004661 004667 R
004662 137000 I 1900          ERA     RVAL                                                 03 01823
004663 057000 I 1901          STA     RVAL                                                 03 01824
004664 020000 L 1902          LDB     ='R '                                                03 01825
004665 002000 A 1903          JMPM    ERR                                                  03 01826
004666 007747 R
004667 017000 I 1904  T19     LDA     VAL                                                  03 01827
004670 006150 A 1905          ANAI    -512                                                 03 01828
004671 177000 A
004672 001010 A 1906          JAZ     T1A         JUMP IF .LT. 512                         03 01829
004673 004701 R
004674 137000 I 1907          ERA     VAL                                                  03 01830
004675 057000 I 1908          STA     VAL                                                  03 01831
004676 020000 L 1909          LDB     ='02'                                                03 01832
004677 002000 A 1910          JMPM    ERR                                                  03 01833
004700 007747 R
004701 017000 I 1911  T1A     LDA     VAL         SAVE                                     03 01834
004702 057000 I 1912          STA     T5T                                                  03 01835
004703 002000 A 1913          JMPM    IAC         GET INDEX REGISTER SPECIFICATION         03 01836
004704 005317 R
004705 020000 L 1914          LDB     =05000                                               03 01837
004706 005311 A 1915          DAR                                                          03 01838
004707 001010 A 1916          JAZ     T1B         JUMP IF X REGISTER SPECIFIED             03 01839
004710 004720 R
004711 020000 L 1917          LDB     =06000                                               03 01840
004712 005311 A 1918          DAR                                                          03 01841
004713 001010 A 1919          JAZ     T1B         JUMP IF B REGISTER SPECIFIED             03 01842
004714 004720 R
004715 020000 L 1920          LDB     ='IF'                                                03 01843
004716 002000 A 1921          JMPM    ERR                                                  03 01844
004717 007747 R
004720 005021 A 1922  T1B     TBA                                                          03 01845
004721 117000 I 1923          ORA     IWA                                                  03 01846
004722 117000 I 1924          ORA     T5I                                                  03 01847
004723 001000 A 1925          JMP     T18                                                  03 01848
004724 004631 R
                      1926 *                                                               03 01849
004725 017000 I 1927  T1C     LDA     VAL         GET SYMBOL POINTER                       03 01850
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004726 054003 A 1928          STA     *+4                                                    03 01851
004727 002000 A 1929          JMPM    MOVW                                                   03 01852
004730 011761 R
004731 000003 A 1930          DATA    3               COUNT                                  03 01853
004732 000000 A 1931          DATA    0               FROM ADDRESS                           03 01854
004733 000045 R 1932          DATA    LAB1+1          TO ADDRESS                             03 01855
004734 002000 A 1933          JMPM    IADC            INDIRECT ADDRESS CHECK                 03 01856
004735 010007 R
004736 017000 I 1934          LDA     RVAL                                                   03 01857
004737 157000 I 1935          ANA     01000           EXTRACT LITERAL FLAG BIT-9 (=01000)    03 01858
004740 005012 A 1936          TAB                                                            03 01859
004741 017000 I 1937          LDA     IWA                                                    03 01860
004742 003020 A 1938          XBZ     T1X             MAKE INDIRECT INST. IF NOT LITERAL     03 01861
004743 004570 R
004744 057000 I 1939          STA     VAL                                                    03 01862
004745 006010 A 1940          LDAI    013760          LOADER SUB CODE 013                    03 01863
004746 013760 A
004747 057000 I 1941          STA     CODE                                                   03 01864
004750 002000 A 1942          JMPM    OUT4                                                   03 01865
004751 011073 R
004752 002000 A 1943          JMPM    LLV                                                    E.2*********
004753 010170 R
004754 017000 I 1944          LDA     $PCW                                                   E.2*********
004755 150425 A 1945          ANA     BS4                                                    E.2*********
004756 001010 A 1946          JAZ     BCK             EXIT IF NO I OPTION                    E.2*********
004757 005274 R
004760 024010 A 1947          LDR     QIIE                                                   E.2*********
004761 002000 A 1948          JMPM    ERR                                                    E.2*********
004762 007747 R
004763 001000 A 1949          JMP     BCK                                                    E.2*********
004764 005274 R
004765 002000 A 1950 T1D      JMPM    LLV             LIST LOCATION & VALUE                  03 01866
004766 010170 R
004767 001000 A 1951          JMP     BCK             EXIT TO BLANK CHECK ROUTINE            03 01867
004770 005274 R
004771 144711 A 1952 QIIE     DATA    'II'                                                   E.2*********
                1953 *                                                                       03 01868
                1954 *        THIS IS THE TYPE THREE MACHINE INSTRUCTION PROCESSING          03 01869
                1955 *                                                                       03 01870
004772 017000 I 1956 T3       LDA     IADF            SAVE                                   03 01871
004773 057000 I 1957          STA     T5T             INDIRECT ADDRESS FLAG                  03 01872
004774 005001 A 1958          TZA                                                            03 01873
004775 057000 I 1959          STA     IADF                                                   03 01874
004776 002000 A 1960          JMPM    S345            GET VALUE                              03 01875
004777 005254 R
005000 017000 I 1961          LDA     T5T             RESTORE                                03 01876
005001 057000 I 1962          STA     IADF            INDIRECT ADDRESS FLAG                  03 01877
005002 002000 A 1963          JMPM    CTST            ALLOW A COMMA                          03 01878
005003 007677 R
                1964 *        NOW PROCESS IT LIKE A TYPE 2 INSTRUCTION                       03 01879
                1965 *                                                                       03 01880
                1966 *        THIS IS THE TYPE TWO MACHINE INSTRUCTION PROCESSING            03 01881
                1967 *                                                                       03 01882
005004 002000 A 1968 T2       JMPM    EXP             GET VALUE                              03 01883
005005 005476 R
005006 057000 I 1969          STA     T5T             SAVE                                   03 01884
005007 067000 I 1970          STB     T5T+1           VALUE                                  03 01885
005010 017000 I 1971 T22      LDA     IWA                                                    03 01886
005011 057000 I 1972          STA     VAL             VAL=INSTRUCTION WORD                   03 01887
005012 005001 A 1973          TZA                                                            03 01888
005013 057000 I 1974          STA     RVAL            RVAL=ABSO                              03 01889
005014 002000 A 1975          JMPM    OLV             OUTPUT FIRST WORD                      03 01890
005015 010161 R
005016 017000 I 1976          LDA     T5T+1           RESTORE                                03 01891
005017 057000 I 1977          STA     RVAL            RVAL                                   03 01892
005020 017000 I 1978          LDA     T5T             RESTORE                                03 01893
005021 057000 I 1979 T21      STA     VAL             VAL                                    03 01894
005022 002000 A 1980          JMPM    OLV             OUTPUT SECOND WORD                     03 01895
005023 010161 R
005024 001000 A 1981          JMP     BCK             EXIT TO BLANK CHECK ROUTINE            03 01896
005025 005274 R
                1982 *                                                                       03 01897
                1983 *        THIS IS THE TYPE FOUR MACHINE INSTRUCTION PROCESSING           03 01898
                1984 *                                                                       03 01899
005026 002000 A 1985 T4       JMPM    S345            GET VALUE                              03 01900
005027 005254 R
005030 017000 I 1986 T41      LDA     IWA                                                    V75*********
005031 001000 A 1987          JMP     T21             NOW GO AND OUTPUT IT                   03 01902
005032 005021 R
                1988 *                                                                       03 01903
                1989 *        THIS IS THE TYPE FIVE MACHINE INSTRUCTION PROCESSING           03 01904
                1990 *                                                                       03 01905
005033 002000 A 1991 T5       JMPM    EXP             GET VALUE                              03 01906
005034 005476 R
005035 057000 I 1992          STA     T5T             SAVE VALUE                             03 01907
005036 067000 I 1993          STB     T5T+1           AND ATTRIBUTES                         03 01908
005037 002000 A 1994          JMPM    CTST            ALLOW A COMMA                          03 01909
005040 007677 R
005041 001010 A 1995          JAZ     *+4             JUMP IF COMMA                          03 01910
005042 005045 R
005043 001000 A 1996          JMP     T22                                                    03 01911
005044 005010 R
                1997 *                                                                       03 01912
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005045 002000 A 1998          JMPM    EXN         GET VALUE                                                  03 01913
005046 005337 R
005047 020000 L 1999          LDB     =2                                                                     03 01914
005050 005311 A 2000          DAR                                                                            03 01915
005051 001010 A 2001          JAZ     T51         JUMP IF VALUE IS 1 DENOTING THE X REGISTER                 03 01916
005052 005066 R
005053 005322 A 2002          DBR                                                                            03 01917
005054 005311 A 2003          DAR                                                                            03 01918
005055 001010 A 2004          JAZ     T51         JUMP IF VALUE IS 2 DENOTING THE B REGISTER                 03 01919
005056 005066 R
005057 005002 A 2005          TZR                                                                            03 01920
005060 140000 L 2006          SUB     =5                                                                     03 01921
005061 001010 A 2007          JAZ     T51         JUMP IF VALUE IS 7 DENOTING NO REGISTER                    03 01922
005062 005066 R
005063 020000 L 2008          LDB     ='TF'       OTHERWISE                                                  03 01923
005064 002000 A 2009          JMPM    ERR         ERROR                                                      03 01924
005065 007747 R
005066 005021 A 2010 T51      TBA                                                                            03 01925
005067 137000 I 2011          ERA     IWA                                                                    03 01926
005070 057000 I 2012          STA     IWA                                                                    03 01927
005071 002000 A 2013          JMPM    CTST        ALLOW A COMMA                                              03 01928
005072 007677 R
005073 001010 A 2014          JAZ     *+4         JUMP IF COMMA                                              03 01929
005074 005077 R
005075 001000 A 2015          JMP     T22                                                                    03 01930
005076 005010 R
005077 002000 A 2016          JMPM    S345        GET THIRD VALUE                                            03 01931
005100 005254 R
005101 001000 A 2017          JMP     T22         NOW GO AND OUTPUT IT                                       03 01932
005102 005010 R
               2018           IFF     V75                                                                    V75********
               2019           GOTO    1                                                                      V75********
               2020 *                                                                                         V75********
               2021 * PROCESS V75 INSTRUCTION SET                                                             V75********
               2022 *                                                                                         V75********
005103 017000 I 2023 V75INS   LDA     $PCW                                                                   V75********
005104 006443 A 2024          BI      043,ASR5    WAS THERE AN 'E' PARAMETER ON '/DASMR' ?                   V75********
005105 001226 R
005106 017000 I 2025          LDA     IADF        YES                                                        V75********
005107 054143 A 2026          STA     V75TMP      SAVE INDIRECT ADDRESS FLAG                                 V75********
005110 005001 A 2027          TZA                                                                            V75********
005111 057000 I 2028          STA     IADF        CLEAR INDIRECT ADDRESS FLAG                                V75********
005112 027000 I 2029          LDB     AS                                                                     V75********
005113 006026 A 2030          LDBE    V75JT,B     INDEX INTO JUMP TABLE                                      V75********
005114 005117 R
005115 006706 A 2031          IJMP    0,2                                                                    V75********
005116 000000 A
005117 005127 R 2032 V75JT    PZE     V751        TYPE 0                                                     V75********
005120 005223 R 2033          PZE     V757        TYPE 1                                                     V75********
005121 005134 R 2034          PZE     V752        TYPE 2                                                     V75********
005122 005140 R 2035          PZE     V752A       TYPE 3                                                     V75********
005123 005140 R 2036          PZE     V752A       TYPE 4                                                     V75********
005124 005127 R 2037          PZE     V751        TYPE 5                                                     V75********
005125 005134 R 2038          PZE     V752        TYPE 6                                                     V75********
005126 005134 R 2039          PZE     V752        TYPE 7                                                     V75********
               2040 *                                                                                         V75********
               2041 * V75 INSTRUCTIONS WITH REGISTER OP IN BITS 3-5(TYPE 0,5)                                  V75********
               2042 *                                                                                         V75********
005127 002000 A 2043 V751     CALL    GV75R       GET REGISTER NUMBER                                        V75********
005130 011411 R
005131 004243 A 2044          LRLA    3           POSITION                                                   V75********
005132 001000 A 2045          JMP     V753                                                                   V75********
005133 005161 R
               2046 *                                                                                         V75********
               2047 * V75 INSTRUCTIONS WITH REGISTER OP IN BITS 0-2(TYPE 2,6,7)                                V75********
               2048 *                                                                                         V75********
005134 002000 A 2049 V752     CALL    GV75R       GET REGISTER NUMBER                                        V75********
005135 011411 R
005136 001000 A 2050          JMP     V753        AND EXIT                                                   V75********
005137 005161 R
               2051 *                                                                                         V75********
               2052 * V75 INSTRUCTIONS WHERE REG MUST BE 0 OR 4(TYPE 3,4)                                      V75********
               2053 *                                                                                         V75********
005140 002000 A 2054 V752A    CALL    GV75R       GET REGISTER NUMBER                                        V75********
005141 011411 R
005142 001010 A 2055          JAZ     V753        ZERO OK                                                    V75********
005143 005161 R
005144 140423 A 2056          SUB     FOUR                                                                   V75********
005145 001010 A 2057          JAZ     V752B       FOUR OK                                                    V75********
005146 005152 R
005147 020000 L 2058          LDB     ='SZ'                                                                  V75********
005150 002000 A 2059          CALL    ERR         OUTPUT ERROR MESSAGE                                       V75********
005151 007747 R
005152 017000 I 2060 V752B    LDA     AS          GET INSTRUCTION TYPE                                       V75********
005153 140464 A 2061          SUB     THREE                                                                  V75********
005154 005012 A 2062          TCA                                                                            V75********
005155 010423 A 2063          LDA     FOUR                                                                   V75********
005156 001020 A 2064          JBZ     V753        TYPE 3 ?                                                   V75********
005157 005161 R
005160 004244 A 2065          LRLA    4           NO. TYPE 4                                                 V75********
005161 117000 I 2066 V753     ORA     IWA         MERGE IN INSTRUCTION                                       V75********
005162 057000 I 2067          STA     IWA                                                                    V75********
005163 017000 I 2068          LDA     AS          GET TYPE                                                   V75********
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005164 140465 A 2069          SUB     FIVE                                          V75********
005165 006047 A 2070          INRE    V75ED       BUMP EDIT FLAG                    V75********
005166 000016 R
005167 001016 A 2071          JANZ    V756        TYPE 5 ?                          V75********
005170 005207 R
005171 006047 A 2072          INRE    V75ED       YES. BUMP EDIT FLAG               V75********
005172 000016 R
005173 002000 A 2073          CALL    CTST                                          V75********
005174 007677 R
005175 001010 A 2074          JAZ     V754        COMMA ?                           V75********
005176 005202 R
005177 005001 A 2075          TZA                 NO                                V75********
005200 001000 A 2076          JMP     V755                                          V75********
005201 005204 R
005202 002000 A 2077 V754     CALL    GV75R       GET DESTINATION REGISTER          V75********
005203 011411 R
005204 117000 I 2078 V755     ORA     IWA         MERGE IN INSTRUCTION              V75********
005205 001000 A 2079          JMP     T21         TYPE 5 EXIT                       V75********
005206 005021 R
005207 005311 A 2080 V756     DAR                                                   V75********
005210 001010 A 2081          JAZ     T41         TYPE 6 EXIT                       V75********
005211 005030 R
005212 037000 I 2082          LDX     EIGHT                                         V75********
005213 002000 A 2083          CALL    SBK         SKIP BLANKS                       V75********
005214 007126 R
005215 017000 I 2084          LDA     AS                                            V75********
005216 140467 A 2085          SUB     SEVEN                                         V75********
005217 001002 A 2086          JAP     T2          TYPE 7 EXIT                       V75********
005220 005004 R
005221 002000 A 2087          CALL    CTST        COMMA OK                          V75********
005222 007677 R
               2088 *                                                               V75********
               2089 * V75 INSTRUCTIONS WITH NO REGISTER FIELD (TYPE 1)              V75********
               2090 *                                                               V75********
005223 002000 A 2091 V757     CALL    EXP         GET OPERAND                       V75********
005224 005476 R
005225 057000 I 2092          STA     TST         SAVE VALUE                        V75********
005226 067000 I 2093          STB     TST+1       AND ATTRIBUTES                    V75********
005227 017000 I 2094          LDA     AS                                            V75********
005230 140422 A 2095          SUB     TWO                                           V75********
005231 001010 A 2096          JAZ     V759        TYPE 2 EXIT                       V75********
005232 005246 R
005233 005311 A 2097          DAR                                                   V75********
005234 001010 A 2098          JAZ     V759        TYPE 3 EXIT                       V75********
005235 005246 R
005236 002000 A 2099          CALL    CTST                                          V75********
005237 007677 R
005240 001016 A 2100          JANZ    V759        COMMA ?                           V75********
005241 005246 R
005242 002000 A 2101          CALL    GV75R       YES. GET INDEX REGISTER           V75********
005243 011411 R
005244 117000 I 2102          ORA     IWA         MERGE IN INSTRUCTION              V75********
005245 057000 I 2103          STA     IWA                                           V75********
005246 014004 A 2104 V759     LDA     V75TMP                                        V75********
005247 117000 I 2105          ORA     TST+1       RESTORE INDIRECT ADDRESS FLAG     V75********
005250 057000 I 2106          STA     TST+1                                         V75********
005251 001000 A 2107          JMP     T22                                           V75********
005252 005010 R
005253 000000 A 2108 V75TMP   DATA    0           TEMP STORE                        V75********
               2109 1         CONT                                                 V75********
               2110 *                                                                  03 01933
               2111 *       THIS IS A SUBROUTINE FOR THE TYPE 3,4,+5 MACHINE PROCESSING  03 01934
               2112 *                                                                  03 01935
005254 000000 A 2113 S345     DATA    0                                             03 01936
005255 002000 A 2114          JMPM    EXN         GET VALUE                         03 01937
005256 005337 R
005257 017000 I 2115          LDA     VAL                                           03 01938
005260 001004 A 2116          JAN     *+4         JUMP IF NEGATIVE                  03 01939
005261 005264 R
005262 017000 I 2117          LDA     AS                                            03 01940
005263 147000 I 2118          SUB     VAL                                           03 01941
005264 020000 L 2119          LDB     ='SZ'                                         03 01942
005265 002004 A 2120          JANM    ERR                                           03 01943
005266 007747 R
005267 017000 I 2121          LDA     IWA                                           03 01944
005270 117000 I 2122          ORA     VAL                                           03 01945
005271 057000 I 2123          STA     IWA                                           03 01946
005272 001000 A 2124          JMP*    S345        RETURN                            03 01947
005273 105254 R
               2125 *                                                               03 01948
               2126 *       THIS IS WHERE ALMOST ALL OF THE ASSEMBLY LINE PROCESSING EXIT  03 01949
               2127 *                                                               03 01950
005274 002000 A 2128 BCK      JMPM    BCKS        CHECK THE NEXT CHACT FOR BLANK OR EOL  03 01951
005275 005302 R
005276 002000 A 2129          JMPM    LE          LIST ERRORS                       03 01952
005277 010523 R
005300 001000 A 2130          JMP     RET         EXIT THE ASSEMBLER                03 01953
005301 007115 R
               2131 *                                                               03 01954
               2132 *       THIS IS A SUBROUTINE TO CHECK THE NEXT CHACT FOR A BLANK OR EOL  03 01955
               2133 *       CALLING SEQUENCE                                        03 01956
               2134 *       JMPM    BCKS                                            03 01957
               2135 *       RETURN                                                  03 01958
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                        2136 *                                                                                  03 01959
005302 000000 A         2137 BCKS   DATA    0                                                                 03 01960
005303 002000 A         2138        JMPM    GNC0            GET CHACT                                         03 01961
005304 007707 R
005305 001010 A         2139        JAZ*    BCKS            RETURN IF CHACT IS EOL                            03 01962
005306 105302 R
005307 130000 L         2140        ERA     ='  '                                                             03 01963
005310 001010 A         2141        JAZ*    BCKS            RETURN IF CHACT IS BLANK                          03 01964
005311 105302 R
005312 027000 I         2142        LDB     QEBQ            (='E ')                                           03 01965
005313 002000 A         2143        JMPM    ERR             SYNTAX ERROR                                      03 01966
005314 007747 R
005315 001000 A         2144        JMP*    BCKS            RETURN                                            03 01967
005316 105302 R
                        2145 *                                                                                  03 01968
                        2146 *      THIS IS A SUBROUTINE TO CALL UPON EXN TO GET THE VALUE IN THE               03 01969
                        2147 *      VARIABLE FIELD AND THEN MAKE SURE THAT IT WAS ABSOLUTE                      03 01970
                        2148 *                                                                                  03 01971
005317 000000 A         2149 IAC    DATA    0                                                                 03 01972
005320 002000 A         2150        JMPM    EXN             GET VALUE                                         03 01973
005321 005337 R
005322 005021 A         2151        TBA                                                                       03 01974
005323 150000 L         2152        ANA     =3              EXTRACT RELOCATABILITY                            03 01975
005324 001010 A         2153        JAZ     IAC1            JUMP IF ABSO                                      03 01976
005325 005334 R
005326 137000 I         2154        ERA     RVAL            FORCT ABSO                                        03 01977
005327 057000 I         2155        STA     RVAL                                                              03 01978
005330 020000 L         2156        LDB     ='R '                                                             03 01979
005331 002000 A         2157        JMPM    ERR             ERROR                                             03 01980
005332 007747 R
005333 027000 I         2158        LDB     RVAL                                                              03 01981
005334 017000 I         2159 IAC1   LDA     VAL                                                               03 01982
005335 001000 A         2160        JMP*    IAC             RETURN                                            03 01983
005336 105317 R
                        2161 *                                                                                  03 01984
                        2162 *      THIS IS A SUBROUTINE TO CALL UPON EXP TO GET THE VALUE IN THE               03 01985
                        2163 *      VARIABLE FIELD AND THEN MAKE SURE THAT IT WAS NOT A LITERAL,                03 01986
                        2164 *      DID NOT SPECIFY INDIRECT ADDRESSING, OR WAS NOT AN EXTERNALLY               03 01987
                        2165 *      DEFINED SYMBOL                                                              03 01988
                        2166 *                                                                                  03 01989
005337 000000 A         2167 EXN    DATA    0                                                                 03 01990
005340 002000 A         2168        JMPM    EXP             GET VALUE                                         03 01991
005341 005476 R
005342 005021 A         2169        TBA                                                                       03 01992
005343 150000 L         2170        ANA     =0600           EXTRACT ST                                        03 01993
005344 130000 L         2171        ERA     =0400                                                             03 01994
005345 020000 L         2172        LDB     ='R '                                                             03 01995
005346 002010 A         2173        JAZM    ERR             JUMP IF EXTERNAL                                  03 01996
005347 007747 R
005350 002000 A         2174        JMPM    IADC            INDIRECT ADDRESS CHECK                            03 01997
005351 010007 R
005352 002000 A         2175        JMPM    LITC            LITERAL CHECK                                     03 01998
005353 007773 R
005354 017000 I         2176        LDA     RVAL                                                              03 01999
005355 006150 A         2177        ANCI    -0601           FORCE ST=INTERNAL                                 03 02000
005356 177177 A
005357 057000 I         2178        STA     RVAL                                                              03 02001
005360 005012 A         2179        TAB                                                                       03 02002
005361 017000 I         2180        LDA     VAL                                                               03 02003
005362 001000 A         2181        JMP*    EXN             RETURN                                            03 02004
005363 105337 R
                        2182 *                                                                                  03 02005
                        2183 *      THIS IS A SUBROUTINE TO EVALUATE THE VALUE OF THE NEXT EXPRESSIO            03 02006
                        2184 *      CALLING SEQUENCE                                                            03 02007
                        2185 *      JMPM    EXP                                                                 03 02008
                        2186 *      RETURN                  THE A REGISTER CONTAINS THE VALUE                   03 02009
                        2187 *                              THE B REGISTER CONTAINS THE ATTRIBUTES              03 02010
                        2188 *                                                                                  03 02011
005364 047000 I         2189 EXP2   INR     ICP             INCREMENT INPUT CHACT POINTER                     03 02012
005365 017000 I         2190        LDA     RVAL                                                              03 02013
005366 117000 I         2191        ORA     01000           SET LITERAL FLAG BIT-9 (=01000)                   03 02014
005367 057000 I         2192        STA     RVAL                                                              03 02015
005370 010000 L         2193 EXP1   LDA     =2                                                                03 02016
005371 002000 A         2194        JMPM    GS4             GET SPACE TABLE #4                                03 02017
005372 011554 R
005373 001004 A         2195        JAN     EXP7            JUMP IF NO ROOM                                   03 02018
005374 005471 R
005375 005001 A         2196        TZA                     INITIATE                                          03 02019
005376 055000 A         2197        STA     0,X             IN CASE OF                                        03 02020
005377 055001 A         2198        STA     1,X             A BLANK FIELD                                     03 02021
005400 002000 A         2199        JMPM    EX              GET VALUE                                         03 02022
005401 005516 R
005402 037000 I         2200        LDX     BT4                                                               03 02023
005403 015001 A         2201        LDQ     1,X             GET ATTRIBUTE WORD                                03 02024
005404 002000 A         2202        JMPM    SDTB                                                              03 02025
005405 006277 R
005406 015001 A         2203        LDQ     1,X             GET ATTRIBUTE WORD                                03 02026
005407 150000 L         2204        ANA     =-4             FORCE ABSO                                        03 02027
005410 055001 A         2205        STA     1,X                                                               03 02028
005411 150000 L         2206        ANA     =0600           EXTRACT ST                                        03 02029
005412 130000 L         2207        ERA     =0'00                                                             03 02030
005413 001010 A         2208        JAZ     *+4             JUMP IF EXTERNAL                                  03 02031
005414 005417 R
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005415 001000 A 2209        JMP     EXP3        NOT EXTERNAL                                03 02032
005416 005441 R
005417 017000 I 2210        LDA     AF                                                      03 02033
005420 001010 A 2211        JAZ     EXP6        JUMP IF NO EXTERNAL ARITHMETIC              03 02034
005421 005434 R
005422 024072 A 2212        LDB     QADQ        (='AD')                                     03 02035
005423 002000 A 2213        JMPM    ERR                                                     03 02036
005424 007747 R
005425 037000 I 2214        LDX     BT4                                                     03 02037
005426 015001 A 2215        LDA     1,X                                                     03 02038
005427 006150 A 2216        ANAI    -0601       FORCE ST=INTERNAL                           03 02039
005430 177177 A
005431 055001 A 2217        STA     1,X                                                     03 02040
005432 001000 A 2218        JMP     EXP3                                                    03 02041
005433 005441 R
                2219 *                                                                      03 02042
005434 017000 I 2220 EXP6   LDA     EP          PUT SYMBOL                                  03 02043
005435 055000 A 2221        STA     0,X         POINTER IN VALUE WORD                       03 02044
005436 015001 A 2222        LDA     1,X         SET                                         03 02045
005437 110000 L 2223        ORA     =020        POINTER                                     03 02046
005440 055001 A 2224        STA     1,X         FLAG BIT-4 IN ATTRIBUTE WORD                03 02047
005441 017000 I 2225 EXP3   LDA     PRF                                                     03 02048
005442 027000 I 2226        LDB     CRF                                                     03 02049
005443 001030 A 2227        JIF     AZ+BZ,EXP4  JUMP IF ABSOLUTE                            03 02050
005444 005463 R
005445 005311 A 2228        DAR                                                             03 02051
005446 001030 A 2229        JIF     AZ+BZ,EXP9  JUMP IF PROGRAM RELOCATABLE                 03 02052
005447 005462 R
005450 017000 I 2230        LDA     PRF                                                     03 02053
005451 005322 A 2231        DBR                                                             03 02054
005452 001030 A 2232        JIF     AZ+BZ,EXP8  JUMP IF COMMON RELOCATABLE                  03 02055
005453 005461 R
005454 020000 L 2233 EXP5   LDB     ='R '       OTHERWISE ERROR                             03 02056
005455 002000 A 2234        JMPM    ERR                                                     03 02057
005456 007747 R
005457 001000 A 2235        JMP     EXP7                                                    03 02058
005460 005471 R
                2236 *                                                                      03 02059
005461 047000 I 2237 EXP8   INR     RVAL                                                    03 02060
005462 047000 I 2238 EXP9   INR     RVAL                                                    03 02061
005463 015001 A 2239 EXP4   LDA     1,X         GET ATTRIBUTE WORD                          03 02062
005464 117000 I 2240        ORA     RVAL                                                    03 02063
005465 057000 I 2241        STA     RVAL                                                    03 02064
005466 005012 A 2242        TAB                                                             03 02065
005467 015000 A 2243        LDA     0,X         GET VALUE WORD                              03 02066
005470 001006 A 2244        DATA    01006       SKIP NEXT WORD                              03 02067
005471 005003 A 2245 EXP7   ZERO    3           A=B=0                                       03 02068
005472 057000 I 2246        STA     VAL                                                     03 02069
005473 037000 I 2247        LDX     BT4                                                     03 02070
005474 077000 I 2248        STX     BT4                                                     03 02071
005475 001000 A 2249        JMP     0           RETURN                                      03 02072
005476 000000 A
005476          2250 EXP    BES     0           ENTRY                                       03 02073
005477 017000 I 2251        LDA     IADF        INITIATE                                    03 02074
005500 057000 I 2252        STA     RVAL        ATTRIBUTE WORD                              03 02075
005501 005001 A 2253        TZA                 INITIATE                                    03 02076
005502 057000 I 2254        STA     PRF         PROGRAM RELOCATION FLAG                     03 02077
005503 057000 I 2255        STA     CRF         COMMON RELOCATION FLAG                      03 02078
005504 057000 I 2256        STA     IADF        INDIRECT ADDRESS FLAG                       03 02079
005505 057000 I 2257        STA     AF          ARITHMETIC FLAG                             03 02080
005506 002000 A 2258        JMPM    GNC0        GET NEXT CHACT                              03 02081
005507 007707 R
005510 130000 L 2259        ERA     ='='                                                    03 02082
005511 001010 A 2260        JAZ     EXP2        JUMP IF LEADING EQUAL SIGN                  03 02083
005512 005364 R
005513 001000 A 2261        JMP     EXP1                                                    03 02084
005514 005370 R
005515 140704 A 2262 QADQ   DATA    'AD'                                                    03 02085
                2263 *                                                                      03 02086
                2264 *      THIS IS THE EXPRESSION EVALUATOR EXPRESSION SUBROUTINE          03 02087
                2265 *      EX = UNOP $ ('+' TERM .OUT('ADD') /                             03 02088
                2266 *                  ('-' TERM .OUT('SUB'))...                           03 02089
                2267 *      CALLING SEQUENCE                                                03 02090
                2268 *      JMPM    EX                                                      03 02091
                2269 *      RETURN                                                          03 02092
                2270 *                                                                      03 02093
005516 000000 A 2271 EX     DATA    0                                                       03 02094
005517 002000 A 2272        JMPM    REC         STACK RETURN ADDRESS                        03 02095
005520 007112 R
005521 002000 A 2273        JMPM    UNOP        TEST FOR UNARY OPERATOR                     03 02096
005522 005570 R
005523 001004 A 2274        JAN     RET         RETURN IF NO UNARY OPERATOR                 03 02097
005524 007115 R
005525 002000 A 2275 EX5    JMPM    GNC0        GET NEXT CHACT                              03 02098
005526 007707 R
005527 140000 L 2276        SUB     ='+'                                                    03 02099
005530 001010 A 2277        JAZ     EX1         JUMP IF PLUS SIGN                           03 02100
005531 005551 R
005532 140000 L 2278        SUB     ='-'-'+'                                                03 02101
005533 001010 A 2279        JAZ     EX2         JUMP IF MINUS SIGN                          03 02102
005534 005540 R
005535 005101 A 2280        INCR    1           A=+1                                        03 02103
005536 001000 A 2281        JMP     RET         RETURN TRUE                                 03 02104
```

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005537 007115 R
                    2282 *                                                                          03 02105
                    2283 *      WE GET HERE TO PROCESS THE BINARY MINUS SIGN                        03 02106
                    2284 *                                                                          03 02107
005540 047000 I     2285 EX2    INR     ICP         INCREMENT INPUT CHACT POINTER                   03 02108
005541 002000 A     2286        JMPM    TERM        TEST FOR TERM                                   03 02109
005542 005644 R
005543 001004 A     2287        JAN     EX3         JUMP IF NOT TERM                                03 02110
005544 005562 R
005545 002000 A     2288        JMPM    SUB         SUBTRACT TOP TWO ENTRIES IN STACK               03 02111
005546 006222 R
005547 001000 A     2289        JMP     EX5         KEEP TRYING                                     03 02112
005550 005525 R
                    2290 *                                                                          03 02113
                    2291 *      WE GET HERE TO PROCESS THE BINARY PLUS SIGN                         03 02114
                    2292 *                                                                          03 02115
005551 047000 I     2293 EX1    INR     ICP         INCREMENT INPUT CHACT POINTER                   03 02116
005552 002000 A     2294        JMPM    TERM        TEST FOR TERM                                   03 02117
005553 005644 R
005554 001004 A     2295        JAN     EX3         JUMP IF NOT TERM                                03 02118
005555 005562 R
005556 002000 A     2296        JMPM    ADD         ADD TOP TWO ENTRIES IN STACK                    03 02119
005557 006263 R
005560 001000 A     2297        JMP     EX5         KEEP TRYING                                     03 02120
005561 005525 R
                    2298 *                                                                          03 02121
005562 027000 I     2299 EX3    LDB     QEXQ        (='EX')                                         03 02122
005563 002000 A     2300        JMPM    ERR                                                         03 02123
005564 007747 R
005565 005301 A     2301        DECR    1           A=-1                                            03 02124
005566 001000 A     2302        JMP     RET         RETURN FALSE                                    03 02125
005567 007115 R
                    2303 *      THIS IS THE EXPRESSION EVALUATOR UNARY OPERATOR SUBROUTINE          03 02126
                    2304 *      UNOP = '-' TERM .OUT('SUB') /                                       03 02127
                    2305 *             '+' TERM /                                                   03 02128
                    2306 *             TERM .,                                                      03 02129
                    2307 *      CALLING SEQUENCE                                                    03 02130
                    2308 *      JMPM    UNOP                                                        03 02131
                    2309 *      RETURN                                                              03 02132
                    2310 *                                                                          03 02133
005570 000000 A     2311 UNOP   DATA    0                                                           03 02134
005571 002000 A     2312        JMPM    REC         STACK RETURN ADDRESS                            03 02135
005572 007112 R
005573 002000 A     2313        JMPM    GNCO        GET NEXT CHACT                                  03 02136
005574 007707 R
005575 140000 L     2314        SUB     ='+'                                                        03 02137
005576 001010 A     2315        JAZ     UN2         JUMP IF PLUS SIGN                               03 02138
005577 005631 R
005600 140000 L     2316        SUB     ='-'-'+'                                                    03 02139
005601 001010 A     2317        JAZ     UN1         JUMP IF MINUS SIGN                              03 02140
005602 005607 R
005603 002000 A     2318        JMPM    TERM        TEST FOR TERM                                   03 02141
005604 005644 R
005605 001000 A     2319        JMP     RET         RETURN                                          03 02142
005606 007115 R
                    2320 *                                                                          03 02143
                    2321 *      WE GET HERE TO PROCESS THE UNARY MINUS SIGN                         03 02144
                    2322 *                                                                          03 02145
005607 047000 I     2323 UN1    INR     ICP         INCREMENT INPUT CHACT POINTER                   03 02146
005610 010000 L     2324        LIT     =2                                                          03 02147
005611 002000 A     2325        JMPM    CG4         GET SPACE TABLE #4                              03 02148
005612 011554 R
005613 001004 A     2326        JAN     RET         RETURN IF NO ROOM                               03 02149
005614 007115 R
005615 005001 A     2327        TZA                 INITIATE                                        03 02150
005616 055000 A     2328        STA     0,X         VALUE WORD                                      03 02151
005617 055001 A     2329        STA     1,X         ATTRIBUTE WORD                                  03 02152
005620 002000 A     2330        JMPM    TERM        TEST FOR TERM                                   03 02153
005621 005644 R
005622 001004 A     2331        JAN     UN3         JUMP IF NOT TERM                                03 02154
005623 005636 R
005624 002000 A     2332        JMPM    SUB         SUBTRACT TOP TWO ENTRIES IN STACK               03 02155
005625 006222 R
005626 005101 A     2333        INCR    1           A=1                                             03 02156
005627 001000 A     2334        JMP     RET         RETURN TRUE                                     03 02157
005630 007115 R
                    2335 *                                                                          03 02158
                    2336 *      WE GET HERE TO PROCESS THE UNARY PLUS SIGN                          03 02159
                    2337 *                                                                          03 02160
005631 047000 I     2338 UN2    INR     ICP         INCREMENT INPUT CHACT POINTER                   03 02161
005632 002000 A     2339        JMPM    TERM        TEST FOR TERM                                   03 02162
005633 005644 R
005634 001002 A     2340        JAP     RET         RETURN TRUE IF TERM                             03 02163
005635 007115 R
005636 027000 I     2341 UN3    LDB     QEXQ        (='EX')                                         03 02164
005637 002000 A     2342        JMPM    ERR                                                         03 02165
005640 007747 R
005641 005301 A     2343        DECR    1           A=-1                                            03 02166
005642 001000 A     2344        JMP     RET         RETURN FALSE                                    03 02167
005643 007115 R
                    2345 *                                                                          03 02168
                    2346 *      THIS IS THE EXPRESSION EVALUATOR TERM SUBROUTINE                    03 02169
                    2347 *      TERM = PRIMARY $ ('*' PRIMARY .OUT('MUL') /                         03 02170
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                    2348 *                                  '/' PRIMARY .OUT('DIV')) /                                      03 02171
                    2349 *                                ('*' (' ' / ',' / EOL) .OUT('SETIADF')) .,                        03 02172
                    2350 *       CALLING SEQUENCE                                                                           03 02173
                    2351 *       JMPM    TERM                                                                               03 02174
                    2352 *       RETURN                                                                                     03 02175
                    2353 *                                                                                                  03 02176
005644 000000 A     2354 TERM    DATA    0                                                                                  03 02177
005645 002000 A     2355         JMPM    REC             STACK RETURN ADDRESS                                               03 02178
005646 007112 R
005647 002000 A     2356         JMPM    PRI             TEST FOR PRIMARY                                                   03 02179
005650 005735 R
005651 001004 A     2357         JAN     RET             RETURN IF NOT PRIMARY                                              03 02180
005652 007115 R
005653 002000 A     2358 TRM7    JMPM    GNC0            GET NEXT CHACT                                                     03 02181
005654 007707 R
005655 140000 L     2359         SUB     ='*'                                                                               03 02182
005656 001010 A     2360         JAZ     TRM2            JUMP IF ASTERISK                                                   03 02183
005657 005677 R
005660 140000 L     2361         SUB     ='/'-'*'                                                                           03 02184
005661 001010 A     2362         JAZ     TRM1            JUMP IF SLASH                                                      03 02185
005662 005666 R
005663 005101 A     2363 TRM3    INCR    1               A=1                                                                03 02186
005664 001000 A     2364         JMP     RET             RETURN TRUE                                                        03 02187
005665 007115 R
                    2365 *                                                                                                  03 02188
                    2366 *       WE GET HERE TO PROCESS THE SLASH CHACT                                                     03 02189
                    2367 *                                                                                                  03 02190
005666 047000 I     2368 TRM1    INR     ICP             INCREMENT INPUT CHACT POINTER                                      03 02191
005667 002000 A     2369         JMPM    PRI             TEST FOR PRIMARY                                                   03 02192
005670 005735 R
005671 001004 A     2370         JAN     TRM6            JUMP IF NOT PRIMARY                                                03 02193
005672 005722 R
005673 002000 A     2371         JMPM    DIV             DIVIDE TOP TWO ENTRIES IN STACK                                    03 02194
005674 006344 R
005675 001000 A     2372         JMP     TRM7            KEEP TRYING                                                        03 02195
005676 005653 R
                    2373 *                                                                                                  03 02196
                    2374 *       WE GET HERE TO PROCESS THE ASTERISK CHACT                                                  03 02197
                    2375 *                                                                                                  03 02198
005677 047000 I     2376 TRM2    INR     ICP             INCREMENT INPUT CHACT POINTER                                      03 02199
005700 002000 A     2377         JMPM    PRI             TEST FOR PRIMARY                                                   03 02200
005701 005735 R
005702 001004 A     2378         JAN     TRM4            JUMP IF NOT PRIMARY                                                03 02201
005703 005710 R
005704 002000 A     2379         JMPM    MUL             MULTIPLY TOP TWO ENTRIES IN STACK                                  03 02202
005705 006457 R
005706 001000 A     2380         JMP     TRM7            KEEP TRYING                                                        03 02203
005707 005653 R
                    2381 *                                                                                                  03 02204
005710 002000 A     2382 TRM4    JMPM    GNC0            GET NEXT CHACT                                                     03 02205
005711 007707 R
005712 001010 A     2383         JAZ     TRM5            JUMP IF EOL                                                        03 02206
005713 005730 R
005714 140000 L     2384         SUB     =' '                                                                               03 02207
005715 001010 A     2385         JAZ     TRM5            JUMP IF BLANK                                                      03 02208
005716 005730 R
005717 140000 L     2386         SUB     =',' '          '                                                                  03 02209
005720 001010 A     2387         JAZ     TRM5            JUMP IF COMMA                                                      03 02210
005721 005730 R
005722 027000 I     2388 TRM6    LDB     QEXQ            OTHERWISE ERROR (='EX')                                            03 02211
005723 002000 A     2389         JMPM    ERR                                                                                03 02212
005724 007747 R
005725 005301 A     2390         DECR    1               A=-1                                                               03 02213
005726 001000 A     2391         JMP     RET             RETURN FALSE                                                       03 02214
005727 007115 R
                    2392 *                                                                                                  03 02215
005730 010000 L     2393 TRM5    LDA     =0100000        SET                                                                03 02216
005731 117000 I     2394         ORA     RVAL            INDIRECT ADDRESS FLAG                                              03 02217
005732 057000 I     2395         STA     RVAL                                                                               03 02218
005733 001000 A     2396         JMP     TRM3                                                                               03 02219
005734 005663 R
                    2397 *                                                                                                  03 02220
                    2398 *       THIS IS THE EXPRESSION EVALUATOR PRIMARY SUBROUTINE                                        03 02221
                    2399 *       PRIMARY = .STRING .OUT ('LOD',*) /                                                         03 02222
                    2400 *                 '(' EX ')' /                                                                     03 02223
                    2401 *                 '*' .OUT ('LOD',LC) /                                                            03 02224
                    2402 *                 .NUMBER .OUT ('LOD',*) /                                                         03 02225
                    2403 *                 'P(' EX ')' .OUT ('GETPAR') /                                                    03 02226
                    2404 *                 .ID .OUT ('LOD',*) .,                                                            03 02227
                    2405 *       CALLING SEQUENCE                                                                           03 02228
                    2406 *       JMPM    PRI                                                                                03 02229
                    2407 *       RETURN                                                                                     03 02230
                    2408 *                                                                                                  03 02231
005735 000000 A     2409 PRI     DATA    0                                                                                  03 02232
005736 002000 A     2410         JMPM    REC             STACK RETURN ADDRESS                                               03 02233
005737 007112 R
005740 002000 A     2411         JMPM    GNC0            GET NEXT CHACT                                                     03 02234
005741 007707 R
005742 140000 L     2412         SUB     ='''
005743 001010 A     2413         JAZ     PRI0            JUMP IF CHACT STRING                                               03 02236
005744 006145 R
005745 005311 A     2414         DAR                     (='('-'''')                                                        03 02237
005746 001010 A     2415         JAZ     PRIP            JUMP IF LEFT PARENTHESIS                                           03 02238
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005747 006120 R
005750 140000 L 2416          SUB     ='*'-'('
005751 001010 A 2417          JAZ     PRIA                JUMP IF ASTERISK                    03 02239
005752 006134 R                                                                               03 02240
005753 140466 A 2418          SUB     SIX                 (='0'-'*')                          03 02241
005754 001004 A 2419          JAZ     PRI7                JUMP IF NOT DIGIT                   03 02242
005755 006101 R                                                                               03 02243
005756 140000 L 2420          SUB     =':'-'0'                                                03 02244
005757 001010 A 2421          JAZ     PRID                JUMP IF DIGIT                       03 02245
005760 006011 R                                                                               03 02246
005761 002000 A 2422 PRI7     JMPM    IOM                 INPUT SYMBOL                        03 02247
005762 007477 R                                                                               03 02248
005763 000000 R 2423          DATA    LABR                PUT IT INTO LABR                    03 02249
005764 000000 A 2424          DAC                                                             03 02250
005765 000100 A 2425          JAN     RET                 RETURN FALSE IF NO SYMBOL           03 02251
005766 002113 R                                                                               03 02252
005767 017000 I 2426          LDA     MLF                                                     03 02253
005770 001010 A 2427          JAZ     PRI9                JUMP IF NOT WITHIN A MACRO          03 02254
005771 006045 R                                                                               03 02255
005772 002000 A 2428          JMPM    GMC0                GET NEXT CHAR                       03 02256
005773 007700 R                                                                               03 02257
005774 130000 L 2429          ERA     ='('                                                    03 02258
005775 001010 A 2430          JAZ     PRI4                JUMP IF POSSIBLE MACRO PARAMETER    03 02259
005776 006000 R                                                                               03 02260
005777 001010 A 2431          JMP     PRI9                                                    03 02261
006000 006134 R                                                                               03 02262
006001 047000 I 2432          INR     IOP                 INCREMENT INPUT CHAR POINTER        03 02263
006002 017000 I 2433          LDA     IOP+1                                                   03 02264
006003 130000 L 2434          ERA     ='*'                                                    03 02265
006004 001010 A 2435          JAZ     *+4                 JUMP IF MACRO PARAMETER             03 02266
006005 006011 R                                                                               03 02267
006006 001000 A 2436          JMP     PRI.                                                    03 02268
006007 006300 R                                                                               03 02269
006010 002001 A 2437          JMPM    EX                                                      03 02270
006011 005516 R                                                                               03 02271
006012 027000 I 2438          LDB     ='EX'               (='EX')                             03 02272
006013 002001 A 2439          JANM    *+2                 ERROR IF NOT AN EXPRESSION          03 02273
006014 006274 R                                                                               03 02274
006015 002000 A 2440          JMPM    GMC1                GET NEXT CHAR                       03 02275
006016 007737 R                                                                               03 02276
006017 130000 L 2441          ERA     =')'                                                    03 02277
006020 001010 A 2442          JAZ     PRI6                JUMP IF TRAILING PAREN              03 02278
006021 006025 R                                                                               03 02279
006022 027000 I 2443          LDB     DEX0                (='EX')                             03 02280
006023 002000 A 2444          JMPM    IRR                                                     03 02281
006024 007742 R                                                                               03 02282
006025 037000 I 2445 PRI6     LDX     B14                                                     03 02283
006026 015001 A 2446          LDA     1,X                                                     03 02284
006027 150000 A 2447          AND     IMASK               TEST MODE                           03 02285
006030 001010 A 2448          JAZ     PRI3                JUMP IF USER                        03 02286
006031 006036 R                                                                               03 02287
006032 020000 L 2449          LDB     ='R '                                                   03 02288
006033 002000 A 2450          JMPM    EXO                                                     03 02289
006034 007747 R                                                                               03 02290
006035 017000 I 2451          LDA     B14                                                     03 02291
006036 170010 A 2452 PRI3     ADD     2,X                 GET SUBSCRIPT VALUE                 03 02292
006037 002001 A 2453          JAN     *+2                 JUMP IF NEGATIVE SUBSCRIPT          03 02293
006040 006045 R                                                                               03 02294
006041 017000 I 2454          LDB*    0,X                 GET PTR                             03 02295
006042 140000 L 2455          SUB     =1                                                      03 02296
006043 001010 A 2456          JAZ     PRI4                JUMP IF WITHIN PARAMETER RANGE      03 02297
006044 006051 R                                                                               03 02298
006045 002001 A 2457          IPJ     *+2                 IF NOT WITHIN RANGE                 03 02299
006046 006051 R                                                                               03 02300
006047 001010 A 2458          JMP     PRI2                                                    03 02301
006050 006134 R                                                                               03 02302
006051 002000 A 2459 PRI4     JMPM    IOM                 GET POINTER                         03 02303
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006102 016003 A 2481 PRIB   LDA     STV,B       GET VALUE WORD                          03 02304
006103 055000 A 2482        STA     0,X         STORE IN EXPRESSION STACK               03 02305
006104 016004 A 2483        LDA     STA,B       GET ATTRIBUTE WORD                      03 02306
006105 055001 A 2484        STA     1,X         STORE IN EXPRESSION STACK               03 02307
006106 005101 A 2485 PRI8   INCR    1           A=+1                                    03 02308
006107 001000 A 2486        JMP     RET         RETURN TRUE                             03 02309
006110 007115 R
                2487 *                                                                  03 02310
006111 027000 I 2488 PRI1   LDB     QSYQ        (='SY')                                 03 02311
006112 002000 A 2489        CALL    ERR                                                 03 02312
006113 007747 R
006114 006030 A 2490        LDXI    MOPT+4                                              03 02313
006115 012130 R
006116 001000 A 2491        JMP     PRI2                                                03 02314
006117 006073 R
                2492 *                                                                  03 02315
                2493 *      WE GET HERE TO PROCESS THE LEFT PARENTHESIS CHACT           03 02316
                2494 *                                                                  03 02317
006120 047000 I 2495 PRIP   INR     ICP         INCREMENT INPUT CHACT POINTER           03 02318
006121 002000 A 2496        JMPM    EX          TEST FOR EXPRESSION                     03 02319
006122 005516 R
006123 001004 A 2497        JAN     PRI5        JUMP IF NOT EXPRESSION                  03 02320
006124 006210 R
006125 002000 A 2498        JMPM    GNC1        GET NEXT CHACT                          03 02321
006126 007737 R
006127 130000 L 2499        ERA     =')'                                                03 02322
006130 001010 A 2500        JAZ     RET         RETURN TRUE IF RIGHT PARENTHESIS        03 02323
006131 007115 R
006132 001000 A 2501        JMP     PRI5        .                                       03 02324
006133 006210 R
                2502 *                                                                  03 02325
                2503 *      WE GET HERE TO PROCESS THE ASTERISK CHACT                   03 02326
                2504 *                                                                  03 02327
006134 047000 I 2505 PRIA   INR     ICP         INCREMENT INPUT CHACT POINTER           03 02328
006135 006030 A 2506        LDXI    RLC-STA                                             03 02329
006136 000015 R
006137 001000 A 2507        JMP     PRI2                                                03 02330
006140 006073 R
                2508 *                                                                  03 02331
                2509 *      WE GET HERE TO PROCESS A DIGIT STRING                       03 02332
                2510 *                                                                  03 02333
006141 002000 A 2511 PRID   JMPM    IDS         INPUT DIGIT STRING                      03 02334
006142 007521 R
006143 001000 A 2512        JMP     PQ4                                                 03 02335
006144 006204 R
                2513 *                                                                  03 02336
                2514 *      WE GET HERE TO INPUT A CHARACTER STRING                     03 02337
                2515 *                                                                  03 02338
006145 005003 A 2516 PRIQ   ZFRQ    3           A=B=0                                   03 02339
006146 057000 I 2517 PQ1    STA     IDSA+1      STORE ACCUMULATOR OVERFLOW              03 02340
006147 067000 I 2518        STB     IDSA        STORE ACCUMULATOR                       03 02341
006150 047000 I 2519        INR     ICP         INCREMENT INPUT CHACT POINTER           03 02342
006151 002000 A 2520        JMPM    GNC0        GET NEXT CHACT                          03 02343
006152 007707 R
006153 001010 A 2521        JAZ     PQ5         JUMP IF EOL                             03 02344
006154 006201 R
006155 130000 L 2522        ERA     ='''                                                03 02345
006156 001010 A 2523        JAZ     PQ2         JUMP IF QUOTE SIGN                      03 02346
006157 006167 R
006160 005024 A 2524 PQ3    TBX                 SAVE CHACT IN X-REG.                    03 02347
006161 017000 I 2525        LDA     IDSA+1                                              03 02348
006162 027000 I 2526        LDB     IDSA                                                03 02349
006163 004450 A 2527        LLRL    8                                                   03 02350
006164 005062 A 2528        MERG    0,2         B=B,PR,X                                03 02351
006165 001000 A 2529        JMP     PQ1         KEEP TRYING                             03 02352
006166 006146 R
006167 047000 I 2530 PQ2    INR     ICP         INCREMENT INPUT CHACT POINTER           03 02353
006170 002000 A 2531        JMPM    GNC0        GET NEXT-NEXT CHACT                     03 02354
006171 007707 R
006172 130000 L 2532        ERA     ='''                                                03 02355
006173 001010 A 2533        JAZ     PQ3         JUMP IF DOUBLE QUOTE                    03 02356
006174 006160 R
006175 002000 A 2534        JMPM    IDOF        CHECK OVERFLOW                          03 02357
006176 007574 R
006177 001000 A 2535        JMP     PQ4                                                 03 02358
006200 006204 R
                2536 *                                                                  03 02359
006201 020000 L 2537 PQ5    LDB     ='MQ'                                               03 02360
006202 002000 A 2538        JMPM    ERR                                                 03 02361
006203 007747 R
006204 006030 A 2539 PQ4    LDXI    IDSA-9                                              03 02362
006205 000055 R
006206 001000 A 2540        JMP     PRI2                                                03 02363
006207 006073 R
                2541 *                                                                  03 02364
006210 027000 I 2542 PRI5   LDB     QEXQ        (='EX')                                 03 02365
006211 002000 A 2543        JMPM    ERR         ERROR                                   03 02366
006212 007747 R
006213 005301 A 2544        DFCR    1           A=-1                                    03 02367
006214 001004 A 2545        JMP     RET         RETURN FALSE                            03 02368
006215 007115 R
                2546 *                                                                  03 02369
                2547 *      THIS IS A SUBROUTINE TO SUBTRACT THE TOP TWO ENTRIES        03 02370
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                        2548 *       IN THE EXPRESSION STACK                                                    03 02371
                        2549 *                                                                                  03 02372
006216 017000  I 2550 SUB2   LDA     CRF                                                                        03 02373
006217 005311  A 2551        DAR                                                                                03 02374
006220 057000  I 2552        STA     CRF                                                                        03 02375
006221 001000  A 2553        JMP     0               RETURN                                                     03 02376
006222 000000  A
006222                  2554 SUB     BES     0               ENTRY                                              03 02377
006223 047000  I 2555        INR     AF              SET ARITHMETIC FLAG                                        03 02378
006224 037000  I 2556        LDX     BT4                                                                        03 02379
006225 015002  A 2557        LDA     2,X                                                                        03 02380
006226 007400  A 2558        RCF                                                                                03 02381
006227 145000  A 2559        SUB     0,X             SUBTRACT                                                   03 02382
006230 055002  A 2560        STA     2,X                                                                        03 02383
006231 002001  A 2561        JOFM    AOF             JUMP IF OVERFLOW                                           03 02384
006232 006335  R
006233 015001  A 2562        LDA     1,X             GET ATTRIBUTE WORD                                         03 02385
006234 150000  L 2563        ANA     =4                                                                         03 02386
006235 115003  A 2564        ORA     3,X                                                                        03 02387
006236 055003  A 2565        STA     3,X                                                                        03 02388
006237 015001  A 2566        LDA     1,X                                                                        03 02389
006240 150000  L 2567        ANA     =3              EXTRACT RELOCATABILITY                                     03 02390
006241 005144  A 2568        IXR                     ADJUST                                                     03 02391
006242 005144  A 2569        IXR                     TABLE                                                      03 02392
006243 077000  I 2570        STX     BT4             POINTER                                                    03 02393
006244 001010  A 2571        JAZ*    SUB             RETURN IF ABSO                                             03 02394
006245 106222  R
006246 005311  A 2572        DAR                                                                                03 02395
006247 001010  A 2573        JAZ     SUB1            JUMP IF PROGRAM RELO                                       03 02396
006250 006256  R
006251 005311  A 2574        DAR                                                                                03 02397
006252 001010  A 2575        JAZ     SUB2            JUMP IF COMMON RELO                                        03 02398
006253 006216  R
006254 001000  A 2576        JMP*    SUB             RETURN                                                     03 02399
006255 106222  R
                        2577 *                                                                                  03 02400
006256 017000  I 2578 SUB1   LDA     PRF                                                                        03 02401
006257 005311  A 2579        DAR                                                                                03 02402
006260 057000  I 2580        STA     PRF                                                                        03 02403
006261 001000  A 2581        JMP*    SUB             RETURN                                                     03 02404
006262 106222  R
                        2582 *                                                                                  03 02405
                        2583 *       THIS IS A SUBROUTINE TO ADD THE TOP TWO ENTRIES IN THE                     03 02406
                        2584 *       EXPRESSION STACK.                                                          03 02407
                        2585 *                                                                                  03 02408
006263 000000  A 2586 ADD    DATA    0                                                                          03 02409
006264 047000  I 2587        INR     AF              SET ARITHMETIC FLAG                                        03 02410
006265 002000  A 2588        JMPM    ADDS                                                                       03 02411
006266 006313  R
006267 002000  A 2589        JMPM    ADDB                                                                       03 02412
006270 006277  R
006271 001000  A 2590        JMP*    ADD             RETURN                                                     03 02413
006272 106263  R
                        2591 *                                                                                  03 02414
                        2592 *       THIS IS A SUBROUTINE TO COMPUTE THE RELOCATABILITY                         03 02415
                        2593 *                                                                                  03 02416
006273 047000  I 2594 ADD1   INR     PRF             INCREMENT PROGRAM RELO                                     03 02417
006274 001006  A 2595        DATA    01006           SKIP NEXT JORD                                             03 02418
006275 047000  I 2596 ADD2   INR     CRF             INCREMENT COMMON RELO                                      03 02419
006276 001000  A 2597        JMP     0               RETURN                                                     03 02420
006277 000000  A
006277                  2598 ADDB    BES     0               ENTRY                                              03 02421
006300 150000  L 2599        ANA     =3              EXTRACT RELOCATABILY                                       03 02422
006301 001010  A 2600        JAZ*    ADDB            RETURN IF ABSO                                             03 02423
006302 106277  R
006303 005311  A 2601        DAR                                                                                03 02424
006304 001010  A 2602        JAZ     ADD1            JUMP IF PROGRAM RELO                                       03 02425
006305 006273  R
006306 005311  A 2603        DAR                                                                                03 02426
006307 001010  A 2604        JAZ     ADD2            JUMP IF COMMON RELO                                        03 02427
006310 006275  R
006311 001000  A 2605        JMP*    ADDB            OTHERWISE, RETURN                                          03 02428
006312 106277  R
                        2606 *                                                                                  03 02429
                        2607 *       THIS IS A SUBROUTINE WHICH REALLY DOES THE ADD OF THE                      03 02430
                        2608 *       TOP TWO ENTRIES IN THE EXPRESSION STACK                                    03 02431
                        2609 *                                                                                  03 02432
006313 000000  A 2610 ADDS   DATA    0                                                                          03 02433
006314 037000  I 2611        LDX     $14                                                                        03 02434
006315 015000  A 2612        LDA     0,X             GET VALUE                                                  03 02435
006316 007400  A 2613        RCF                                                                                03 02436
006317 125002  A 2614        ADD     2,X             ADD                                                        03 02437
006320 055002  A 2615        STA     2,X             SAVE RESULT                                                03 02438
006321 002001  A 2616        JOFM    AOF             JUMP IF OVERFLOW                                           03 02439
006322 006335  R
006323 015001  A 2617        LDA     1,Y             GET ATTRIBUTES                                             03 02440
006324 150000  L 2618        ANA     = 4                                                                        03 02441
006325 115003  A 2619        ORA     3,X                                                                        03 02442
006326 055003  A 2620        STA     3,X                                                                        03 02443
006327 015001  A 2621        LDA     1,X             GET ATTRIBUTES                                             03 02444
006330 005144  A 2622        IXR                     ADJUST                                                     03 02445
006331 005144  A 2623        IXR                     TABLE                                                      03 02446
006332 077000  I 2624        STX     BT4             POINTER                                                    03 02447
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006333 001000 A 2625         JMP*    ADDS        RETURN                                                  03 02448
006334 106313 R
                2626 *                                                                                   03 02449
                2627 *       THIS IS A SUBROUTINE TO OUTPUT AN ERROR FOR AN ARITH. OVERFLOW              03 02450
                2628 *                                                                                   03 02451
006335 000000 A 2629 ADF     DATA    0                                                                   03 02452
006336 020000 L 2630         LDB     ='SZ'                                                               03 02453
006337 002000 A 2631         JMPM    ERR                                                                 03 02454
006340 007747 R
006341 037000 I 2632         LDX     BT4         RESTORE X REGISTER                                      03 02455
006342 001000 A 2633         JMP*    ADF                                                                 03 02456
006343 106335 R
                2634 *                                                                                   03 02457
                2635 *       THIS IS A SUBROUTINE TO DIVIDE THE TOP TWO ENTRIES                          03 02458
                2636 *       IN THE EXPRESSION STACK                                                     03 02459
                2637 *                                                                                   03 02460
006344 000000 A 2638 DIV     DATA    0                                                                   03 02461
006345 047000 I 2639         INR     AF          SET ARITHMETIC FLAG                                     03 02462
006346 037000 I 2640         LDX     BT4                                                                 03 02463
006347 015001 A 2641         LDA     1,X                                                                 03 02464
006350 115003 A 2642         ORA     3,X                                                                 03 02465
006351 055003 A 2643         STA     3,X                                                                 03 02466
006352 150000 L 2644         ANA     =3          EXTRACT RELOCATABILITY                                  03 02467
006353 001010 A 2645         JAZ     DIV1        JUMP IF BOTH ABSO                                       03 02468
006354 006363 R
006355 135003 A 2646         ERA     3,X         FORCE ABSO                                              03 02469
006356 055003 A 2647         STA     3,X                                                                 03 02470
006357 020000 L 2648         LDB     ='R'                                                                03 02471
006360 002000 A 2649         JMPM    ERR                                                                 03 02472
006361 007747 R
006362 037000 I 2650         LDX     BT4                                                                 03 02473
006363 005003 A 2651 DIV1    ZERO    3           A=B=0                                                   03 02474
006364 145000 A 2652         SUB     0,X                                                                 03 02475
006365 001010 A 2653         JAZ     DIV2        JUMP IF DIVISOR IS ZERO                                 03 02476
006366 006422 R
006367 001004 A 2654         JAN     *+4         JUMP IF DIVISOR IS POSITIVE                             03 02477
006370 006373 R
006371 055000 A 2655         STA     0,X                                                                 03 02478
006372 005222 A 2656         CPB                 COMPLEMENT QUOTIENT SIGN                                03 02479
006373 015002 A 2657         LDA     2,X                                                                 03 02480
006374 001002 A 2658         JAP     *+3         JUMP IF DIVIDEND IS POSITIVE                            03 02481
006375 006401 R
006376 005211 A 2659         CPA                 TWOES COMPLEMENT                                        03 02482
006377 005111 A 2660         IAR                 DIVIDEND                                                03 02483
006400 005222 A 2661         CPB                 COMPLEMENT QUOTIENT SIGN                                03 02484
006401 065001 A 2662         STB     1,X         SAVE QUOTIENT SIGN                                      03 02485
006402 005302 A 2663         DECR    2           B=-1                                                    03 02486
006403 145000 A 2664         SUB     0,X                                                                 03 02487
006404 005122 A 2665         IBR                 COUNT SUCCESSFUL SUBTRACTIONS                           03 02488
006405 001002 A 2666         JAP     *-2                                                                 03 02489
006406 006403 R
006407 015001 A 2667         LDA     1,X         GET QUOTIENT SIGN                                       03 02490
006410 001010 A 2668         JAZ     *+4         JUMP IF POSITIVE                                        03 02491
006411 006414 R
006412 005222 A 2669         CPB                 TWOES COMPLEMENT                                        03 02492
006413 005122 A 2670         IBR                 QUOTIENT                                                03 02493
006414 065002 A 2671 DIV3    STB     2,X                                                                 03 02494
006415 005144 A 2672         IXR                                                                         03 02495
006416 005144 A 2673         IXR                                                                         03 02496
006417 077000 I 2674         STX     BT4                                                                 03 02497
006420 001000 A 2675         JMP*    DIV         RETURN                                                  03 02498
006421 106344 R
                2676 *                                                                                   03 02499
006422 002000 A 2677 DIV2    JMPM    ADF         DIVISION BY ZERO IS ILLEGAL                             03 02500
006423 006335 R
006424 077000 I 2678         LDB     C1          GIVE LARGEST POSSIBLE NUMBER                            03 02501
006425 001000 A 2679         JMP     DIV3                                                                03 02502
006426 006414 R
                2680 *                                                                                   03 02503
                2681 *       THIS IS A SUBROUTINE TO MULTIPLY THE TOP TWO ENTRIES                        03 02504
                2682 *       IN THE EXPRESSION STACK                                                     03 02505
                2683 *                                                                                   03 02506
006427 004460 A 2684 MUL2    LLRL    NBIT                                                                03 02507
006430 001002 A 2685         JAP     *+3                                                                 03 02508
006431 006433 R
006432 127000 I 2686         ADD     C2          (=SIGN BIT)                                             03 02509
006433 004460 A 2687         LLRL    NBIT                                                                03 02510
006434 003001 A 2688         XOF     MULS                                                                03 02511
006435 006524 R
006436 002001 A 2689         JOFM    ADF         JUMP IF OVERFLOW                                        03 02512
006437 006335 R
006440 001010 A 2690         JAZ     MUL4        JUMP IF NO OVERFLOW AND POSITIVE                        03 02513
006441 006451 R
006442 005111 A 2691         IAR                                                                         03 02514
006443 001010 A 2692         JAZ     *+5         JUMP IF NO OVERFLOW AND NEGATIVE                        03 02515
006444 006450 R
006445 002000 A 2693         JMPM    ADF         JUMP OVERFLOW, RESULT .LT. -2**15                       03 02516
006446 006335 R
006447 001006 A 2694         DATA    01006       SKIP NEXT WORD                                          03 02517
006450 005301 A 2695         DECR    1           A=-1                                                    03 02518
006451 004417 A 2696 MUL4    LNSL    NBIT-1                                                              03 02519
006452 050002 A 2697         STA     2,X         STORE RESULT                                            03 02520
006453 005144 A 2698         IXR                                                                         03 02521
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006454 005144 A 2699          IXR                                                  03 02522
006455 077000 I 2700          STX     BT4                                          03 02523
006456 001000 A 2701          JMP     0         RETURN                             03 02524
006457 000000 A
006457               2702 MUL BES     0         ENTRY                              03 02525
006460 047000 I 2703          INR     AF        SET ARITHMETIC FLAG                03 02526
006461 037000 I 2704          LDX     BT4                                          03 02527
006462 015001 A 2705          LDA     1,X                                          03 02528
006463 115003 A 2706          ORA     3,X                                          03 02529
006464 055003 A 2707          STA     3,X                                          03 02530
006465 150000 L 2708          ANA     =3        EXTRACT RELOCATABILITY             03 02531
006466 001010 A 2709          JAZ     MUL1      JUMP IF BOTH ABSO                  03 02532
006467 006476 R
006470 135003 A 2710          ERA     3,X       FORCE ABSO                         03 02533
006471 055003 A 2711          STA     3,X                                          03 02534
006472 020000 L 2712          LDB     ='R '                                        03 02535
006473 002000 A 2713          JMPM    ERR                                          03 02536
006474 007747 R
006475 037000 I 2714          LDX     BT4                                          03 02537
006476 017000 I 2715 MUL1     LDA     C1                                           03 02538
006477 140000 L 2716          SUB     =NBIT-1                                      03 02539
006500 055001 A 2717          STA     1,X       ITTERATION COUNTER                 03 02540
006501 007400 A 2718          ROF                                                  03 02541
006502 005001 A 2719          TZA                                                  03 02542
006503 125000 A 2720          LDB     0,X       GET MULTIPLIER                     03 02543
006504 045001 A 2721 MUL3     INR     1,X       'DECREMENT' ITTERATION COUNTER     03 02544
006505 001001 A 2722          JOF     MUL2      JUMP IF END OF COUNT               03 02545
006506 006427 R
006507 004460 A 2723          LLRL    NBIT      EQUIVILANT TO                      03 02546
006510 004457 A 2724          LLRL    NBIT-1    A LLRR 1                           03 02547
006511 127000 I 2725          ADD     C2        (=SIGN BIT)                        03 02548
006512 004441 A 2726          LLRL    1                                            03 02549
006513 003001 A 2727          XOF     MULA      ADD IN VALUE IF BIT WAS TRUE       03 02550
006514 006522 R
006515 004501 A 2728          LASR    1                                            03 02551
006516 003001 A 2729          XOF     MULE                                         03 02552
006517 006523 R
006520 001000 A 2730          JMP     MUL3                                         03 02553
006521 006504 R
               2731 *                                                              03 02554
006522 125002 A 2732 MULA     ADD     2,X                                          03 02555
006523 137000 I 2733 MULE     ERA     C2        (=SIGN BIT)                        03 02556
006524 145002 A 2734 MULS     SUB     2,X                                          03 02557
               2735 *                                                             10 02558
               2736 *    THIS IS A READ NEXT INPUT RECORD SUBROUTINE              03 02559
               2737 *                                                             03 02560
               2738 *                                                             03 02561
               2739 *    WE GET HERE TO PROCESS A PASS 2 READ                     03 02562
               2740 *                                                             03 02563
006525 R       2741 RNP2     EQU     *                                            03 02564
006525 017000 I 2742          LDA     SSRF      GET SS SECT REC ADDR FLAG          03 02565
006526 002000 A 2743          CALL    GSRCAD    UPDATE SECT REC ADDR FLAG AND SSFCB ADDR 03 02566
006527 012164 R
006530 054027 A 2744          STA     RNR2+4    CURRENT BUFFER ADDRESS             03 02567
006531 057000 I 2745          STA     L40+1     SOURCE RECORD ADDR FOR DUP         03 02568
006532 057000 I 2746          STA     DUP4+1    SOURCE RECORD MOVE ADDR FOR DUP    03 02569
006533 057000 I 2747          STA     LLNJ-2    SOURCE RECORD ADDR FOR LIST OUTPUT 03 02570
006534 057000 I 2748          STA     BUF$      SET POINTER TO CURRENT BUFFER      03 02571
006535 006030 A 2749          LDXI    SSFCB                                        03 02572
006536 002740 E
006537 055001 A 2750          STA     1,1       PUT CURR REC ADDR IN SS FCB        03 02573
006540 004241 A 2751          LRLA    1         DOUBLE IT TO                       03 02574
006541 057000 I 2752          STA     IBBA      SET INPUT BUFFER BYTE ADDR.        03 02575
006542 017000 I 2753          LDA     SRAF      UPDATE                             03 02576
006543 057000 I 2754          STA     SSRF      SS SECT REC ADDR. FLAG             03 02577
               2755 *                                                             03 02578
006544 017000 I 2756          LDA     SSRMD     IS SS AN RMD?                      03 02579
006545 001010 A 2757          JAZ     RNR2      NO, THEN ALWAYS READ A REC         03 02580
006546 006554 R
006547 017000 I 2758          LDA     SSRF      IS SECT REC ADDR FLAG SET TO READ NXT REC 03 02581
006550 001010 A 2759          JAZ     RDSS                                         03 02582
006551 006561 R
006552 001000 A 2760          JMP     RNP4      SKIP READ COMMAND                  03 02583
006553 006563 R
006554 017000 I 2761 RNR2     LDA     BBB       (='  ')                           03 02584
006555 002000 A 2762          JMPM    SAB       CLEAR $BUF TO BLANKS               03 02585
006556 011705 R
006557 000050 A 2763          DATA    40                                           03 02586
006560 000124 R 2764          DATA    $BUF                                         03 02587
               2765 *                                                             03 02588
006561 R       2766 RDSS     EQU     *                                            03 02589
006561 002000 A 2767          CALL    SSREAD    READ NXT SECT FROM SS FILE         03 02590
006562 012327 R
               2768 *                                                             03 02591
006563 R       2769 RNP4     EQU     *                                            03 02592
006563 047000 I 2770          INR     LNCT      INCREMENT LINE COUNTER             03 02593
006564 017000 I 2771 RNR4     LDA     IBBA      (=$BUF*2)                          03 02594
006565 057000 I 2772          STA     ICP                                          03 02595
006566 057000 I 2773 RNR5     STA     ICP0                                         03 02596
006567 001000 A 2774          JMP     0         RETURN                             03 02597
006570 000000 A
006570               2775 RNR BES     0         ENTRY                              03 02598
006571 017000 I 2776          LDA     MLF                                          03 02599
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006572 001010 A 2777          JAZ     RNR1          JUMP IF NOT WITHIN A MACRO                    03 02600
006573 006612 R
                2778 *                                                                            03 02601
                2779 *        WE GET HERE TO PROCESS A 'MACRO READ'                               03 02602
                2780 *                                                                            03 02603
006574 002000 A 2781          JMPM    GNC1          GET CHACT                                     03 02604
006575 007737 R
006576 001010 A 2782          JAZ     *+4           JUMP IF EOL                                   03 02605
006577 006602 R
006600 001000 A 2783          JMP     *-4           KEEP LOOKING FOR EOL                          03 02606
006601 006574 R
                2784 *                                                                            03 02607
006602 047000 I 2785          INR     ICP           INCREMENT INPUT CHACT POINTER                 03 02608
006603 002000 A 2786          JMPM    GNC0          GET NEXT CHACT                                03 02609
006604 007707 R
006605 003010 A 2787          XAZ     XICP          INCREMENT INPUT CHACT POINTER IF EOL          03 02610
006606 007744 R
006607 017000 I 2788          LDA     ICP                                                         03 02611
006610 001000 A 2789          JMP     RNR5                                                        03 02612
006611 006566 R
006612 017000 I 2790 RNR1     LDA     PASS                                                        03 02613
006613 001002 A 2791          JAP     RNR2          JUMP IF PASS 2                                03 02614
006614 006525 R
                2792 *                                                                            03 02615
                2793 *        WE GET HERE TO PROCESS A PASS 1 READ                                03 02616
                2794 *                                                                            03 02617
006615 017000 I 2795          LDA     PDRMD         IS PD AN RMD?                                 03 02618
006616 001010 A 2796          JAZ     RN07          NO                                            03 02619
006617 006715 R
006620 017000 I 2797          LDA     PDRF          IS BUFFER ADDR. SET FOR START OF SECTOR?      03 02620
006621 001010 A 2798          JAZ     RN08          YES                                           03 02621
006622 006723 R
       006623 R 2799 RN01     EQU     *                                                           03 02622
006623 001002 A 2800          JAP     RN03          NO, SET FOR SECOND OF 3 RECORD SECTOR         03 02623
006624 006634 R
006625 017000 I 2801          LDA     PIRF          IS PI FLAG SET TO READ IN NEW SOURCE REC?     03 02624
006626 001002 A 2802          JAP     RN03          NO, AND DON'T STATUS CHECK PD WRITE YET       03 02625
006627 006634 R
       006630 R 2803 RN02     EQU     *                                                           03 02626
006630 006010 A 2804          LDAI    WRPD          STATUS CHECK THE                              03 02627
006631 006737 R
006632 002000 A 2805          CALL    STAT          PD DEVICE FOR PREVIOUS WRITE                  03 02628
006633 006762 R
       006634 R 2806 RN03     EQU     *                                                           03 02629
006634 017000 I 2807          LDA     PIRF          GET PI SECTOR REC FLAG                        03 02630
006635 002000 A 2808          CALL    GSRCRD        UPDATE SECT REC FLAG AND SOURCE REC. ADDR.    03 02631
006636 012164 R
006637 054026 A 2809          STA     RNR3+4        SET ADDR. TO CLEAR BUFFER BEFORE READ         03 02632
006640 057000 I 2810          STA     $UF$          SAVE POINTER TO START OF NEXT SOURCE REC.     03 02633
006641 054143 A 2811          STA     STEF-2        SOURCE RECORD W. '/' FOR JCP BUFFER           03 02634
006642 057000 I 2812          STA     D40+1         SOURCE REC ADDR FOR DUP                       03 02635
006643 057000 I 2813          STA     DUP4+1        SOURCE REC ADDR FOR DUP                       03 02636
006644 037000 I 2814          LDX     PIREAD+5                                                    03 02637
006645 055001 A 2815          STA     1,1           UPDATE PI FCB BUFFER ADDR                     03 02638
006646 004241 A 2816          LRLA    1             DOUBLE IT FOR                                 03 02639
006647 057000 I 2817          STA     IBBA          INPUT BUFFER BYTE ADDR.                       03 02640
006650 017000 I 2818          LDA     SRAF          UPDATE                                        03 02641
006651 057000 I 2819          STA     PIRF          PI SECTOR REC ADDR. FLAG                      03 02642
006652 017000 I 2820          LDA     PIRMD         IS PI AN RMD?                                 03 02643
006653 001010 A 2821          JAZ     RNR3          NO                                            03 02644
006654 006662 R
006655 017000 I 2822          LDA     PIRF          READY TO INPUT NEXT SECTOR FROM PI            03 02645
006656 001010 A 2823          JAZ     RN04          YES                                           03 02646
006657 006667 R
006660 001000 A 2824          JMP     RN05                                                        03 02647
006661 006677 R
                2825 *                                                                            03 02648
006662 017000 I 2826 RNR3     LDA     OBBQ          (='  ')                                       03 02649
006663 002000 A 2827          JMPM    SAR           CLEAR $BUF TO BLANKS                          03 02650
006664 011705 R
006665 000050 A 2828          DATA    40                                                          03 02651
006666 000124 R 2829          DATA    $BUF                                                        03 02652
       006667 R 2830 RN04     EQU     *                                                           03 02653
006667 006010 A 2831          LDAI    STEF          SET E-O-F EXIT ON                             03 02654
006670 007007 R
006671 054076 A 2832          STA     STA1-3        PI READ DURING PASS 1                         03 02655
006672 002000 A 2833          CALL    PIREAD        READ NEXT SOURCE FROM PI DEVICE               03 02656
006673 012345 R
006674 006010 A 2834          LDAI    STER          SET ERROR  RETURN ON E-O-F                    03 02657
006675 007070 R
006676 054071 A 2835          STA     STA1-3        FOR ALL OTHER I/O                             03 02658
                2836 *                                                                            03 02659
       006677 R 2837 RN05     EQU     *                                                           03 02660
006677 017000 I 2838          LDA     PDRF          GET PD SECT REC ADDR FLAG                     03 02661
006700 002000 A 2839          CALL    GSRCAD        UPDATE SECT REC FLAG                          03 02662
006701 012164 R
006702 054055 A 2840          STA     RNR1                                              C.1     03 02663
006703 017000 I 2841          LDA     SRAF          UPDATE                                        03 02664
006704 057000 I 2842          STA     PDRF          PD SECT REC ADDR FLAG                         03 02665
006705 017000 I 2843          LDA     PDRMD         IS PD AN RMD?                                 03 02666
006706 001010 A 2844          JAZ     RN09          NO                                            03 02667
006707 006730 R
006710 017000 I 2845          LDA     PDRF          IS PD SECT REC FLAG SET FOR WRITE             03 02668
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006711 001010 A 2846          JAZ     RN10        YES                                          C.1 03 02669
006712 006734 R
006713 001000 A 2847          JMP     RN11        GO PROCESS SOURCE REC.                           03 02670
006714 006746 R
       006715 R 2848 RN07     EQU     *                                                            03 02671
006715 017000 I 2849          LDA     PIRMD       IS PI AN RMD?                                    03 02672
006716 001010 A 2850          JAZ     RN03        NO                                               03 02673
006717 006634 R
006720 017000 I 2851          LDA     PORF        CHECK PO SECT REC FLAG FOR STATUS CHECK          03 02674
006721 001000 A 2852          JMP     RN01                                                         03 02675
006722 006623 R
       2853 *                                                                                      03 02676
       006723 R 2854 RN08     EQU     *                                                            03 02677
006723 017000 I 2855          LDA     PIRMD       IS PI AN RMD?                                    03 02678
006724 001010 A 2856          JAZ     RN02        NO, CHECK STATUS OF LAST PO WRITE                03 02679
006725 006630 R
006726 001000 A 2857          JMP     RN03                                                         03 02680
006727 006634 R
       2858 *                                                                                      03 02681
       006730 R 2859 RN09     EQU     *                                                            03 02682
006730 006010 A 2860          LDAI    WRPO        STATUS CHECK                                     03 02683
006731 006737 R
006732 002000 A 2861          CALL    STAT        LAST PO WRITE                                    03 02684
006733 006762 R
       2862 *                                                                                      03 02685
006734 034006 A 2863 RN10     LDX     WRPO1                                                C.1 03 02686
006735 014022 A 2864          LDA     RNRT                                                 C.1 03 02687
006736 055001 A 2865          STA     1,1                                                  C.1 03 02688
       006737 R 2866 WRPO     EQU     *                                                            03 02689
       2867          WRITE    POFCB,PO,1,1  WRITE PO W. IMMEDIATE RETURN                           03 02690
006737 006505 A
006740 003360 E
006741 100000 A
006742 110412 A
006743 002640 E
006744 000000 A
006745 000000 A
       006743 R 2868 WRPO1    EQU     *-3                                                  C.1 03 02691
       2869 *                                                                                      03 02692
       006746 R 2870 RN11     EQU     *                                                            03 02693
006746 044012 A 2871          INR     NREC        INCREMENT RECORD COUNTER                         03 02694
006747 017000 I 2872          LDA     $IPF        GET DUP IN PROCESS FLAG                          03 02695
006750 001010 A 2873          JAZ     RNR4        JUMP IF NO DUP IN PROCESS                        03 02696
006751 006564 R
006752 006010 A 2874          LDAI    WRPO        STATUS CHECK PO IF DUP IN PROCESS                03 02697
006753 006737 R
006754 002000 A 2875          CALL    STAT        BEFORE CONTINUING                                03 02698
006755 006762 R
006756 001000 A 2876          JMP     RNR4                                                         03 02699
006757 006564 R
006760         2877 RNRT      BSS     1                                                    C.1 03 02700
006761         2878 NREC      BSS     1           NUMBER OF SOURCE RECORDS IN ASSEMBLED PROG       03 02701
               2879 *                                                                              03 02702
               2880 *         THIS IS THE STAT SUBROUTINE                                          03 02703
               2881 *         CALLING SEQUENCE                                                     03 02704
               2882 *         LDA     =(IOC MACRO)  ADDRESS OF IOC SOURCE MACRO                    03 02705
               2883 *         JMPM    STAT                                                         03 02706
               2884 *         RETURN  IF EVERYTHING IS OK                                          03 02707
               2885 *                                                                              03 02708
006762 000000 A 2886 STAT      DATA    0                                                            03 02709
006763 054002 A 2887          STA     *+3         STORE LUN IN I/OCS CALL                          03 02710
       006764 R 2888 STA0      EQU     *                                                            03 02711
               2889          STAT    0,STER,STER,STER,STA0  CHECK STATUS OF LAST I/O               03 02712
006764 006505 A
006765 000000 E
006766 000000 A
006767 007070 R
006770 007070 R
006771 007070 R
006772 006764 R
       006773 R 2890 STA1     EQU     *                                                            03 02713
006773 017000 I 2891          LDA*    $BUF$       GET FIRST WORD ($BUF)                            03 02714
006774 130000 L 2892          ERA     ='/ '                                                        03 02715
006775 004050 A 2893          LSRA    8                                                            03 02716
006776 001010 A 2894          JAZ     *+4         JUMP IF FIRST CHACT IS A '/'                     03 02717
006777 007003 R
007000 001003 A 2895          JMP*    STAT        RETURN                                           03 02718
007001 106762 R
               2896 *                                                                              03 02719
007002 002000 A 2897          CALL    MOVW                                                         03 02720
007003 011761 R
007004 000050 A 2898          DATA    40          MOVE 40 WORD                                     03 02721
007005 000124 R 2899          DATA    $BUF          SOURCE LINEINTO '                              03 02722
007006 000412 A 2900          DATA    V$JCB           JCP BUFFER                                   03 02723
       007007 R 2901 STEF      EQU     *                                                            03 02724
007007 027000 I 2902          LDB     =PEC                                                         03 02725
007010 004142 A 2903          LSRB    2                                                            03 02726
007011 001020 A 2904          JBZ     *+4         CHECK FOR '/' OR EOF AT THE END OF ASSEMBL       03 02727
007012 007015 R
007013 001003 A 2905          JMP     STER        NO, ERROR                                        03 02728
007014 007070 R
       007015 R 2906 STEF1     EQU     *                                                            03 02729
007015 006000 A 2907          LDXI    POFCB       GLOBAL FCB ADDRESS                               03 02730
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007016 003331 E
007017 006020 A 2908          LDBI    GOFCB           GLOBAL FCB ADDRESS                          03 02731
007020 003363 E
007021 017000 I 2909          LDA     $PCW            TEST FOR 'GO' OPTION                        03 02732
007022 001004 A 2910          JAN     *+4             YES                                         03 02733
007023 007026 R
007024 001000 A 2911          JMP     STEND           TRY NEXT ASSEMBLY                           03 02734
007025 007040 R
007026 017000 I 2912          LDA     GORMD           IS GO AN RMD#                               03 02735
007027 001010 A 2913          JAZ     STEND           NO                                          03 02736
007030 007040 R
               2914          CLOSE   GOFCB,GO,0,1     CLOSE AND UPDATE GO                         03 02737
007031 006505 A
007032 006740 E
007033 100000 A
007034 013411 A
007035 007020 E
007036 000000 A
007037 000000 A
       007040 R 2915 STEND  EQU     *                                                           03 02738
007040 017000 I 2916          LDA     $PCW            CHECK BO SUPPRESS BIT                       03 02739
007041 004256 A 2917          LRLA    N2IT-2          DON'T CLOSE BO FILE                         03 02740
007042 001004 A 2918          JAN     STEND1          IF BO WAS SUPPRESSED                        03 02741
007043 007056 R
               2919 *                                                                            03 02742
007044 017000 I 2920          LDA     BORMD           IS BO AN RMD#                               03 02743
007045 001010 A 2921          JAZ     STEND1          NO                                          03 02744
007046 007056 R
               2922          CLOSE   BOFCB,BO,0,1    CLOSE AND UPDATE BO                         03 02745
007047 006505 A
007050 007032 E
007051 100000 A
007052 013407 A
007053 007016 E
007054 000000 A
007055 000000 A
       007056 R 2923 STEND1 EQU     *                                                           03 02746
       007056 R 2924 STEND2 EQU     *                                                           03 02750
               2925          FUNC    LDRDCB,LO,0     GO TO TOP OF FORM (WAIT TIL DONE)           03 02751
007056 006505 A
007057 007050 E
007060 100000 A
007061 002405 A
007062 012363 R
007063 000009 A
007064 000000 A
               2926          EXIT                    NORMAL EXIT                                 03 02752
007065 006505 A
007066 000750 E
007067 000200 A
       007070 R 2927 STER    EQU     *                                                           03 02753
007070 010423 A 2928          LDA     FOUR            PUT ERROR CODE IN                           03 02754
007071 110055 A 2929          ORA     V$JCFG                JCP ERROR WORD                        03 02755
007072 050055 A 2930          STA     V$JCFG                                                      03 02756
               2931 *                                 DONT 'CLOSE' OUTPUT DEVICES                 03 02757
               2932 *                                       IF ERROR IS ENCOUNTERED               03 02758
007073 001000 A 2933          JMP     STEND2          EXIT                                        03 02759
007074 007056 R
               2934 *                                                                            03 02760
               2935 *        THIS IS THE RECURSIVE SUBROUTINE ENTRY SUBROUTINE                   03 02761
               2936 *        CALLING SEQUENCE                                                    03 02762
               2937 *        DATA    ADDRESS TO BE PUT INTO STACK                                03 02763
               2938 *        JMPM    REC                                                         03 02764
               2939 *        RETURN  IF ROOM IN STACK #3                                         03 02765
               2940 *                                                                            03 02766
007075 005101 A 2941 REC1     INCR    1               A=1                                         03 02767
007076 002000 A 2942          JMPM    GS3             GET SPACE TABLE #3                          03 02768
007077 011536 R
007100 024011 A 2943          LDB     REC                                                         03 02769
007101 005322 A 2944          DBR                                                                 03 02770
007102 005322 A 2945          DBR                                                                 03 02771
007103 005322 A 2946          DBR                                                                 03 02772
007104 026000 A 2947          LDB     0,B             GET ADDRESS TO PUT INTO THE STACK           03 02773
007105 064001 A 2948          STB     *+2                                                         03 02774
007106 001004 A 2949          JAN     0               JUMP IF NO ROOM                             03 02775
007107 000000 A
007110 065000 A 2950          STB     0,X             STACK RETURN ADDRESS                        03 02776
007111 001000 A 2951          JMP     0               RETURN                                      03 02777
007112 000000 A
007112         2952 REC       BES     0                                                           03 02778
007113 001000 A 2953          JMP     REC1                                                        03 02779
007114 007075 R
               2954 *                                                                            03 02780
               2955 *        THIS IS THE RECURSIVE SUBROUTINE RETURN SUBROUTINE                  03 02781
               2956 *        THE A REGISTER IS TRANSPARENT                                       03 02782
               2957 *        CALLING SEQUENCE                                                    03 02783
               2958 *        JMP     RET                                                         03 02784
               2959 *                                                                            03 02785
007115 037000 I 2960 RET      LDX     ET3                                                         03 02786
007116 005344 A 2961          DXR                                                                 03 02787
007117 025000 A 2962          LDB     0,X             GET THE RETURN ADDRESS                      03 02788
007120 077000 I 2963          STX     ET3                                                         03 02789
007121 064001 A 2964          STB     *+2                                                         03 02790
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007122 001000 A 2965          JMP     0               RETURN                                  03 02791
007123 000000 A
                2966 *
                2967 *    THIS IS A SUBROUTINE TO SKIP UP TO THE NUMBER OF BLANK              03 02792
                2968 *    CHACTS SPECIFIED IN THE X REGISTER                                  03 02793
                2969 *    CALLING SEQUENCE                                                    03 02794
                2970 *    LDX     -MAXIMUM NUMBER OF BLANKS TO BE SKIPPED                     03 02795
                2971 *    JMPM    $BK                                                         03 02796
                2972 *    RETURN                  THE TERMINATING CHACT IS IN THE B REGISTER 03 02797
                2973 *                                                                        03 02798
007124 047000 I 2974 SBK1     INR     ICP             INCREMENT INPUT CHACT POINTER           03 02799
007125 001006 A 2975          DATA    01006           SKIP NEXT CHACT                         03 02800
007126 000000 A 2976 $BK      DATA    0                                                       03 02801
007127 002000 A 2977          JMPM    GNC0            GET NEXT CHACT                          03 02802
007130 007707 R
007131 005345 A 2978          DECR    045             A=X=X-1                                 03 02803
007132 001001 A 2979          JAN*    $BK             RETURN IF END OF COUNT                  03 02804
007133 107126 R
007134 005021 A 2980          TBA                                                             03 02805
007135 130000 L 2981          ERA     =' '                                                    03 02806
007136 001010 A 2982          JAZ     SBK1            JUMP IF BLANK                           03 02807
007137 007124 R
007140 001000 A 2983          JMP*    $BK             OTHERWISE RETURN                        03 02808
007141 107126 R
                2984 *
                2985 *    THIS IS A SUBROUTINE TO ASSIGN THE SYMBOL IN LAB1 TO THE            03 02809
                2986 *    CURRENT VALUE AND RELOCATABILITY OF THE LOCATION COUNTER            03 02810
                2987 *                                                                        03 02811
007142 000000 A 2988 DFLC     DATA    0                                                       03 02812
007143 017000 I 2989          LDA     PC                                                      03 02813
007144 027000 I 2990          LDB     RLC                                                     03 02814
007145 002000 A 2991          JMPM    DEFI            REALLY DO IT                            03 02815
007146 007164 R
007147 001000 A 2992          JMP*    DFLC            RETURN                                  03 02816
007150 107142 R
                2993 *                                                                        03 02817
                2994 *    THIS IS A SUBROUTINE TO DEFINE THE SYMBOL IN LAB1 WITH THE          03 02818
                2995 *    VALUE IN THE A REGISTER AND THE RELOCATABILITY IN THE B REGISTER    03 02819
                2996 *                                                                        03 02820
007151 034121 A 2997 DEF6     LDX     DEF5                                                    03 02821
007152 001006 A 2998          DATA    01006           SKIP NEXT WORD                          03 02822
007153 015004 A 2999 DEF8     LDA     STA,X           GET ATTRIBUTE WORD                      03 02823
007154 114122 A 3000 DEF1     ORA     DEFT            GET ATTRIBUTES                          03 02824
007155 024122 A 3001          LDB     DEFT+1          GET VALUE                               03 02825
007156 065003 A 3002          STB     STV,X           STORE VALUE WORD                        03 02826
007157 117000 I 3003          ORA     DPF             SET DEFINED THIS PASS                   03 02827
007160 055004 A 3004          STA     STA,X           STORE ATTRIBUTE WORD                    03 02828
007161 005001 A 3005 DEF2     TCA                     RESET                                   03 02829
007162 057000 I 3006 DF21     STA     RDF             REDEFINE FLAG                           03 02830
007163 001000 A 3007          JMP     0               RETURN                                  03 02831
007164 000000 A
007164                3008 DEFI     BES     0               ENTRY                           03 02832
007165 037000 I 3009          LDX     LAB1                                                    03 02833
007166 001040 A 3010          JXZ     DEF2            JUMP IF NO SYMBOL TO ASSIGN             03 02834
007167 007161 R
007170 054107 A 3011          STA     DEFT+1          SAVE VALUE                              03 02835
007171 064105 A 3012          STB     DEFT            SAVE ATTRIBUTES                         03 02836
007172 002000 A 3013          JMPM    LFND            SEARCH SYMBOL TABLE                     03 02837
007173 007346 R
007174 000044 R 3014          DATA    LAB1                                                    03 02838
007175 001040 A 3015          JXZ     DEF3            JUMP IF NOT FOUND                       03 02839
007176 007257 R
007177 017000 I 3016          LDA     RDF                                                     03 02840
007200 005311 A 3017          DAR                                                             03 02841
007201 001010 A 3018          JAZ     DEF1            JUMP IF REDEFINE FLAG SET               03 02842
007202 007154 R
007203 014073 A 3019          LDA     DEFT            GET ATTRIBUTE WORD                      03 02843
007204 150000 L 3020          ANA     =0600           EXTRACT ST                              03 02844
007205 130000 L 3021          ERA     =0400                                                   03 02845
007206 001010 A 3022          JAZ     DF21            JUMP IF EXTERNAL                        03 02846
007207 007162 R
007210 015004 A 3023          LDA     STA,X           GET ATTRIBUTE WORD                      03 02847
007211 150000 L 3024          ANA     =0600           EXTRACT ST                              03 02848
007212 130000 L 3025          ERA     =0400                                                   03 02849
007213 001010 A 3026          JAZ     DEF1            JUMP IF EXTERNAL                        03 02850
007214 007154 R
007215 017000 I 3027          LDA     PASS                                                    03 02851
007216 001002 A 3028          JAP     DEF4            JUMP IF PASS 2                          03 02852
007217 007235 R
                3029 *        PASS 1                                                          03 02853
007220 015004 A 3030          LDA     STA,X           GET SYMBOL TABLE ATTRIBUTE WORD         03 02854
007221 057000 I 3031          ANA     DPF             EXTRACT DEFINED PASS FLAG               03 02855
007222 001010 A 3032          JAZ     DEF8            JUMP IF NOT DEFINED THIS PASS           03 02856
007223 007153 R
007224 015003 A 3033          LDA     STV,X           GET SYMBOL TABLE VALUE WORD             03 02857
007225 134052 A 3034          ERA     DEFT+1                                                  03 02858
007226 001010 A 3035          JAZ     DF21            JUMP IF VALUE IS THE SAME               03 02859
007227 007162 R
007230 015004 A 3036          LDA     STA,X           GET SYMBOL TABLE ATTRIBUTE WORD         03 02860
007231 110000 L 3037          ORA     =040            SET DUPLICATE FLAG BIT-5                03 02861
007232 055004 A 3038          STA     STA,X                                                   03 02862
007233 001000 A 3039          JMP     DEF2                                                    03 02863
007234 007161 R
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                    3040 *      PASS 2                                                          03 02866
007235 015004 A     3041 DEF4   LDA     STA,X       GET ATTRIBUTE WORD                          03 02867
007236 150000 L     3042        ANA     =040        EXTRACT DUPLICATE FLAG BIT-5                03 02868
007237 001010 A     3043        JAZ     DEF7        JUMP IF NOT DUPLICATE                       03 02869
007240 007246 R
007241 020000 L     3044        LDB     ='DD'                                                   03 02870
007242 002000 A     3045        JMPM    ERR                                                     03 02871
007243 007747 R
007244 001000 A     3046        JMP     DF21                                                    03 02872
007245 007162 R
                    3047 *                                                                      03 02873
007246 015003 A     3048 DEF7   LDA     STV,X       GET VALUE WORD                              03 02874
007247 134030 A     3049        ERA     DEFT+1                                                  03 02875
007250 001010 A     3050        JAZ     DF21        JUMP IF VALUE IS THE SAME                   03 02876
007251 007162 R
007252 020000 L     3051        LDB     ='SE'                                                   03 02877
007253 002000 A     3052        JMPM    ERR                                                     03 02878
007254 007747 R
007255 001000 A     3053        JMP     DF21                                                    03 02879
007256 007162 R
                    3054 *                                                                      03 02880
007257 005021 A     3055 DEF3   TBA                                                             03 02881
007260 140000 L     3056        SUB     =5                                                      03 02882
007261 054011 A     3057        STA     DEF5        SAVE TO ADDRESS                             03 02883
007262 010000 L     3058        LDA     =5                                                      03 02884
007263 002000 A     3059        JMPM    GS6         GET SPACE TABLE #6                          03 02885
007264 011627 R
007265 001004 A     3060        JAN     DEF2        JUMP IF NO ROOM                             03 02886
007266 007161 R
007267 002000 A     3061        JMPM    MOVW        MOVW NEW ENTRY INTO SYMBOL TABLE            03 02887
007270 011761 R
007271 000003 A     3062        DATA    3           COUNT                                       03 02888
007272 000045 R     3063        DATA    LAB1+1      'FROM' ADDRESS                              03 02889
007273 000000 A     3064 DEF5   DATA    0           'TO' ADDRESS                                03 02890
007274 005001 A     3065        TZA                                                             03 02891
007275 001000 A     3066        JMP     DEF6                                                    03 02892
007276 007151 R
007277 000000 A     3067 DEFT   DATA    0                                                       03 02893
007300 000000 A     3068        DATA    0                                                       03 02894
                    3069 *                                                                      03 02895
                    3070 *      THIS IS A SUBROUTINE TO SEARCH THE SYMBOL TABLE                 03 02896
                    3071 *      FOR THE SYMBOL SPECIFIED                                        03 02897
                    3072 *      CALLING SEQUENCE                                                03 02898
                    3073 *      JMPM    LFND                                                    03 02899
                    3074 *      DATA    ADDRESS OF 4-WORD SYMBOL BLOCK                          03 02900
                    3075 *      RETURN                                                          03 02901
                    3076 *              X REGISTER .EQ. ZERO IF NOT FOUND AND THE B REGISTER    03 02902
                    3077 *              POINTS TO WHERE THE SYMBOL SHOULD GO.                   03 02903
                    3078 *              X REGISTER POINTS TO TABLE ENTRY IF FOUND.              03 02904
                    3079 *                                                                      03 02905
007301 024044 A     3080 LF1    LDB     LFND                                                    03 02906
007302 044043 A     3081        INR     LFND        ADJUST RETURN ADDRESS                       03 02907
007303 026000 A     3082        LDB     0,B         GET ADDRESS OF SYMBOL                       03 02908
007304 016000 A     3083        LDA     0,B         GET NUMBER OF CHACTS IN SYMBOL              03 02909
007305 001010 A     3084        JAZ     LF3         JUMP IF NO SYMBOL                           03 02910
007306 007343 R
007307 037000 I     3085        LDX     BT6         GET BEGIN OF SYMBOL TABLE                   03 02911
007310 005141 A     3086 LF2    INCR    041         A=X+1                                       03 02912
007311 147000 I     3087        SUB     ET6                                                     03 02913
007312 001002 A     3088        JAP     LF3         JUMP IF END OF SYMBOL TABLE                 03 02914
007313 007343 R
007314 015000 A     3089        LDA     STS,X                                                   03 02915
007315 146001 A     3090        SUB     1,B                                                     03 02916
007316 001010 A     3091        JAZ     *+4         JUMP IF FIRST TWO CHACTS MATCH              03 02917
007317 007322 R
007320 001000 A     3092        JMP     LF4                                                     03 02918
007321 007334 R
007322 015001 A     3093        LDA     STS+1,X                                                 03 02919
007323 146002 A     3094        SUB     2,B                                                     03 02920
007324 001010 A     3095        JAZ     *+4         JUMP IF SECOND TWO CHACTS MATCH             03 02921
007325 007330 R
007326 001000 A     3096        JMP     LF4                                                     03 02922
007327 007334 R
007330 015002 A     3097        LDA     STS+2,X                                                 03 02923
007331 146003 A     3098        SUB     3,B                                                     03 02924
007332 001010 A     3099        JAZ*    LFND        RETURN IF THIRD TWO CHACTS MATCH            03 02925
007333 107346 R
007334 001002 A     3100 LF4    JAP     LF3         JUMP IF WE HAVE SEARCHED FAR ENOUGH         03 02926
007335 007343 R
007336 005041 A     3101        TXA                                                             03 02927
007337 120000 L     3102        ADD     =5                                                      03 02928
007340 005014 A     3103        TAX                                                             03 02929
007341 001000 A     3104        JMP     LF2         KEEP TRYING                                 03 02930
007342 007310 R
                    3105 *                                                                      03 02931
007343 005042 A     3106 LF3    TXB                 TELL'EM SOME WHERE                          03 02932
007344 005004 A     3107        TZX                 AND TELL'EM NOT FOUND                       03 02933
007345 001000 A     3108        JMP     0           AND RETURN                                  03 02934
007346 000000 A
007346              3109 LFND   BES     0           ENTRY                                       03 02935
007347 001000 A     3110        JMP     LF1                                                     03 02936
007350 007301 R
                    3111 *                                                                      03 02937
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                    3112 *       THIS IS A SUBROUTINE TO SEARCH THE OPERATION CODE TABLE FOR          03 02938
                    3113 *       A MATCH TO THE MNEMONIC SPECIFIED                                   03 02939
                    3114 *       CALLING SEQUENCE                                                    03 02940
                    3115 *       JMPM    OCFD                                                        03 02941
                    3116 *       DATA    ADDRESS OF 4-WORD SYMBOL BLOCK                              03 02942
                    3117 *       RETURN                                                              03 02943
                    3118 *               X REGISTER .EQ. ZERO IF NOT FOUND                           03 02944
                    3119 *               X REGISTER POINTS TO TABLE IF FOUND                         03 02945
                    3120 *                                                                           03 02946
007351 024044 A 3121 OCF5    LDB     OCFD                                                            03 02947
007352 044043 A 3122         INR     OCFD            ADJUST RETURN ADDRESS                           03 02948
007353 026000 A 3123         LDB     0,B             GET ADDRESS OF SYMBOL                           03 02949
007354 017000 I 3124         LDA     OT1             GET END OF OP CODE TABLE                        03 02950
007355 140000 L 3125 OCF3    SUB     =5                                                              03 02951
007356 005014 A 3126 OCF6    TAX                                                                     03 02952
007357 147000 I 3127         SUB     BT1                                                             03 02953
007360 001004 A 3128         JAN     OCF1            JUMP IF END OF TABLE                            03 02954
007361 007414 R
007362 015000 A 3129         LDA     0,X             GET FIRST WORD OF ENTRY                         03 02955
007363 004240 A 3130         LRLA    NBIT-16         ADJUST FOR 16-BIT                               03 02956
007364 001004 A 3131         JAN     OCF2            JUMP IF NOT POINTER                             03 02957
007365 007371 R
007366 015000 A 3132         LDA     0,X             GET POINTER TO NEXT ENTRY                       03 02958
007367 001000 A 3133         JMP     OCF6            AND KEEP TRYING                                 03 02959
007370 007356 R
                    3134 *                                                                           03 02960
007371 015000 A 3135 OCF2    LDA     0,X                                                             03 02961
007372 136001 A 3136         ERA     1,B                                                             03 02962
007373 001010 A 3137         JAZ     *+4             JUMP IF FIRST TWO CHACTS MATCH                  03 02963
007374 007377 R
007375 001000 A 3138         JMP     OCF4                                                            03 02964
007376 007411 R
007377 015001 A 3139         LDA     1,X                                                             03 02965
007400 136002 A 3140         ERA     2,B                                                             03 02966
007401 001010 A 3141         JAZ     *+4             JUMP IF SECOND TWO CHACTS MATCH                 03 02967
007402 007405 R
007403 001000 A 3142         JMP     OCF4                                                            03 02968
007404 007411 R
007405 015002 A 3143         LDA     2,X                                                             03 02969
007406 136003 A 3144         ERA     3,B                                                             03 02970
007407 001010 A 3145         JAZ*    OCFD            RETURN IF THIRD TWO CHACTS MATCH                03 02971
007410 107416 R
007411 005041 A 3146 OCF4    TXA                                                                     03 02972
007412 001000 A 3147         JMP     OCF3            AND KEEP TRYING                                 03 02973
007413 007355 R
                    3148 *                                                                           03 02974
007414 005004 A 3149 OCF1    TZX                     TELL'EM NOT FOUND                               03 02975
007415 001000 A 3150         JMP     0               RETURN                                          03 02976
007416 000000 A
007416               3151 OCFD    BES     0               ENTRY                                   03 02977
007417 001000 A 3152         JMP     OCF5                                                            03 02978
007420 007351 R
                    3153 *                                                                           03 02979
                    3154 *       THIS IS A SUBROUTINE TO INPUT A SYMBOL IF THERE IS ONE TO INPUT      03 02980
                    3155 *       CALLING SEQUENCE                                                    03 02981
                    3156 *       JMPM    ISM                                                         03 02982
                    3157 *       DATA    ADDRESS OF A FOUR WORD SYMBOL BLOCK                         03 02983
                    3158 *               ADDR    = NUMBER OF CHACTS IN THE SYMBOL                    03 02984
                    3159 *               ADDR+1 = FIRST TWO CHACTS OF SYMBOL                         03 02985
                    3160 *               ADDR+2 = SECOND TWO CHACTS OF SYMBOL                        03 02986
                    3161 *               ADDR+3 = THIRD TWO CHACTS OF SYMBOL                         03 02987
                    3162 *               SYMBOLS ARE SUPPLIED WITH TRAILING BLANKS IF NECESSARY      03 02988
                    3163 *       RETURN  A REGISTER .EQ. NUMBER OF CHACTS IN SYMBOL                  03 02989
                    3164 *                                                                           03 02990
007421 034052 A 3165 ISM1    LDX     ISM                                                             03 02991
007422 025000 A 3166         LDB     0,X             GET ADDRESS OF SYMBOL BLOCK                     03 02992
007423 005001 A 3167         IZA                     INITIATE                                        03 02993
007424 056000 A 3168         STA     0,B             NUMBER OF CHACTS IN SYMBOL                      03 02994
007425 017000 I 3169         LDA     0%B0            (=' ')                                          03 02995
007426 056001 A 3170         STA     1,B                                                             03 02996
007427 056002 A 3171         STA     2,B                                                             03 02997
007430 056003 A 3172         STA     3,B                                                             03 02998
007431 005122 A 3173         IBR                                                                     03 02999
007432 004041 A 3174         LRLB    1                                                               03 03000
007433 067000 I 3175         STB     SBTA            STORE BYTE ADDRESS                              03 03001
007434 006030 A 3176         LDXI    6               MAXIMUM NUMBER OF CHARS (6 NORMALLY)            03 03002
007435 000006 A
007436 002000 A 3177         JMPM    GNC0            GET NEXT CHACT                                  03 03003
007437 007707 R
007440 002000 A 3178 ISM7    JMPM    ISA             IS IT ALPHA                                     03 03004
007441 010030 R
007442 001004 A 3179         JAN     ISM6            JUMP IF NOT ALPHA                               03 03005
007443 007465 R
007444 005341 A 3180 ISM2    DECR    #41             A=X-1                                           03 03006
007445 001004 A 3181         JAN     ISM3            JUMP IF END OF COUNT                            03 03007
007446 007453 R
007447 005344 A 3182         DXR                     DECREMENT COUNT                                 03 03008
007450 005021 A 3183         TBA                     GET CHACT                                       03 03009
007451 002000 A 3184         JMPM    SBT             STORE CHACT                                     03 03010
007452 011765 R
007453 047000 I 3185 ISM3    INR     ICP             INCREMENT INPUT CHACT POINTER                   03 03011
007454 002000 A 3186         JMPM    GNC0            GET NEXT CHACT                                  03 03012
007455 007707 R
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007456 002000 A 3187          JMPM    ISD             IS IT A DIGIT                                  03 03013
007457 010054 R
007460 001002 A 3188          JAP     ISM2            JUMP IF DIGIT                                  03 03014
007461 007444 R
007462 005021 A 3189          TBA                     GET CHACT                                      03 03015
007463 001000 A 3190          JMP     ISM7            TRY ALPHA                                      03 03016
007464 007440 R
                3191 *                                                                               03 03017
007465 005241 A 3192 ISM6     COMP    041             A=1-X                                          03 03018
007466 034005 A 3193          LDX     ISM                                                            03 03019
007467 035000 A 3194          LDX     0,X                                                            03 03020
007470 120467 A 3195          ADD     SEVEN           (=7)                                           03 03021
007471 055000 A 3196          STA     0,X             SET SYMBOL CHACT COUNT                         03 03022
007472 044001 A 3197          INR     ISM             ADJUST RETURN ADDRESS                          03 03023
007473 001000 A 3198          JMP     0               AND RETURN                                     03 03024
007474 000000 A
007474          3199 ISM      BES     0               ENTRY                                          03 03025
007475 001000 A 3200          JMP     ISM1                                                           03 03026
007476 007421 R
                3201 *                                                                               03 03027
                3202 *        THIS IS A SUBROUTINE TO INPUT A PLUS OR MINUS SIGN                     03 03028
                3203 *        IF THERE IS ONE TO INPUT                                               03 03029
                3204 *        CALLING SEQUENCE                                                       03 03030
                3205 *        JMPM    ISG                                                            03 03031
                3206 *        RETURN                  A REG .EQ. +0 IF PLUS SIGN OR NO SIGN          03 03032
                3207 *                                A REG .EQ. -1 IF MINUS SIGN                    03 03033
                3208 *                                                                               03 03034
007477 005301 A 3209 ISG2     DECR    1               A=-1                                           03 03035
007500 047000 I 3210 ISG1     INR     ICP             INCREMENT INPUT CHACT POINTER                  03 03036
007501 001000 A 3211          JMP     0               RETURN                                         03 03037
007502 000000 A
007502          3212 ISG      BES     0               ENTRY                                          03 03038
007503 002000 A 3213          JMPM    GNC0            GET NEXT CHACT                                 03 03039
007504 007707 R
007505 140000 L 3214          SUB     ='+'                                                           03 03040
007506 001010 A 3215          JAZ     ISG1            JUMP IF PLUS SIGN                              03 03041
007507 007500 R
007510 140000 L 3216          SUB     ='-'-'+'                                                       03 03042
007511 001010 A 3217          JAZ     ISG2            JUMP IF MINUS SIGN                             03 03043
007512 007477 R
007513 005001 A 3218          TZA                     A=0                                            03 03044
007514 001000 A 3219          JMP*    ISG             RETURN                                         03 03045
007515 107502 R
                3220 *                                                                               03 03046
                3221 *        THIS IS A SUBROUTINE TO INPUT AN OCTAL OR DECIMAL DIGIT                03 03047
                3222 *        STRING AND CONVERT IT TO BINARY                                        03 03048
                3223 *        THE VALUE IS IN SYMBOLIC LOCATION IDSA                                 03 03049
                3224 *        THE ATTRIBUTE IS IN SYMBOLIC LOCATION IDSA+1                           03 03050
                3225 *                                                                               03 03051
007516 002000 A 3226 IDS4     JMPM    IDOF            CHECK DIGIT OVERFLOW                           03 03052
007517 007574 R
007520 001000 A 3227          JMP     0               RETURN                                         03 03053
007521 000000 A
007521          3228 IDS      BES     0               ENTRY                                          03 03054
007522 002000 A 3229          JMPM    GNC0            GET NEXT CHACT                                 03 03055
007523 007707 R
007524 140000 L 3230          SUB     ='0'                                                           03 03056
007525 005014 A 3231          TAX                     X.EQ.0 OCTAL,X.NE.0 DECIMAL CONVERSION         03 03057
007526 005003 A 3232          ZERO    3               A=B=0                                          03 03058
007527 057000 I 3233 IDS1     STA     IDSA            DIGIT ACCUMULATOR                              03 03059
007530 067000 I 3234          STB     IDSA+1          DIGIT OVERFLOW ACCUMULATOR                     03 03060
007531 002000 A 3235          JMPM    GNC0            GET NEXT CHACT                                 03 03061
007532 007707 R
007533 140000 L 3236          SUB     ='0'                                                           03 03062
007534 054036 A 3237          STA     IDSD            SAVE DIGIT VALUE                               03 03063
007535 001004 A 3238          JAN     IDS4            JUMP IF NOT A DIGIT                            03 03064
007536 007516 R
007537 140000 L 3239          SUB     =':'-'0'                                                       03 03065
007540 001002 A 3240          JAP     IDS4            JUMP IF NOT A DIGIT                            03 03066
007541 007516 R
007542 047000 I 3241          INR     ICP             INCREMENT INPUT CHACT POINTER                  03 03067
007543 007400 A 3242          ROF                                                                    03 03068
007544 001040 A 3243          JXZ     IDS2            JUMP IF OCTAL CONVERSION                       03 03069
007545 007560 R
                3244 *                DECIMAL CONVERSION                                             03 03070
007546 017000 I 3245          LDA     IDSA                                                           03 03071
007547 027000 I 3246          LDB     IDSA+1                                                         03 03072
007550 004441 A 3247          LLRL    1               *2                                             03 03073
007551 057000 I 3248          STA     IDSA+1                                                         03 03074
007552 004442 A 3249          LLRL    2               *8                                             03 03075
007553 127000 I 3250          ADD     IDSA+1          *10                                            03 03076
007554 124016 A 3251          ADD     IDSD            +NEXT DIGIT                                    03 03077
007555 005522 A 3252          AOFB                                                                   03 03078
007556 001000 A 3253          JMP     IDS1            KEEP TRYING                                    03 03079
007557 007527 R
                3254 *                OCTAL CONVERSION                                               03 03080
007560 014012 A 3255 IDS2     LDA     IDSD                                                           03 03081
007561 140000 L 3256          SUB     =8                                                             03 03082
007562 020000 L 3257          LDB     ='DC'                                                          03 03083
007563 002002 A 3258          JAPM    ERR             JUMP IF DIGIT .GT. 7                           03 03084
007564 007747 R
007565 017000 I 3259          LDA     IDSA                                                           03 03085
007566 027000 I 3260          LDB     IDSA+1                                                         03 03086
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007567 004443 A 3261        LLRL    3                                                    03 03087
007570 114002 A 3262        ORA     IDSD                                                 03 03088
007571 001000 A 3263        JMP     IDS1          KEEP TRYING                            03 03089
007572 007527 R
007573 000000 A 3264 IDSD   DATA    0                                                    03 03090
                3265 *                                                                   03 03091
                3266 *      THIS IS A SUBROUTINE TO CHECK FOR AN OVERFLOW IN THE         03 03092
                3267 *      INPUT DIGIT ACCUMULATOR                                      03 03093
                3268 *                                                                   03 03094
007574 000000 A 3269 IDOF   DATA    0                                                    03 03095
007575 017000 I 3270        LDA     IDSA+1                                               03 03096
007576 001010 A 3271        JAZ*    IDOF          RETURN IF NO OVERFLOW                  03 03097
007577 107574 R
007600 020000 L 3272        LDB     ='SZ'                                                03 03098
007601 002000 A 3273        JMPM    ERR                                                  03 03099
007602 007747 R
007603 001000 A 3274        JMP*    IDOF          RETURN                                 03 03100
007604 107574 R
                3275 *                                                                   03 03101
                3276 *      THIS IS A SUBROUTINE TO INPUT A DECIMAL DIGIT STRING AND CONVERT 03 03102
                3277 *      TO DOUBLE PRECISION BINARY                                   03 03103
                3278 *      CALLING SEQUENCE                                             03 03104
                3279 *      JMPM    IDN                                                  03 03105
                3280 *      DATA    ADDRESS OF A TWO WORD DOUBLE PRECISION ACCUMULATOR   03 03106
                3281 *      RETURN  THE NUMBER OF DIGITS IS IN THE A REGISTER            03 03107
                3282 *                                                                   03 03108
007605 034050 A 3283 IDN1   LDX     IDN                                                  03 03109
007606 035000 A 3284        LDX     0,X           GET ADDRESS OF ACCUMULATOR             03 03110
007607 044046 A 3285        INR     IDN           ADJUST RETURN ADDRESS                  03 03111
007610 005001 A 3286        TZA                   INITIATE                               03 03112
007611 054050 A 3287        STA     IDNC          DIGIT COUNTER                          03 03113
007612 002000 A 3288 IDN2   JMFM    GNC0                                                 03 03114
007613 007707 R
007614 140000 L 3289        SUB     ='0'                                                 03 03115
007615 001004 A 3290        JAN     IDN3          JUMP IF NOT A DIGIT                    03 03116
007616 007654 R
007617 054041 A 3291        STA     IDND          SAVE DIGIT VALUE                       03 03117
007620 140000 L 3292        SUB     =':'-'0'                                             03 03118
007621 001002 A 3293        JAP     IDN3          JUMP IF NOT A DIGIT                    03 03119
007622 007654 R
007623 047000 I 3294        INR     ICP           INCREMENT INPUT CHACT POINTER          03 03120
007624 015000 A 3295        LDA     0,X           GET MSH                                03 03121
007625 006140 A 3296        SUBI    06315                                                03 03122
007626 006315 A
007627 001002 A 3297        JAP     IDN2          JUMP IF NO ROOM FOR THIS DIGIT         03 03123
007630 007512 R
007631 044030 A 3298        INR     IDNC          INCREMENT DIGIT COUNTER                03 03124
007632 015000 A 3299        LDA     0,X           GET MSH                                03 03125
007633 025001 A 3300        LDB     1,X           GET LSH                                03 03126
007634 004401 A 3301        LASL    1             *2                                     03 03127
007635 055000 A 3302        STA     0,X                                                  03 03128
007636 065001 A 3303        STB     1,X                                                  03 03129
007637 004402 A 3304        LASL    2             *8                                     03 03130
007640 125000 A 3305        ADD     0,X           *10                                    03 03131
007641 055000 A 3306        STA     0,X                                                  03 03132
007642 005021 A 3307        TBA                                                          03 03133
007643 125001 A 3308        ADD     1,X           *10                                    03 03134
007644 124014 A 3309        ADD     IDND          +NEXT DIGIT                            03 03135
007645 001002 A 3310        JAP     *+4           JUMP IF NO OVERFLOW FROM LSH           03 03136
007646 007651 R
007647 045000 A 3311        INR     0,1           INCREMENT MSH                          03 03137
007650 137000 I 3312        ERA     C2            TURN OFF SIGN BIT OF LSH               03 03138
007651 055001 A 3313        STA     1,X                                                  03 03139
007652 001000 A 3314        JMP     .DN2          KEEP TRYING                            03 03140
007653 007612 R
                3315 *                                                                   03 03141
007654 014005 A 3316 IDNS   LDA     IDNC          GET DIGIT COUNT                        03 03142
007655 001000 A 3317        JMP     0             RETURN                                 03 03143
007656 000000 A
007656          3318 IDN    BES     0             ENTRY                                  03 03144
007657 001000 A 3319        JMP     IDN1                                                 03 03145
007660 007605 R
007661 000000 A 3320 IDND   DATA    0                                                    03 03146
007662 000000 A 3321 IDNC   DATA    0                                                    03 03147
                3322 *                                                                   03 03148
                3323 *      THIS IS A SUBROUTINE TO DAF TO ADD THE DOUBLE PRECISION      03 03149
                3324 *      NUMBER IN M AND M+1 TO THE DOUBLE PRECISION NUMBER IN A,B.   03 03150
                3325 *                                                                   03 03151
007663 000000 A 3326 DAFS   DATA    0                                                    03 03152
007664 007400 A 3327        ROF                                                          03 03153
007665 004460 A 3328        LLRL    NBIT          EXCHANGE A&B                           03 03154
007666 127000 I 3329        ADL     M+1                                                  03 03155
007667 157000 I 3330        ANA     C1            EXTRACT MAGNITUDE BITS                 03 03156
007670 004460 A 3331        LLRL    NBIT          EXCHANGE A&B                           03 03157
007671 005511 A 3332        ADFA                  ADD OVERFLOW FROM LSH                  03 03158
007672 127000 I 3333        ADD     M                                                    03 03159
007673 001000 A 3334        JMP*    DAFS          RETURN                                 03 03160
007674 107663 R
                3335 *                                                                   03 03161
                3336 *      THIS IS A SUBROUTINE TO CHECK THE NEXT CHACT TO SEE IF IT IS 03 03162
                3337 *      A COMMA AND IF IT IS, SKIP IT.                               03 03163
                3338 *      ON RETURN THE B REGISTER CONTAINS THE CHACT AND THE A REGISTER 03 03164
                3339 *      .EQ. ZERO IF IT IS A COMMA.                                  03 03165
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                    3340 *                                                                                  03 03166
007675 047000 I     3341 CTS1   INR     ICP             INCREMENT INPUT CHACT POINTER                       03 03167
007676 001000 A     3342        JMP     0               RETURN                                              03 03168
007677 000000 A
007677              3343 CTST   BES     0               ENTRY                                               03 03169
007700 002000 A     3344        JMPM    GNC0            GET CHACT                                           03 03170
007701 007707 R
007702 130000 L     3345        ERA     =',
007703 001010 A     3346        JAZ     CTS1            JUMP IF COMMA                                       03 03172
007704 007675 R
007705 001000 A     3347        JMP*    CTST            RETURN                                              03 03173
007706 107677 R
                    3348 *                                                                                  03 03174
                    3349 *      THIS IS A SUBROUTINE TO GET THE NEXT INPUT CHACT                            03 03175
                    3350 *      ON RETURN, THE CHACT WILL BE CONTAINED IN THE A REG.+ B REG.,               03 03176
                    3351 *                                                                                  03 03177
007707 000000 A     3352 GNC0   DATA    0                                                                   03 03178
007710 017000 I     3353        LDA     MLF                                                                 03 03179
007711 001010 A     3354        JAZ     GN02            JUMP IF NOT IN A MACRO                              03 03180
007712 007727 R
007713 017000 I     3355        LDA     ICP                                                                 03 03181
007714 127000 I     3356        ADD     BT2                                                                 03 03182
007715 127000 I     3357        ADD     BT2                                                                 03 03183
007716 005012 A     3358        TAB                                                                         03 03184
007717 001006 A     3359        DATA    01006           SKIP NEXT WORD                                      03 03185
007720 027000 I     3360 GN03   LDB     ICP             GET INPUT CHACT POINTER                             03 03186
007721 002000 A     3361        JMPM    BYTE            GET BYTE WORD                                       03 03187
007722 012012 R
007723 150000 L     3362        ANA     =0377           EXTRACT BYTE                                        03 03188
007724 005012 A     3363 GN01   TAB                                                                         03 03189
007725 001000 A     3364        JMP*    GNC0            RETURN                                              03 03190
007726 107707 R
                    3365 *                                                                                  03 03191
007727 017000 I     3366 GN02   LDA     ICP             GET INPUT CHACT POINTER                             03 03192
007730 147000 I     3367        SUB     IBRA            (=SBUF*2)                                           03 03193
007731 140000 L     3368        SUB     =72                                                                 03 03194
007732 001004 A     3369        JAN     GN03            JUMP IF NOT EOL                                     03 03195
007733 007720 R
007734 005001 A     3370        TZA                                                                         03 03196
007735 001000 A     3371        JMP     GN01                                                                03 03197
007736 007724 R
                    3372 *                                                                                  03 03198
                    3373 *      THIS IS A SUBROUTINE TO GET THE NEXT INPUT CHACT                            03 03199
                    3374 *      AND INCREMENT THE INPUT CHACT POINTER (ICP)                                 03 03200
                    3375 *      BUT NOT BEYOND THE END OF A LINE.                                           03 03201
                    3376 *      ON RETURN, THE CHACT WILL BE CONTAINED IN THE A REG.+ B REG.,               03 03202
                    3377 *                                                                                  03 03203
007737 000000 A     3378 GNC1   DATA    0                                                                   03 03204
007740 002000 A     3379        JMPM    GNC0            GET NEXT CHACT                                      03 03205
007741 007707 R
007742 001010 A     3380        JAZ*    GNC1            RETURN IF EOL                                       03 03206
007743 107737 R
007744 047000 I     3381 XICP   INR     ICP             INCREMENT INPUT CHACT POINTER                       03 03207
007745 001000 A     3382        JMP*    GNC1            RETURN                                              03 03208
007746 107737 R
                    3383 *                                                                                  03 03209
                    3384 *      THIS IS A SUBROUTINE TO STACK UP TO FOUR ERROR CODES                        03 03210
                    3385 *      CALLING SEQUENCE                                                            03 03211
                    3386 *      LDB     ='TWO CHACT ERROR CODE'                                             03 03212
                    3387 *      JMPM    ERR                                                                 03 03213
                    3388 *      RETURN  A=B=X=VAL=IDSA=IDSA+1=0                                             03 03214
                    3389 *                                                                                  03 03215
007747 000000 A     3390 ERR    DATA    0                                                                   03 03216
007750 017000 I     3391        LDA     PASS            SKIP IF PASS 1                                      03 03217
007751 001004 A     3392        JAN     ERR1                                                                03 03218
007752 007765 R
007753 017000 I     3393        LDA     ERSC                                                                03 03219
007754 140000 L     3394        SUB     =3                                                                  03 03220
007755 001002 A     3395        JAP     ERR1            JUMP IF ALREADY HAVE FOUR ERRORS                    03 03221
007756 007765 R
007757 017000 I     3396        LDA     ERSC                                                                03 03222
007760 006120 A     3397        ADDI    ERSK            COMPUTE                                             03 03223
007761 000012 R
007762 005014 A     3398        TAX                     STB ERSK,1                                          03 03224
007763 065000 A     3399        STB     0,X             STACK ERROR CODE                                    03 03225
007764 047000 I     3400        INR     ERSC            INCREMENT ERROR SUB COUNT                           03 03226
007765 005007 A     3401 ERR1   ZERO    7               A=B=X=0                                             03 03227
007766 057000 I     3402        STA     VAL                                                                 03 03228
007767 057000 I     3403        STA     IDSA                                                                03 03229
007770 057000 I     3404        STA     IDSA+1                                                              03 03230
007771 001000 A     3405        JMP*    ERR             RETURN                                              03 03231
007772 107747 R
                    3406 *                                                                                  03 03232
                    3407 *      THIS IS A SUBROUTINE TO CHECK TO MAKE SURE THAT A                           03 03233
                    3408 *      LITERAL IS NOT SPECIFIED                                                    03 03234
                    3409 *                                                                                  03 03235
007773 000000 A     3410 LITC   DATA    0                                                                   03 03236
007774 017000 I     3411        LDA     RVAL                                                                03 03237
007775 157000 I     3412        ANA     01000           EXTRACT LITERAL FLAG BIT-9 (=01000)                 03 03238
007776 001010 A     3413        JAZ*    LITC            RETURN IF NO LITERAL                                03 03239
007777 107773 R
010000 137000 I     3414        ERA     RVAL            OTHERWISE                                           03 03240
010001 057000 I     3415        STA     RVAL            TURN IT OFF                                         03 03241
```

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010002 020000 L 3416        LDB     ='= '           AND                                 03 03242
010003 002000 A 3417        JMPM    ERR             GIVE ERROR                          03 03243
010004 007747 R
010005 001000 A 3418        JMP*    LITC            RETURN                              03 03244
010006 107773 R
                3419 *                                                                  03 03245
                3420 *      THIS IS A SUBROUTINE TO CHECK TO MAKE SURE THAT             03 03246
                3421 *      INDIRECT ADDRESSING IS NOT SPECIFIED                        03 03247
                3422 *                                                                  03 03248
010007 000000 A 3423 IADC   DATA    0                                                   03 03249
010010 017000 I 3424        LDA     RVAL                                                03 03250
010011 150000 L 3425        ANA     =0100000        EXTRACT INDIRECT ADDRESS FLAG BIT 15 03 03251
010012 117000 I 3426        ORA     IADF                                                03 03252
010013 001010 A 3427        JAZ*    IADC            RETURN IF NO INDIRECT ADDRESSING    03 03253
010014 110007 R
010015 027000 I 3428        LDB     QEBQ            (='E ')                             03 03254
010016 002000 A 3429        JMPM    ERR                                                 03 03255
010017 007747 R
010020 057000 I 3430        STA     IADF                                                03 03256
010021 017000 I 3431        LDA     RVAL                                                03 03257
010022 150000 L 3432        ANA     =077777         TURN OFF INDIRECT ADDRESS FLAG BIT-15 03 03258
010023 057000 I 3433        STA     RVAL                                                03 03259
010024 001000 A 3434        JMP*    IADC            RETURN                              03 03260
010025 110007 R
                3435 *                                                                  03 03261
                3436 *      THIS IS A SUBROUTINE TO TEST THE ASCII CHACT IN THE A REGISTER 03 03262
                3437 *      TO BE AN ALPHA CHACT.                                       03 03263
                3438 *      ON RETURN, THE A REG. IS POSITIVE IF CHACT IS ALPHA OR      03 03264
                3439 *      NEGATIVE IF THE CHACT IS NOT ALPHA.                         03 03265
                3440 *                                                                  03 03266
010026 005101 A 3441 ISA1   INCR    1               A=+1                                03 03267
010027 001000 A 3442        JMP     0               RETURN                              03 03268
010030 000000 A
010030          3443 ISA    BES     0               ENTRY                               03 03269
010031 140000 L 3444        SUB     ='!'                                                03 03270
010032 001004 A 3445        JAN*    ISA             RETURN IF NOT ALPHA                 03 03271
010033 110030 R
010034 140466 A 3446        SUB     SIX             (='''''-'!')                        03 03272
010035 001004 A 3447        JAN     ISA1            JUMP IF ALPHA                       03 03273
010036 010026 R
010037 140000 L 3448        SUB     =':'-''''                                           03 03274
010040 001004 A 3449        JAN*    ISA             RETURN IF NOT ALPHA                 03 03275
010041 110030 R
010042 140000 L 3450        SUB     ='='-':'                                            03 03276
010043 001004 A 3451        JAN     ISA1            JUMP IF ALPHA                       03 03277
010044 010026 R
010045 005311 A 3452        DAR                                                         03 03278
010046 001004 A 3453        JAN*    ISA             RETURN IF NOT ALPHA                 03 03279
010047 110030 R
010050 001000 A 3454        JMP     ISA1            MUST BE ALPHA                       03 03280
010051 010026 R
                3455 *                                                                  03 03281
                3456 *      THIS IS A SUBROUTINE TO TEST THE ASCII CHACT IN THE A REGISTER 03 03282
                3457 *      TO BE A DIGIT CHACT.                                        03 03283
                3458 *      ON RETURN, THE A REG. IS POSITIVE IF THE CHACT IS A DIGIT OR 03 03284
                3459 *      NEGATIVE IF THE CHACT IS NOT A DIGIT.                       03 03285
                3460 *                                                                  03 03286
010052 005101 A 3461 ISD1   INCR    1               A=+1                                03 03287
010053 001000 A 3462        JMP     0               RETURN                              03 03288
010054 000000 A
010054          3463 ISD    BES     0               ENTRY                               03 03289
010055 140000 L 3464        SUB     ='0'                                                03 03290
010056 001004 A 3465        JAN*    ISD             RETURN IF NOT DIGIT                 03 03291
010057 110054 R
010060 140000 L 3466        SUB     =':'-'0'                                            03 03292
010061 001004 A 3467        JAN     ISD1            JUMP IF DIGIT                       03 03293
010062 010052 R
010063 005301 A 3468        DECR    1               A=-1                                03 03294
010064 001000 A 3469        JMP*    ISD             RETURN                              03 03295
010065 110054 R
                3470 *                                                                  03 03296
                3471 *      THIS IS A SUBROUTINE TO REQUEST A TOP OF FORM ON LO         03 03297
                3472 *                                                                  03 03298
010066 000000 A 3473 TOF    DATA    0                                                   03 03299
010067 017000 I 3474        LDA     PASS                                                03 03300
010070 001004 A 3475        JAN     TOF1            JUMP IF PASS 1                      03 03301
010071 010111 R
010072 047000 I 3476        INR     PGNO            INCREMENT PAGE NUMBER               03 03302
010073 017000 I 3477        LDA     PGNO            GET BINARY PAGE NUMBER              03 03303
010074 002000 A 3478        JMPM    DCA             CONVERT TO ASCII                    03 03304
010075 012030 R
010076 057000 I 3479        STA     HED+3                                               03 03305
010077 067000 I 3480        STB     HED+4           REQUEST TOP OF FORM AND             03 03306
010100 002000 A 3481        CALL    MOVW            MOVE PAGE HEADING INTO LIST BUFFER  03 03307
010101 011761 R
010102 000042 A 3482        DATA    34                                                  03 03308
010103 000676 R 3483        DATA    HED             FROM ADDR                           03 03309
010104 000314 R 3484        DATA    LBUF            TO ADDR                             03 03310
                3485 *                                                                  03 03311
                3486 *                          GO TO TOP OF FORM AND                   03 03312
010105 002000 A 3487        CALL    LOWRIT          PRINT HEADER AND WAIT FOR COMPLETION 03 03313
010106 012252 R
                3488 *                                                                  03 03314
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010107 002000 A 3489          CALL    LOWRIT          SPACE 1 LINE AFTER HEADER                          03 03315
010110 012252 R
                3490 *                                                                                   03 03316
       010111 R 3491 TOF1     EQU     *                                                                  03 03317
010111 006017 A 3492          LDAE*   FRM$                                                       V75*********
010112 100675 R
010113 140000 L 3493          SUB     =2              INITIATE                                           03 03319
010114 057000 I 3494          STA     LCT             LISTING LINE COUNTER                               03 03320
010115 001000 A 3495          JMP*    TOF             RETURN                                             03 03321
010116 110066 R
                3496 *                                                                                   03 03322
                3497 *        THIS IS A SUBROUTINE TO LIST THE CURRENT CONTENTS OF LBUF                  03 03323
                3498 *                                                                                   03 03324
010117 000000 A 3499 LIST     DATA    0                                                                  03 03325
010120 017000 I 3500          LDA     PASS                                                               03 03326
010121 001004 A 3501          JAN     LIST02          CHECK FOR PASS 2                           C       03 03327
010122 010134 R
010123 005101 A 3502          INCR    1                                                          C       03 03328
010124 157000 I 3503          ANA     $PCW            CHECK FOR PRINT SUPPRESS                   C       03 03329
010125 005311 A 3504          DAR                                                                C       03 03330
010126 001002 A 3505          JAP     LIST02                                                     C       03 03331
010127 010134 R
010130 002000 A 3506 LIST01   JMPM    LST             PRINT IF NOT SUPPRESSED                    C       03 03332
010131 010145 R
010132 001000 A 3507          JMP     LIST03                                                     C       03 03333
010133 010141 R
010134 017000 I 3508 LIST02   LDA     ERSC            ELSE PRINT ERROR LINES ONLY                C       03 03334
010135 001016 A 3509          JANZ    LIST01                                                     C       03 03335
010136 010130 R
010137 002000 A 3510          JMPM    CLRBUF          IF LINE NOT PRINTED, CLEAR BUFFER          C       03 03336
010140 012275 R
010141 017000 I 3511 LIST03   LDA     LB2P1           INITIATE (=LBUF*2+1)                       C       03 03337
010142 057000 I 3512          STA     SBTA            STORE BYTE ADDRESS                                 03 03338
010143 001000 A 3513          JMP*    LIST                                                               03 03339
010144 110117 R
                3514 *                                                                                   03 03340
                3515 *        LIST SUBROUTINE                                                            03 03341
                3516 *                                                                                   03 03342
010145 000000 A 3517 LST      DATA    0                                                                  03 03343
010146 002000 A 3518          CALL    LOWRIT          LIST CONTENTS OF LBUF                              03 03344
010147 012252 R
010150 017000 I 3519          LDA     LB2P1           INITIATE (=LBUF*2+1)                               03 03345
010151 057000 I 3520          STA     SBTA            STORE BYTE ADDRESS                                 03 03346
010152 017000 I 3521          LDA     LCT             GET LISTING LINE COUNT                             03 03347
010153 005311 A 3522          DAR                     DECREMENT                                          03 03348
010154 057000 I 3523          STA     LCT             STORE BACK                                         03 03349
010155 002010 A 3524          JAZM    TOF             JUMP IF END OF COUNT                               03 03350
010156 010066 R
010157 001000 A 3525          JMP*    LST             RETURN                                             03 03351
010160 110145 R
                3526 *                                                                                   03 03352
                3527 *        THIS IS A SUBROUTINE TO OUTPUT THE LOCATION AND VALUE                      03 03353
                3528 *        FIELDS TO THE LISTING AN THE VALUE TO THE LOADER TEXT                      03 03354
                3529 *                                                                                   03 03355
010161 000000 A 3530 DLV      DATA    0                                                                  03 03356
010162 002000 A 3531          JMPM    GWL                                                                03 03357
010163 010724 R
010164 002000 A 3532          JMPM    LLV             LIST LOCATION + VALUE FIELDS                       03 03358
010165 010170 R
010166 001000 A 3533          JMP*    DLV                                                                03 03359
010167 110161 R
                3534 *                                                                                   03 03360
                3535 *        THIS IS A SUBROUTINE TO OUTPUT THE LOCATION AND VALUE                      03 03361
                3536 *        FIELDS TO THE LISTING                                                      03 03362
                3537 *                                                                                   03 03363
010170 000000 A 3538 LLV      DATA    0                                                                  03 03364
010171 017000 I 3539          LDA     PASS                                                               03 03365
010172 001004 A 3540          JAN     LLV1            JUMP IF PASS 1                                     03 03366
010173 010202 R
010174 002000 A 3541          JMPM    TL              OUTPUT LOCATION TO LISTING                         03 03367
010175 010241 R
010176 002000 A 3542          JMPM    TV              OUTPUT VALUE TO LISTING                            03 03368
010177 010251 R
010200 002000 A 3543          JMPM    LLN1            LIST LINE                                          03 03369
010201 010335 R
       010202 R 3544 LLV1     EQU     *                                                                  03 03370
010202 047000 I 3545          INR     PC              INCR PROG LOC COUNTER                              03 03371
010203 001000 A 3546          JMP*    LLV             RETURN                                             03 03372
010204 110170 R
                3547 *                                                                                   03 03373
                3548 *        THIS IS A SUBROUTINE TO OUTPUT THE LOCATION FIELD                          03 03374
                3549 *        TO THE LISTING                                                             03 03375
                3550 *                                                                                   03 03376
010205 000000 A 3551 LL       DATA    0                                                                  03 03377
010206 017000 I 3552          LDA     PASS                                                               03 03378
010207 001004 A 3553          JAN*    LL              RETURN IF PASS 1                                   03 03379
010210 110205 R
010211 017000 I 3554          LDA     MLF                                                                03 03380
010212 005311 A 3555          DAR                                                                        03 03381
010213 001002 A 3556          JAP*    LL              RETURN IF WITHIN A MACRO                           03 03382
010214 110205 R
010215 002000 A 3557          JMPM    TL              OUTPUT LOCATION TO LISTING                         03 03383
010216 010241 R
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010217 002000 A 3558          JMPM    LLN             LIST LINE                                  03 03384
010220 010300 R
010221 001000 A 3559          JMP*    LL              RETURN                                     03 03385
010222 110205 R
                3560 *                                                                           03 03386
                3561 *        THIS IS A SUBROUTINE TO OUTPUT THE VALUE FIELD                     03 03387
                3562 *        TO THE LISTING                                                     03 03388
                3563 *                                                                           03 03389
010223 000000 A 3564 LV       DATA    0                                                          03 03390
010224 017000 I 3565          LDA     PASS                                                       03 03391
010225 001004 A 3566          JAN*    LV              RETURN IF PASS 1                           03 03392
010226 110223 R
010227 017000 I 3567          LDA     MLF                                                        03 03393
010230 005311 A 3568          DAR                                                                03 03394
010231 001002 A 3569          JAP*    LV              RETURN IF WITHIN A MACRO                   03 03395
010232 110223 R
010233 002000 A 3570          JMPM    TV              OUTPUT VALUE TO LISTING                    03 03396
010234 010251 R
010235 002000 A 3571          JMPM    LLN             LIST LINE                                  03 03397
010236 010300 R
010237 001000 A 3572          JMP*    LV              RETURN                                     03 03398
010240 110223 R
                3573 *                                                                           03 03399
                3574 *        THIS IS A SUBROUTINE TO OUTPUT THE CONTENTS OF THE                 03 03400
                3575 *        LOCATION COUNTER TO THE LISTING BUFFER                             03 03401
                3576 *                                                                           03 03402
010241 000000 A 3577 TL       DATA    0                                                          03 03403
010242 017000 I 3578          LDA     LB2P1           (=LBUF*2+1) INITIATE THE                   03 03404
010243 057000 I 3579          STA     SBTA            STORE BYTE ADDRESS                         03 03405
010244 027000 I 3580          LDB     PC              GET LOCATION COUNTER                       03 03406
010245 002000 A 3581          JMPM    DD              AND REALLY DO IT                           03 03407
010246 010263 R
010247 001000 A 3582          JMP*    TL              RETURN                                     03 03408
010250 110241 R
                3583 *                                                                           03 03409
                3584 *        THIS IS A SUBROUTINE TO OUTPUT THE CONTENTS OF                     03 03410
                3585 *        VAL TO THE LISTING BUFFER                                          03 03411
                3586 *                                                                           03 03412
010251 000000 A 3587 TV       DATA    0                                                          03 03413
010252 017000 I 3588          LDA     LB2P8           INITIALIZE THE (=LBUF*2+8)                 03 03414
010253 057000 I 3589          STA     SBTA            STORE BYTE ADDRESS                         03 03415
010254 027000 I 3590          LDB     VAL             GET VALUE                                  03 03416
010255 002000 A 3591          JMPM    DD              AND REALLY DO IT                           03 03417
010256 010263 R
010257 002000 A 3592          JMPM    TOUT            OUTPUT VALUE TYPE                          03 03418
010260 010575 R
010261 001000 A 3593          JMP*    TV              RETURN                                     03 03419
010262 110251 R
                3594 *                                                                           03 03420
                3595 *        THIS IS A SUBROUTINE TO OUTPUT THE SIX OCTAL CHACTS PACKED         03 03421
                3596 *        IN THE B REGISTER TO WHEREVER THE STORE BYTE ADDRESS (SBTA)        03 03422
                3597 *        IS ALREADY SET                                                     03 03423
                3598 *                                                                           03 03424
010263 000000 A 3599 DD       DATA    0                                                          03 03425
010264 005001 A 3600          TZA                                                                03 03426
010265 004441 A 3601          LLRL    NBIT-15         GET FIRST DIGIT                            03 03427
010266 005122 A 3602          IBR                     SET 30=1                                   03 03428
010267 120000 L 3603 DD1      ADD     ='0'            MAKE DIGIT ASCII                           03 03429
010270 002000 A 3604          JMPM    SBT             STORE ASCII CHACT                          03 03430
010271 011765 R
010272 005001 A 3605          TZA                                                                03 03431
010273 004443 A 3606          LLRL    3               GET NEXT DIGIT                             03 03432
010274 001020 A 3607          JBZ*    DD              RETURN IF END OF DIGITS                    03 03433
010275 110263 R
010276 001000 A 3608          JMP     DD1             OTHERWISE, KEEP TRYING                     03 03434
010277 010267 R
                3609 *                                                                           03 03435
                3610 *        THIS IS A SUBROUTINE TO LIST THE ASSEMBLY LINE IN LBUF             03 03436
                3611 *                                                                           03 03437
010300 000000 A 3612 LLN      DATA    0                                                          03 03438
010301 017000 I 3613          LDA     MLF                                                        03 03439
010302 002010 A 3614          JAZM    LLNJ            JUMP IF NOT WITHIN A MACRO                 03 03440
010303 010335 R
010304 002000 A 3615          JMPM    LE              LIST ERRORS                                03 03441
010305 010525 R
010306 001000 A 3616          JMP*    LLN             RETURN                                     03 03442
010307 110300 R
                3617 *                                                                           03 03443
                3618 *        THIS IS A SUBROUTINE TO PUT THE LINE NUMBER AND SOURCE LINE        03 03444
                3619 *        INTO THE LIST BUFFER                                               03 03445
                3620 *                                                                           03 03446
010310 002000 A 3621 LLNH     JMPM    MOVW            MOVE COLUMNS 1 THRU 72                     03 03447
010311 011761 R
010312 000044 A 3622          DATA    36              COUNT                                      03 03448
010313 000124 R 3623          DATA    $BUF            FROM ADDRESS                               03 03449
010314 000327 R 3624          DATA    LBUF+11         TO ADDRESS                                 03 03450
010315 017000 I 3625 LLNJ     LDA     LUFS            (=$BUF)                                    03 03451
010316 120000 L 3626          ADD     =36                                                        03 03452
010317 054003 A 3627          STA     LLNK                                                       03 03453
010320 002000 A 3628          JMPM    MOVW            MOVE COLUMNS 73 THRU 80                    03 03454
010321 011761 R
010322 000004 A 3629          DATA    4               COUNT                                      03 03455
010323 000000 A 3630 LLNK     DATA    0               FROM ADDRESS (=$BUF+36)                    03 03456
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010324 000373 R 3631          DATA    LBUF+47         TO ADDRESS                                    03 03457
010325 014175 A 3632          LDA     LLNT            RESTORE INPUT                                 03 03458
010326 057000 I 3633          STA     ICP             CHACT POINTER                                 03 03459
010327 047000 I 3634          INR     PLF             SET SOURCE LINE SUPPRESS FLAG                 03 03460
010330 002000 A 3635 LLN2     JMPM    LIST            LIST LINE                                     03 03461
010331 010117 R
010332 002000 A 3636          JMPM    LE              LIST ERRORS                                   03 03462
010333 010525 R
010334 001000 A 3637          JMP     0               RETURN                                        03 03463
010335 000000 A
010335         3638 LLN1      BES     0               ENTRY                                         03 03464
010336 017000 I 3639          LDA     MLF                                                           03 03465
010337 117000 I 3640          ORA     PLF             GET SOURCE LINE SUPPRESS FLAG                 03 03466
010340 001010 A 3641          JAZ     *+4             JUMP IF NOT WITHIN A MACRO OR SUPPRESS        03 03467
010341 010344 R
               3642 *                                 SOURCE LINE                                   03 03468
010342 001000 A 3643          JMP     LLN2                                                          03 03469
010343 010330 R
010344 017000 I 3644          LDA     LNCT            GET LISTING LINE COUNT                        03 03470
010345 002000 A 3645          JMPM    B2A             CONVERT TO ASCII                              03 03471
010346 012030 R
010347 005024 A 3646          TBX                     SAVE LSH                                      03 03472
010350 004040 A 3647          LRLB    NBIT-16         ADJUST FOR 18-BIT                             03 03473
010351 004550 A 3648          LLSR    8                                                             03 03474
010352 004140 A 3649          LSRB    NBIT-16         ADJUST FOR 18-BIT                             03 03475
010353 006110 A 3650          ORAI    0120000         LEADING BLANK                                 03 03476
010354 120000 A
010355 057000 I 3651          STA     LBUF+8                                                        03 03477
010356 067000 I 3652          STB     LBUF+9                                                        03 03478
010357 005042 A 3653          TXB                                                                   03 03479
010360 004240 A 3654          LRLA    NBIT-16         ADJUST FOR 18-BIT                             03 03480
010361 004450 A 3655          LLRL    8               TRAILING BLANK                                03 03481
010362 067000 I 3656          STB     LBUF+10                                                       03 03482
010363 017000 I 3657          LDA     ICP             SAVE INPUT                                    03 03483
010364 054136 A 3658          STA     LLNT            CHACT POINTER                                 03 03484
010365 017000 I 3659          LDA     IBBA            (=$BUF*2)                                     03 03485
010366 057000 I 3660          STA     ICP             RE-INITIATE ICP                               03 03486
010367 002000 A 3661          JMPM    GNC0            GET NEXT CHACT                                03 03487
010370 007707 R
010371 130000 L 3662          ERA     ='*'                                                          03 03488
010372 001010 A 3663          JAZ     LLNH            JUMP IF COMMENT RECORD                        03 03489
010373 010310 R
               3664 *                                                                               03 03490
               3665 *         REFORMAT LABEL FIELD                                                  03 03491
               3666 *                                                                               03 03492
010374 017000 I 3667          LDA     LB2P22          INITIATE (=LBUF*2+22)                         03 03493
010375 057000 I 3668          STA     SBTA            STORE BYTE ADDRESS                            03 03494
010376 002000 A 3669 LLNA     JMPM    GNC1            GET NEXT CHACT                                03 03495
010377 007737 R
010400 001010 A 3670          JAZ     LLNJ            JUMP IF END OF LINE                           03 03496
010401 010315 R
010402 140000 L 3671          SUB     =' '                                                          03 03497
010403 001010 A 3672          JAZ     LLNB            JUMP IF BLANK                                 03 03498
010404 010415 R
010405 140000 L 3673          SUB     =','            -                                             03 03499
010406 001010 A 3674          JAZ     LLNB            JUMP IF COMMA                                 03 03500
010407 010415 R
010410 005021 A 3675          TBA                                                                   03 03501
010411 002000 A 3676          JMPM    SBT             STORE CHACT                                   03 03502
010412 011765 R
010413 001000 A 3677          JMP     LLNA            KEEP TRYING                                   03 03503
010414 010376 R
               3678 *                                                                               03 03504
               3679 *         REFORMAT OPERATION FIELD                                              03 03505
               3680 *                                                                               03 03506
010415 030000 L 3681 LLNB     LDX     =72                                                           03 03507
010416 002000 A 3682          JMPM    SBK             SKIP BLANK CHACTS                             03 03508
010417 007126 R
010420 002000 A 3683          JMPM    CTST            COMMA ALLOW TEST                              03 03509
010421 007677 R
010422 017000 I 3684          LDA     ICP             SAVE INPUT                                    03 03510
010423 054100 A 3685          STA     LLNT+1          CHACT POINTER                                 03 03511
010424 017000 I 3686          LDA     LB2P28          (=LBUF*2+28)                                  03 03512
010425 057000 I 3687          STA     SBTA            STORE BYTE ADDRESS                            03 03513
010426 010000 L 3688          LDA     =' '                                                          03 03514
010427 002000 A 3689 LLNC     JMPM    SBT             STORE CHACT                                   03 03515
010430 011765 R
010431 002000 A 3690          JMPM    GNC1            GET NEXT CHACT                                03 03516
010432 007737 R
010433 001010 A 3691          JAZ     LLNJ            JUMP IF END OF LINE                           03 03517
010434 010315 R
010435 140000 L 3692          SUB     =' '                                                          03 03518
010436 001010 A 3693          JAZ     LLND            JUMP IF BLANK                                 03 03519
010437 010457 R
010440 140000 L 3694          SUB     =','                                                          03 03520
               3695           IFT     V75                                                          V75*******
010441 001010 A 3696          JAZ     LLNV75          JUMP IF COMMA                                V75*******
010442 010446 R
               3697           IFF     V75                                                          V75*******
               3698           JAZ     LLND            JUMP IF COMMA                                 03 03521
010443 005021 A 3699 LLNC1    TBA                                                                  V75*******
010444 001000 A 3700          JMP     LLNC            KEEP TRYING                                   03 03520
010445 010427 R
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                    3701          IFF     V75                                                   V75********
                    3702          GOTO    1                                                     V75********
010446 006017 A     3703 LLNV75   LDAE    V75ED                                                 V75********
010447 000016 R
010450 001010 A     3704          JAZ     LLND        ANY V75 EDITING ?                         V75********
010451 010457 R
010452 005311 A     3705          DAR                 YES. DROP COMMA COUNT                     V75********
010453 006057 A     3706          STAE    V75ED                                                 V75********
010454 000016 R
010455 001000 A     3707          JMP     LLNC1                                                 V75********
010456 010443 R
                    3708 1        CONT                                                          V75********
                    3709 *                                                                          03 03524
                    3710 *        REFORMAT REMAINDER OF RECORD                                      03 03525
                    3711 *                                                                          03 03526
010457 030000 L     3712 LLND     LDX     =8                                                        03 03527
010460 002000 A     3713          JMPM    SBK         SKIP BLANKS                                   03 03528
010461 007126 R
010462 005021 A     3714          TBA                 GET TERMINATING CHACT                         03 03529
010463 130000 L     3715          ERA     =' '                                                      03 03530
010464 001010 A     3716          JAZ     LLNL        JUMP IF TERMINATING CHACT IS A BLANK          03 03531
010465 010516 R
010466 002000 A     3717          JMPM    CTST        COMMA ALLOW TEST                              03 03532
010467 007677 R
                    3718          IFF     V75                                                   V75********
                    3719          GOTO    1                                                     V75********
010470 017000 I     3720          LDA     SBTA                                                  V75********
010471 147000 I     3721          SUB     LB2P36                                                V75********
010472 001002 A     3722          JAP     LLNM+1      DONT RESET BYTE POINTER IF OVERRUN        V75********
010473 010476 R
                    3723 1        CONT                                                          V75********
010474 017000 I     3724          LDA     LB2P36      INITIATE (=LBUF*2+36)                         03 03533
010475 057000 I     3725 LLNM     STA     SBTA        STORE BYTE ADDRESS                            03 03534
010476 010000 L     3726          LDA     =' '                                                      03 03535
010477 002000 A     3727 LLNE     JMPM    SBT         STORE CHACT                                   03 03536
010500 011765 R
010501 002000 A     3728          JMPM    GNC1        GET NEXT CHACT                                03 03537
010502 007737 R
010503 001010 A     3729          JAZ     LLNJ        JUMP IF END OF LINE                           03 03538
010504 010315 R
                    3730          IFF     V75                                                   V75********
                    3731          GOTO    1                                                     V75********
010505 017000 I     3732          LDA     SBTA                                                  V75********
010506 147000 I     3733          SUB     LB2P51                                                V75********
010507 006140 A     3734          SUBI    48                                                    V75********
010510 000053 A
010511 001002 A     3735          JAP     LLNJ        EXIT AT END OF COMMENT FIELD              V75********
010512 010315 R
010513 005021 A     3736          TBA                 RESTORE A-REG                             V75********
                    3737 1        CONT                                                          V75********
010514 001000 A     3738          JMP     LLNE        KEEP TRYING                                   03 03539
010515 010477 R
                    3739 *                                                                          03 03540
010516 014005 A     3740 LLNL     LDA     LLNT+1      RESTORE INPUT                                 03 03541
010517 057000 I     3741          STA     ICP         CHACT POINTER                                 03 03542
010520 017000 I     3742          LDA     LB2P28      INITIATE (=LBUF*2+28)                         03 03543
010521 001000 A     3743          JMP     LLNM        STORE BYTE ADDRESS                            03 03544
010522 010475 R
010523 000000 A     3744 LLNT     DATA    0                                                         03 03545
010524 000000 A     3745          DATA    0                                                         03 03546
                    3746 *                                                                          03 03547
                    3747 *        THIS IS A SUBROUTINE TO LIST THE ERROR CODES IF THEY EXIST         03 03548
                    3748 *                                                                          03 03549
010525 000000 A     3749 LE       DATA    0                                                         03 03550
010526 027000 I     3750 LE1      LDB     ERSC        GET ERROR SUB COUNT                           03 03551
010527 005323 A     3751          DECR    023         DECREMENT                                     03 03552
010530 001004 A     3752          JAN*    LE          RETURN IF END OF ERRORS                       03 03553
010531 110525 R
010532 067000 I     3753          STB     ERSC                                                      03 03554
010533 006120 A     3754          ADDI    ERSK        COMPUTE                                       03 03555
010534 000012 R
010535 005012 A     3755          TAB                 LDA ERSK,B                                    03 03556
010536 016000 A     3756          LDA     0,B         GET ERROR CODE                                03 03557
010537 057000 I     3757          STA     LBUF+1                                                    03 03558
010540 006010 A     3758          LDAI    ' *'                                                      03 03559
010541 120252 A
010542 057000 I     3759          STA     LBUF                                                      03 03560
010543 014030 A     3760          LDA     ERLN        LAST ERROR LINE NUMBER                D       03 03561
010544 005012 A     3761          TAB                 SAVE LINE NUMBER                      D       03 03562
010545 001010 A     3762          JAZ     LE2         DONT REF LINE 0                       D       03 03563
010546 010565 R
010547 147000 I     3763          SUB     LNCT        CURRENT LINE COUNT                    D       03 03564
010550 001010 A     3764          JAZ     LE2         DONT REF IF MULTI ERRORS ON LINE      D       03 03565
010551 010565 R
010552 005021 A     3765          TBA                 RESTORE LINE NUMBER                   D       03 03566
010553 002000 A     3766          CALL    B2A                                               D       03 03567
010554 012030 P
010555 057000 I     3767          STA     LBUF+3      STORE IN                              D       03 03568
010556 067000 I     3768          STB     LBUF+4      MESSAGE                               D       03 03569
010557 006010 A     3769          LDAI    ' ('                                              D       03 03570
010560 120250 A
010561 057000 I     3770          STA     LBUF+2                                            D       03 03571
010562 006010 A     3771          LDAI    ') '                                              D       03 03572
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010563 124640 A
010564 057000 I 3772          STA     LBUF+5                                          D   03 03573
010565 002000 A 3773 LE2      JMPM    LST             LIST ERROR MESSAGE              D   03 03574
010566 010145 R
010567 017000 I 3774          LDA     LNCT            CURRENT LINE COUNT              D   03 03575
010570 054003 A 3775          STA     ERLN            UPDATE ERROR LINE CHAIN         D   03 03576
010571 047000 I 3776          INR     ERCT            INCREMENT ERROR COUNT               03 03577
010572 001000 A 3777          JMP     LE1             KEEP TRYING                         03 03578
010573 010526 R
                3778 *                                                                D   03 03579
010574 000000 A 3779 ERLN     DATA    0               LAST ERROR LINE NUMBER          D   03 03580
                3780 *                                                                    03 03581
                3781 *        THIS IS A SUBROUTINE TO DETERMINE THE DATA WORD TYPE AND    03 03582
                3782 *        OUTPUT THE TYPE PRECEEDED AND FOLLOWED WITH A BLANK CHACT   03 03583
                3783 *        TO THE LISTING WHEREVER THE STORE BYTE ADDRESS              03 03584
                3784 *        (SBTA) IS CURRENTLY POINTING                                03 03585
                3785 *                                                                    03 03586
010575 000000 A 3786 TOUT     DATA    0                                                   03 03587
010576 047000 I 3787          INR     SBTA            OUTPUT BLANK                        03 03588
010577 020000 L 3788          LDB     ='E'                                                03 03589
010600 017000 I 3789          LDA     RVAL                                                03 03590
010601 150000 L 3790          ANA     =0600           EXTRACT ST                          03 03591
010602 130000 L 3791          ERA     =0400                                               03 03592
010603 001010 A 3792          JAZ     TOU1            JUMP IF EXTERNAL                    03 03593
010604 010636 R
010605 020000 L 3793          LDB     ='I'                                                03 03594
010606 017000 I 3794          LDA     RVAL                                                03 03595
010607 157000 I 3795          ANA     02000           EXTRACT T1 IND. POINT. FLAG BIT-10( =02000 03 03596
010610 001010 A 3796          JAZ     *+4             JUMP IF NOT TYPE 1 INDIRECT         03 03597
010611 010614 R
010612 001000 A 3797          JMP     TOU1                                                03 03598
010613 010636 R
010614 020000 L 3798          LDB     ='L'                                                03 03599
010615 017000 I 3799          LDA     RVAL                                                03 03600
010616 157000 I 3800          ANA     01000           EXTRACT LITERAL FLAG BIT-9 (=01000) 03 03601
010617 001010 A 3801          JAZ     *+4                                                 03 03602
010620 010623 R
010621 001000 A 3802          JMP     TOU1            JUMP IF LITERAL                     03 03603
010622 010636 R
010623 020000 L 3803          LDB     ='C'                                                03 03604
010624 017000 I 3804          LDA     RVAL                                                03 03605
010625 150000 L 3805          ANA     =3              EXTRACT RELOCATABILITY              03 03606
010626 140000 L 3806          SUB     =2                                                  03 03607
010627 001010 A 3807          JAZ     TOU1            JUMP IF COMMON                      03 03608
010630 010636 R
010631 020000 L 3808          LDB     ='R'                                                03 03609
010632 005111 A 3809          IAR                                                         03 03610
010633 001010 A 3810          JAZ     TOU1            JUMP IF RELO                        03 03611
010634 010636 R
010635 020000 L 3811          LDB     ='A'            OTHERWISE CALL IT ABSO              03 03612
010636 005021 A 3812 TOU1     TBA                     GET CHACT                           03 03613
010637 002000 A 3813          JMPM    SBT             STORE DATA TYPE CHACT               03 03614
010640 011765 R
010641 047000 I 3814          INR     SBTA            OUTPUT BLANK                        03 03615
010642 001000 A 3815          JMP*    TOUT            RETURN                              03 03616
010643 110575 R
                3816 *                                                                    03 03617
                3817 *        THIS IS A SUBROUTINE TO OUTPUT A NEW ORIGIN TO THE LOADER TEXT 03 03618
                3818 *                                                                    03 03619
010644 000000 A 3819 OORG     DATA    0                                                   03 03620
010645 037000 I 3820          LDX     POBP            GET PREVIOUS OBUF POINTER           03 03621
010646 001040 A 3821          JX?     OOR2            JUMP IF NO PREVIOUS LOADER CODE     03 03622
010647 010655 R
010650 015000 A 3822          LDA     0,X             GET LOADER CODE/SUBCODE WORD        03 03623
010651 150000 L 3823          ANA     =0177000        EXTRACT CODE+SUBCODE BITS 15-9      03 03624
010652 137000 I 3824          ERA     01000           (=01000)                            03 03625
010653 001010 A 3825          JAZ     OOR1            JUMP IF ORIGIN SUBCODE BIT 9        03 03626
010654 010671 R
010655 017000 I 3826 OOR2     LDA     RLC                                                 03 03627
010656 057000 I 3827          STA     RVAL                                                03 03628
010657 017000 I 3828          LDA     PC                                                  03 03629
010660 057000 I 3829          STA     VAL                                                 03 03630
010661 017000 I 3830          LDA     01000           (=01000)                            03 03631
010662 057000 I 3831          STA     CODE                                                03 03632
010663 002000 A 3832          JMPM    ARPT                                                03 03633
010664 011136 R
010665 002000 A 3833          JMPM    OUT2            OUTPUT NEW ORIGIN CODE              03 03634
010666 011016 R
010667 001000 A 3834          JMP*    OORG            RETURN                              03 03635
010670 110644 R
                3835 *                                                                    03 03636
010671 077000 I 3836 OOR1     STX     OBPT            SET NEW CURRENT OBUF POINTER        03 03637
010672 001000 A 3837          JMP     OOR2            OUTPUT NEW ORIGIN TO OVERLAY LAST ONE 03 03638
010673 010655 R
                3838 *                                                                    03 03639
                3839 *        THIS IS A SUBROUTINE TO OUTPUT THE WORD OR LITERAL TO THE   03 03640
                3840 *        LOADER TEXT                                                 03 03641
                3841 *                                                                    03 03642
010674 017000 I 3842 OWL2     LDA     RVAL                                                03 03643
010675 150000 L 3843          ANA     =0600           EXTRACT ST                          03 03644
010676 130000 L 3844          ERA     =0400                                               03 03645
010677 001010 A 3845          JAZ     OWL7            JUMP IF EXTERNAL                    03 03646
010700 010760 R
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010701 017000 I 3846 OWL8   LDA     RVAL                                                    03 03647
010702 150000 L 3847        ANA     =0100000    EXTRACT INDIRECT ADDRESS FLAG BIT-15        03 03648
010703 117000 I 3848        ORA     VAL         PUT IT                                      03 03649
010704 057000 I 3849        STA     VAL         WITH VAL                                    03 03650
010705 017000 I 3850        LDA     RVAL                                                    03 03651
010706 150000 L 3851        ANA     =3          EXTRACT ADDRESS RELOCATABILITY              03 03652
010707 020000 L 3852        LDB     =0040000                                                03 03653
010710 005311 A 3853        BAR                                                             03 03654
010711 001010 A 3854        JAZ     OWL4        JUMP IF PROGRAM RELO                        03 03655
010712 010720 R
010713 020000 L 3855        LDB     =0040040                                                03 03656
010714 005311 A 3856        BAR                                                             03 03657
010715 001010 A 3857        JAZ     OWL4        JUMP IF COMMON RELO                         03 03658
010716 010720 R
010717 020000 L 3858        LDB     =0100000    MUST BE ABSO                                03 03659
010720 067000 I 3859 OWL4   STB     CODE        SAVE LOADER CODE                            03 03660
010721 002000 A 3860        JMPM    OUT2        OUTPUT TWO WORDS                            03 03661
010722 011016 R
010723 001000 A 3861        JMP     0           RETURN                                      03 03662
010724 000000 A
010724         3862 OWL     BES     0           ENTRY                                       03 03663
010725 017000 I 3863        LDA     RVAL                                                    03 03664
010726 157000 I 3864        ANA     01000       EXTRACT LITERAL FLAG BIT-9 (=01000)         03 03665
010727 001010 A 3865        JAZ     OWL2        JUMP IF NOT LITERAL                         03 03666
010730 010674 R
010731 017000 I 3866        LDA     RVAL                                                    03 03667
010732 150000 L 3867        ANA     =0100000    EXTRACT INDIRECT ADDRESS FLAG BIT-15        03 03668
010733 057000 I 3868        STA     IWA                                                     03 03669
010734 017000 I 3869        LDA     RVAL                                                    03 03670
010735 150000 L 3870        ANA     =0600       EXTRACT ST                                  03 03671
010736 130000 L 3871        ERA     =0600                                                   03 03672
010737 001010 A 3872        JAZ     OWL1        JUMP IF EXTERNAL                            03 03673
010740 010751 R
010741 010000 L 3873        LDA     =060000     LOADER CODE = 3                             03 03674
010742 057000 I 3874        STA     CODE                                                    03 03675
010743 002000 A 3875        JMPM    OUT3        OUTPUT THREE WORDS                          03 03676
010744 011044 R
010745 017000 I 3876 OWL3   LDA     IWA         PUT IWA INTO                                03 03677
010746 057000 I 3877        STA     VAL         VAL FOR LISTING PURPOSES                    03 03678
010747 001000 A 3878        JMP*    OWL         RETURN                                      03 03679
010750 110724 R
               3879 *                                                                       03 03680
010751 006010 A 3880 OWL1   LDAI    013760      LOADER SUB CODE 013                         03 03681
010752 013760 A
010753 057000 I 3881        STA     CODE                                                    03 03682
010754 002000 A 3882        JMPM    OUT4                                                    03 03683
010755 011073 R
010756 001000 A 3883        JMP     OWL3                                                    03 03684
010757 010745 R
               3884 *                                                                       03 03685
        010760 R 3885 OWL7  EQU     *                                                       03 03686
010760 017000 I 3886        LDA     RVAL        EXTRACT INDIRECT BIT                        03 03687
010761 150000 L 3887        ANA     =0100000        FROM ORIGINAL ATTRIBUTE WORD            03 03688
010762 005012 A 3888        TAB                                                             03 03689
010763 037000 I 3889        LDX     VAL         GET SYMBOL TABLE POINTER                    03 03690
010764 015003 A 3890        LDA     STV,X       GET SYMBOL TABLE VALUE                      03 03691
010765 057000 I 3891        STA     VAL                                                     03 03692
010766 015004 A 3892        LDA     STA,X       GET SYMBOL TABLE ATTRIBUTE                  03 03693
010767 005031 A 3893        MERG    031         SET INDIRECT BIT (IF ANY) IN ATTRIBUTE WD   03 03694
010770 057000 I 3894        STA     RVAL                                                    03 03695
010771 006150 A 3895        ANAI    077774                                                  03 03696
010772 077774 A
010773 117000 I 3896        ORA     PLC                                                     03 03697
010774 055004 A 3897        STA     STA,X                                                   03 03698
010775 017000 I 3898        LDA     PC                                                      03 03699
010776 055003 A 3899        STA     STV,X                                                   03 03700
010777 001000 A 3900        JMP     OWL3        NOW OUTPUT WORD                             03 03701
011000 010701 R
               3901 *                                                                       03 03702
               3902 *       THIS IS A SUBROUTINE TO OUTPUT THE TWO WORDS CONTAINED IN       03 03703
               3903 *       SYMBOLIC LOCATIONS CODE AND VAL TO THE LOADER TEXT              03 03704
               3904 *                                                                       03 03705
011001 010000 L 3905 OT21   LDA     =2                                                      03 03706
011002 002000 A 3906        JMPM    COUT        CHECK SPACE                                 03 03707
011003 011126 R
011004 037000 I 3907        LDX     OBPT        GET OUTPUT BUFFER POINTER                   03 03708
011005 017000 I 3908        LDA     CODE                                                    03 03709
011006 055000 A 3909        STA     0,X         STORE LOADER CODE/SUBCODE WORD              03 03710
011007 077000 I 3910        STX     PBPP        UPDATE PREVIOUS OBUF POINTER                03 03711
011010 005144 A 3911        IXR                                                             03 03712
011011 017000 I 3912 OT22   LDA     VAL                                                     03 03713
011012 055000 A 3913        STA     0,X         STORE DATA WORD                             03 03714
011013 005144 A 3914        IXR                                                             03 03715
011014 077000 I 3915        STX     OBPT        UPDATE CURRENT OBUF POINTER                 03 03716
011015 001000 A 3916        JMP     0           RETURN                                      03 03717
011016 000000 A
011016         3917 OUT2    BES     0           ENTRY                                       03 03718
011017 017000 I 3918        LDA     PASS                                                    03 03719
011020 001004 A 3919        JAN*    OUT2        RETURN IF PASS 1                            03 03720
011021 111016 R
011022 005101 A 3920        INCR    1           A=1                                         03 03721
011023 002000 A 3921        JMPM    COUT        CHECK SPACE                                 03 03722
011024 011126 R
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011025 027000 I 3922          LDB     PDBP        GET PREVIOUS OBUF POINTER                    03 03723
011026 001020 A 3923          JBZ     OT21        JUMP IF NONE                                 03 03724
011027 011001 R
011030 016000 A 3924          LDA     0,B                                                      03 03725
011031 004240 A 3925          LRLA    NBIT-16     ADJUST FOR 18-BIT                            03 03726
011032 001002 A 3926          JAP     OT21        JUMP IF LAST LOADER CODE NOT ABSO            03 03727
011033 011001 R
011034 017000 I 3927          LDA     CODE                                                     03 03728
011035 004240 A 3928          LRLA    NBIT-16     ADJUST FOR 18-BIT                            03 03729
011036 001002 A 3929          JAP     OT21        JUMP IF THIS LOADER CODE NOT ABSO            03 03730
011037 011001 R
011040 046000 A 3930          INR     0,B         INCREMENT ABSO LOADER CODE WORD COUNT        03 03731
011041 037000 I 3931          LDX     OBPT        GET OUTPUT BUFFER POINTER                    03 03732
011042 001000 A 3932          JMP     OT2P                                                     03 03733
011043 011011 R
                 3933 *                                                                        03 03734
                 3934 *       THIS IS A SUBROUTINE TO OUTPUT THE THREE WORDS CONTAINED IN      03 03735
                 3935 *       SYMBOLIC LOCATIONS CODE, VAL, AND IWA TO THE LOADER TEXT         03 03736
                 3936 *                                                                        03 03737
011044 000000 A 3937 OUT3     DATA    0                                                        03 03738
011045 017000 I 3938          LDA     PASS                                                     03 03739
011046 001004 A 3939          JAN*    OUT3        RETURN IF PASS 1                             03 03740
011047 111044 R
011050 010000 L 3940          LDA     =3                                                       03 03741
011051 002000 A 3941          JMPM    COUT        CHECK SPACE                                  03 03742
011052 011126 R
011053 002000 A 3942          JMPM    ARPT                                                     03 03743
011054 011136 R
011055 037000 I 3943          LDX     OBPT        GET OUTPUT BUFFER POINTER                    03 03744
011056 017000 I 3944          LDA     CODE                                                     03 03745
011057 055000 A 3945          STA     0,X         STORE LOADER CODE/SUBCODE WORD               03 03746
011060 017000 I 3946          LDA     VAL                                                      03 03747
011061 055001 A 3947          STA     1,X         STORE DATA WORD                              03 03748
011062 017000 I 3948          LDA     IWA                                                      03 03749
011063 055002 A 3949          STA     2,X         STORE LITERAL                                03 03750
011064 077000 I 3950          STX     PDBP        UPDATE PREVIOUS OBUF POINTER                 03 03751
011065 005144 A 3951          IXR                                                              03 03752
011066 005144 A 3952          IXR                                                              03 03753
011067 005144 A 3953          IXR                                                              03 03754
011070 077000 I 3954          STX     OBPT        UPDATE CURRENT OBUF POINTER                  03 03755
011071 001000 A 3955          JMP*    OUT3        RETURN                                       03 03756
011072 111044 R
                 3956 *                                                                        03 03757
                 3957 *       THIS IS A SUBROUTINE TO OUTPUT FOUR WORDS CONTAINED IN           03 03758
                 3958 *       SYMBOLIC LOCATIONS CODE, VAL, AND LAB1+1 THRU LAB1+3             03 03759
                 3959 *       TO THE LOADER TEXT                                               03 03760
                 3960 *                                                                        03 03761
011073 000000 A 3961 OUT4     DATA    0                                                        03 03762
011074 017000 I 3962          LDA     PASS                                                     03 03763
011075 001004 A 3963          JAN*    OUT4        RETURN IF PASS 1                             03 03764
011076 111073 R
011077 010423 A 3964          LDA     FOUR        (=4)                                         03 03765
011100 002000 A 3965          JMPM    COUT        CHECK SPACE                                  03 03766
011101 011126 R
011102 002000 A 3966          JMPM    ARPT                                                     03 03767
011103 011136 R
011104 002000 A 3967          JMPM    CSYM        CONVERT 8-BIT CHACTS TO 6-BIT CHACTS         03 03768
011105 011321 R
011106 037000 I 3968          LDX     OBPT        GET OUTPUT BUFFER POINTER                    03 03769
011107 017000 I 3969          LDA     CODE                                                     03 03770
011110 117000 I 3970          ORA     LAB1+1                                                   03 03771
011111 055000 A 3971          STA     0,X         STORE LOADER CODE/SUBCODE WORD               03 03772
011112 017000 I 3972          LDA     LAB1+2                                                   03 03773
011113 055001 A 3973          STA     1,X                                                      03 03774
011114 017000 I 3974          LDA     LAB1+3                                                   03 03775
011115 055002 A 3975          STA     2,X                                                      03 03776
011116 017000 I 3976          LDA     VAL                                                      03 03777
011117 055003 A 3977          STA     3,X                                                      03 03778
011120 077000 I 3978          STX     PDBP        UPDATE PREVIOUS OBUF POINTER                 03 03779
011121 005041 A 3979          TXA                                                              03 03780
011122 120423 A 3980          ADD     FOUR        (=4)                                         03 03781
011123 057000 I 3981          STA     OBPT        UPDATE CURRENT OBUF POINTER                  03 03782
011124 001000 A 3982          JMP*    OUT4        RETURN                                       03 03783
011125 111073 R
                 3983 *                                                                        03 03784
                 3984 *       THIS IS A SUBROUTINE TO CHECK TO SEE IF SUFFICIENT               03 03785
                 3985 *       ADDITIONAL SPACE IS AVAILABLE IN OBUF                            03 03786
                 3986 *       CALLING SEQUENCE                                                 03 03787
                 3987 *       LDA     -ADDITIONL WORDS NEEDED                                  03 03788
                 3988 *       JMPM    COUT                                                     03 03789
                 3989 *       RETURN                                                           03 03790
                 3990 *                                                                        03 03791
011126 000000 A 3991 COUT     DATA    0                                                        03 03792
011127 127000 I 3992          ADD     OBPT                                                     03 03793
011130 006140 A 3993          SUBI    OBUF+OBSZ+1                                              03 03794
011131 000505 R
011132 002002 A 3994          JAPM    WRIT        OUTPUT OBUF IF NOT SUFFICIENT ROOM           03 03795
011133 011303 R
011134 001000 A 3995          JMP*    COUT        RETURN                                       03 03796
011135 111126 R
                 3996 *                                                                        03 03797
                 3997 *       THIS IS A SUBTOUTINE TO GENERATE THE CORRECT LOADER TEXT         03 03798
                 3998 *       POINTER AND 'OR' IT INTO THE CODE                                03 03799
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                        3999 *
011136 000000 A 4000 ARPT   DATA    0                                                   03 03800
011137 017000 I 4001        LDA     RVAL                                                03 03801
011140 150000 L 4002        ANA     =3          EXTRACT BITS 0+1                        03 03802
011141 005002 A 4003        FZB                 POINTER = 0                             03 03803
011142 005311 A 4004        DAR                                                         03 03804
011143 001010 A 4005        JAZ     ARP1        JUMP IF PROGRAM RELO                    03 03805
011144 011152 R                                                                         03 03806
011145 020000 L 4006        LDB     =040        POINTER = 2                             03 03807
011146 005311 A 4007        DAR                                                         03 03808
011147 001010 A 4008        JAZ     ARP1        JUMP IF COMMON RELO                     03 03809
011150 011152 R                                                                         03 03810
011151 020000 L 4009        LDB     =0760       OTHERWISE CALL IT ABSO                  03 03811
011152 017000 I 4010 ARP1   LIA     CODE        GET LOADER CODE WORD                    03 03812
011153 150000 L 4011        ANA     =017777017  CLEAN OUT OLD POINTER (BITS 4-8)        03 03813
011154 005031 A 4012        MERG    031         A=A.OR.B                                03 03814
011155 057000 I 4013        STA     CODE                                                03 03815
011156 001000 A 4014        JMP*    ARPT        RETURN                                  03 03816
011157 111136 R
                        4015 *                                                          03 03817
                        4016 *      THIS IS A SUBROUTINE TO OUTPUT OBUF TO THE GO AND BD LUN'S  03 03818
                        4017 *                                                          03 03819
011160 067000 I 4018 WR1    STB     OBUF+1      SET CHECKSUM INTO RECORD                03 03820
011161 006010 A 4019        LDAI    WRBD                                                03 03821
011162 011227 R
011163 002000 A 4020        CALL    STAT                                                03 03822
011164 006762 R
011165 006010 A 4021        LDAI    WRGO                                                03 03823
011166 011255 R
011167 002000 A 4022        CALL    STAT                                                03 03824
011170 006762 R
011171 017000 I 4023        LDA     OSRF        MOVE BD RECORD FLAG                     03 03825
011172 002000 A 4024        CALL    GPOMD       GET BD MOVE ADDR AND UPDATE OSRF (ALT 0,-1  03 03826
011173 012213 R
011174 034036 A 4025        LDX     WRBD+4                                              03 03827
011175 055001 A 4026        STA     1,1         BD FCB BUFF ADDR                        03 03828
011176 054011 A 4027        STA     BDMOV+4     TO-ADDR IN MOVE OPERATION               03 03829
011177 034061 A 4028        LDX     WRGO+4                                              03 03830
011200 055001 A 4029        STA     1,1                                                 03 03831
011201 017000 I 4030        LDA     OSRF        UPDATE                                  03 03832
011202 057000 I 4031        STA     BDRF        BD SECT. REC. ADDR. (ALT. 0,-1)         03 03833
011203 057000 I 4032        STA     GDRF                                                03 03834
                        4033 *                                                          03 03835
                        4034 *                  MOVE BD REC INTO RMD OUTPUT BUF         03 03836
                        4035 *                                                          03 03837
        011204 R 4036 BDMOV EQU     *                                                   03 03838
011204 002000 A 4037        CALL    MOVW                                                03 03839
011205 011761 R
011206 000074 A 4038        DATA    60                                                  03 03840
011207 000410 R 4039        DATA    OBUF                                                03 03841
011210 011210 R 4040        DATA    *                                                   03 03842
                        4041 *                                                          03 03843
011211 017000 I 4042        LDA     $PCW                                                03 03844
011212 004256 A 4043        LRLA    NBIT-2                                              03 03845
011213 001004 A 4044        JAN     WR3         SUPPRESS BD OUTPUT                      03 03846
011214 011236 R
011215 017000 I 4045        LDA     BDRMD       DS BD AN RMD#                           03 03847
011216 001010 A 4046        JAZ     WRBD        NO, THEN ALWAYS WRITE IT                03 03848
011217 011227 R
011220 017000 I 4047        LDA     BDRF        CHECK BD SECT REC ADDR FLAG             03 03849
011221 001010 A 4048        JAZ     WR3         FLAG SET TO SKIP RMD WRITE              03 03850
011222 011236 R
011223 034007 A 4049        LDX     WRBD+4                                              03 03851
011224 006010 A 4050        LDAI    OBUF-60     CHANGE BUFFER ADDRESS TO WRITE 120 WORDS    03 03852
011225 000504 R
011226 055001 A 4051        STA     1,1                                                 03 03853
                        4052 *                                                          03 03854
                        4053 *                                                          03 03855
        011227 R 4054 WRBD  EQU     *                                                   03 03856
                        4055        WRITE   ADFCB,BD,1,0                                03 03857
011227 006505 A
011230 007057 E
011231 100000 A
011232 100407 A
011233 007053 E
011234 000000 0
011235 000000 A
                        4056 *                                                          03 03858
        011236 R 4057 WR3   EQU     *                                                   03 03859
011236 017000 I 4058        LDA     $PCW        CHECK FOR LOAD/GO OPTION                03 03860
011237 001004 A 4059        JAN     WR4         YES                                     03 03861
011240 011243 R
011241 001000 A 4060        JMP     WR5                                                 03 03862
011242 011264 R
                        4061 *                                                          03 03863
        011243 R 4062 WR4   EQU     *                                                   03 03864
011243 017000 I 4063        LDA     GDRMD                                               03 03865
011244 001010 A 4064        JAZ     WRGO                                                03 03866
011245 011255 R
011246 017000 I 4065        LDA     GDRF                                                03 03867
011247 001010 A 4066        JAZ     WR5                                                 03 03868
011250 011264 R
011251 034007 A 4067        LDX     WRGO+4                                              03 03869
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011252 006010 A 4068          LDAI    OBUF+60                                          03 03869
011253 000504 R
011254 055001 A 4069          STA     1,1                                              03 03870
               4070 *                                                                  03 03871
        011255 R 4071 WRGO    EQU     *                                                03 03872
               4072           WRITE   GOFCB,GO,1,0                                     03 03873
011255 006505 A
011256 011230 E
011257 100000 A
011260 100411 A
011261 007035 E
011262 000000 A
011263 000000 A
               4073 *                                                                  03 03874
               4074 *                                                                  03 03875
        011264 R 4075 WR5     EQU     *                                                03 03876
011264 005001 A 4076          TZA             INITIATE                                 03 03877
011265 057000 I 4077          STA     POBP    PREVIOUS OBUF POINTER                    03 03878
011266 002000 A 4078          JMPM    SAR     OBUF TO ZEROS                            03 03879
011267 011705 R
011270 000073 A 4079          DATA    OBSZ-1  BUT NOT THE                              03 03880
011271 000411 R 4080          DATA    OBUF+1  FIRST WORD                               03 03881
011272 006010 A 4081          LDAI    OBUF+2  INITIALIZE                               03 03882
011273 000412 R
011274 057000 I 4082          STA     OBPT    CURRENT OBUF POINTER                     03 03883
011275 017000 I 4083          LDA     OBUF    GET RECORD CONTROL WORD                  03 03884
011276 005111 A 4084          IAR             INCREMENT RECORD NUMBER                  03 03885
011277 150000 L 4085          ANA     =0377   EXTRACT JUST IN CASE                    03 03886
011300 110000 L 4086          ORA     =074400                                          03 03887
011301 057000 I 4087          STA     OBUF                                             03 03888
011302 001000 A 4088          JMP     0       RETURN                                   03 03889
011303 000000 A
011303         4089 WRIT      BES     0       ENTRY                                    03 03890
011304 006030 A 4090          LDXI    OBUF+OBSZ                                        03 03891
011305 000504 R
011306 005002 A 4091          TZB             INITIATE CHECKSUM ACCUMULATOR            03 03892
011307 005345 A 4092 WR2      DECR    B45     A=X=X-1                                  03 03893
011310 006140 A 4093          SUBI    OBUF                                             03 03894
011311 000410 R
011312 001004 A 4094          JAN     WR1     JUMP IF END OF COUNT                     03 03895
011313 011160 R
011314 005021 A 4095          TBA                                                      03 03896
011315 135000 A 4096          ERA     0,X                                              03 03897
011316 005012 A 4097          TAB             SAVE CHECKSUM SO FAR                     03 03898
011317 001000 A 4098          JMP     WR2     KEEP TRYING                              03 03899
011320 011307 R
               4099 *                                                                  03 03900
               4100 *   THIS IS A SUBROUTINE TO CONVERT THE 8-BIT CHACT SYMBOL IN       03 03901
               4101 *   SYMBOLIC LOCATION LAB1 TO A 6-BIT CHACT SYMBOL IN LAB1         03 03902
               4102 *                                                                  03 03903
011321 000000 A 4103 CSYM     DATA    0                                                03 03904
011322 017000 I 4104          LDA     LAB1+1  GET FIRST TWO CHACTS                     03 03905
011323 002000 A 4105          JMPM    C826    CONVERT TO 6-BIT                         03 03906
011324 011402 R
011325 057000 I 4106          STA     LAB1+1  SAVE                                     03 03907
011326 017000 I 4107          LDA     LAB1+2  GET SECOND TWO CHACTS                    03 03908
011327 002000 A 4108          JMPM    C826    CONVERT TO 6-BIT                         03 03909
011330 011402 R
011331 057000 I 4109          STA     LAB1+2  SAVE                                     03 03910
011332 017000 I 4110          LDA     LAB1+3  GET THIRD TWO CHACTS                     03 03911
011333 002000 A 4111          JMPM    C826    CONVERT TO 6-BIT                         03 03912
011334 011402 R
011335 057000 I 4112          STA     LAB1+3  SAVE                                     03 03913
011336 117000 I 4113          ORA     LAB1+2                                           03 03914
011337 117000 I 4114          ORA     LAB1+1                                           03 03915
011340 001010 A 4115          JAZ*    CSYM    RETURN IF ALL CHACTS BLANKS              03 03916
011341 111321 R
011342 027000 I 4116          LDB     LAB1+3                                           03 03917
011343 017000 I 4117          LDA     LAB1+2                                           03 03918
011344 004044 A 4118          LRLB    NBIT-12 LEFT ADJUST                              03 03919
011345 004544 A 4119          LLSR    4       RIGHT                                    03 03920
011346 004140 A 4120          LSRB    NBIT-16 ADJUST                                   03 03921
011347 067000 I 4121          STB     LAB1+3  STORE LEAST SIGNIFICANT WORD             03 03922
011350 004550 A 4122          LLSR    8                                                03 03923
011351 017000 I 4123          LDA     LAB1+1                                           03 03924
011352 004550 A 4124          LLSR    8                                                03 03925
011353 004140 A 4125          LSRB    NBIT-16                                          03 03926
011354 067000 I 4126          STB     LAB1+2  STORE MID SIGNIFICANT WORD               03 03927
011355 057000 I 4127          STA     LAB1+1  STORE MOST SIGNIFICANT WORD              03 03928
011356 017000 I 4128 CSY1     LDA     LAB1+3                                           03 03929
011357 150000 L 4129          ANA     =077    EXTRACT LEAST SIGNIFICANT CHACT          03 03930
011360 001010 A 4130          JAZ     *+4     JUMP IF BLANK                            03 03931
011361 011364 R
011362 001000 A 4131          JMP*    CSYM    OTHERWISE RETURN                         03 03932
011363 111321 R
011364 027000 I 4132          LDB     LAB1+3                                           03 03933
011365 017000 I 4133          LDA     LAB1+2                                           03 03934
011366 004040 A 4134          LRLB    NBIT-16 LEFT ADJUST FOR 18-BIT                   03 03935
011367 004546 A 4135          LLSR    6                                                03 03936
011370 004140 A 4136          LSRB    NBIT-16 RIGHT ADJUST FOR 18-BIT                  03 03937
011371 067000 I 4137          STB     LAB1+3                                           03 03938
011372 004552 A 4138          LLSR    10                                               03 03939
011373 017000 I 4139          LDA     LAB1+1                                           03 03940
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011374 004546 A 4140          LLSR    6                                                  03 03941
011375 004140 A 4141          LSRB    NBIT-16         RIGHT ADJUST FOR 18-BIT            03 03942
011376 067000 I 4142          STB     LAB1+2                                             03 03943
011377 057000 I 4143          STA     LAB1+1                                             03 03944
011400 001000 A 4144          JMP     CSY1            KEEP TRYING                        03 03945
011401 011356 R
                    4145  *                                                              03 03946
                    4146  *       THIS IS A SUBROUTINE TO CONVERT THE TWO 8-BIT ASCII CHACTS IN   03 03947
                    4147  *       THE A REGISTER TO TWO 6-BIT CHACTS RIGHT JUSTIFIED IN THE A REG 03 03948
                    4148  *                                                              03 03949
011402 000000 A 4149 C826     DATA    0                                                  03 03950
011403 147000 I 4150          SUB     WBB0            MAKE CHACTS INTO 6-BIT (='  ')     03 03951
011404 004546 A 4151          LLSR    6               RIGHT                              03 03952
011405 004242 A 4152          LSRA    2               ADJUST                             03 03953
011406 004446 A 4153          LLRL    6               THEM                               03 03954
011407 001000 A 4154          JMP*    C826            RETURN                             03 03955
011410 111402 R
                    4155  *                                                                      V75********
                    4156  *  GET V75 REGISTER NUMBER                                             V75********
                    4157  *                                                                      V75********
                    4158          IFF     V75                                                    V75********
                    4159          GOTO    1                                                      V75********
011411 000000 A 4160 GV75R    ENTR                                                               V75********
011412 002000 A 4161          CALL    IAC             GET ABS REGISTER NUMBER            V75********
011413 005317 R
011414 020000 L 4162          LDB     ='3Z'                                              V75********
011415 004343 A 4163          LSRA    3                                                  V75********
011416 002016 A 4164          JANZM   ERR             ERROR IF REG NOT 0-7               V75********
011417 007747 R
011420 017000 I 4165          LDA     VAL             RESTORE A                          V75********
011421 001010 A 4166          JAZ*    GV75R           A=0 OK                             V75********
011422 111411 R
011423 005012 A 4167          TAB                                                        V75********
011424 140464 A 4168          SUB     THREE                                              V75********
011425 007400 A 4169          ROF                                                        V75********
011426 003004 A 4170          XAN     SOF             SET OVFL ON 1,2                    V75********
011427 011436 R
011430 005021 A 4171          TBA                                                        V75********
011431 003001 A 4172          XOF     GV75RE          FLIP 1,2                           V75********
011432 011435 R
011433 001000 A 4173          JMP*    GV75R           EXIT                               V75********
011434 111411 R
011435 130464 A 4174 GV75RE   ERA     THREE                                              V75********
011436 007401 A 4175 SOF      SOF                                                        V75********
                    4176 1        CONT                                                   V75********
                    4177  *                                                                      03 03956
                    4178  *       THIS IS A SUBROUTINE TO GET MORE SPACE OR RETURN SPACE          03 03957
                    4179  *       TO TABLE #1.                                                   03 03958
                    4180  *       CALLING SEQUENCE                                               03 03959
                    4181  *       LDA   ,  +SPACE TO GET SPACE                                   03 03960
                    4182  *       LDA   ,  -SPACE TO RETURN SPACE                                03 03961
                    4183  *       JMPM    GS1                                                    03 03962
                    4184  *       RETURN                  A REG. IS NEGATIVE IF NO SPACE AVAILABLE 03 03963
                    4185  *                               A REG. IS POSITIVE IF SPACE AVAILABLE AND 03 03964
                    4186  *                               X REG. POINTS TO BEGIN OF SPACE        03 03965
                    4187  *                                                                      03 03966
011437 R            4188 GS11     EQU     *                                                      03 03967
011437 001000 A 4189          JMP     NOROOM          NO ROOM LEFT IN TABLE              03 03968
011440 012236 R
011441 000000 A 4190 GS1      ENTR                                                       03 03969
011442 054223 A 4191          STA     GST             SAVE INCREMENT                     03 03970
011443 127000 I 4192          ADD     ST3                                                03 03971
011444 147000 I 4193          SUB     B14                                                03 03972
011445 001002 A 4194          JAZ     GS11            JUMP IF NO ROOM                    03 03973
011446 011437 R
011447 017000 I 4195          LDA     ST1                                                03 03974
011450 054010 A 4196          STA     GS1M+1          FROM ADDRESS                       03 03975
011451 124214 A 4197          ADD     GST                                                03 03976
011452 054007 A 4198          STA     GS1M+2          TO ADDRESS                         03 03977
011453 017000 I 4199          LDA     ST3                                                03 03978
011454 147000 I 4200          SUB     ST1                                                03 03979
011455 054002 A 4201          STA     GS1M            COUNT                              03 03980
011456 002000 A 4202          JMPM    MOVW            MOVE TABLES 2&3 OUT OF WAY         03 03981
011457 011761 R
011460 000000 A 4203 GS1M     DATA    0               COUNT                              03 03982
011461 000000 A 4204          DATA    0               FROM ADDRESS                       03 03983
011462 000000 A 4205          DATA    0               TO ADDRESS                         03 03984
011463 017000 I 4206          LDA     ST1                                                03 03985
011464 005014 A 4207          TAX                                                        03 03986
011465 124200 A 4208          ADD     GST                                                03 03987
011466 057000 I 4209          STA     ST1             (&BT2)                             03 03988
011467 017000 I 4210          LDA     ST2                                                03 03989
011470 124173 A 4211          ADD     GST                                                03 03990
011471 057000 I 4212          STA     ST2             (&BT3)                             03 03991
011472 017000 I 4213          LDA     ST3                                                03 03992
011473 124172 A 4214          ADD     GST                                                03 03993
011474 057000 I 4215          STA     ST3                                                03 03994
011475 001000 A 4216          JMP*    GS1             RETURN (A REG. IS POSITIVE)        03 03995
011476 111441 R
                    4217  *                                                                      03 03996
                    4218  *       THIS IS A SUBROUTINE TO GET MORE SPACE OR RETURN SPACE          03 03997
                    4219  *       TO TABLE #2.                                                   03 03998
                    4220  *       CALLING SEQUENCE                                               03 03999
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                 4221 *         LDA     +SPACE TO GET SPACE                              03 04000
                 4222 *         LDA     -SPACE TO RETURN SPACE                           03 04001
                 4223 *         JMPM    GS2                                              03 04002
                 4224 *         RETURN            A REG. IS NEGATIVE IF NO SPACE AVALIABLE  03 04003
                 4225 *                           A REG. IS POSITIVE IS SPACE AVALIABLE AND 03 04004
                 4226 *                           X REG. POINTS TO BEGIN OF SPACE           03 04005
                 4227 *                                                                  03 04006
       011477 R 4228 GS21      EQU     *                                                03 04007
011477 001000 A 4229           JMP     NOROOM       NO ROOM LEFT IN TABLE               03 04008
011500 012236 R
011501 000000 A 4230 GS2       ENTR                                                     03 04009
011502 054163 A 4231           STA     GST          SAVE INCREMENT                      03 04010
011503 127000 I 4232           ADD     ET3                                              03 04011
011504 147000 I 4233           SUB     BT4                                              03 04012
011505 001002 A 4234           JAP     GS21         JUMP IF NO ROOM                     03 04013
011506 011477 R
011507 017000 I 4235           LDA     ET2                                              03 04014
011510 054010 A 4236           STA     GS2M+1       FROM ADDRESS                        03 04015
011511 124154 A 4237           ADD     GST                                              03 04016
011512 054007 A 4238           STA     GS2M+2       TO ADDRESS                          03 04017
011513 017000 I 4239           LDA     ET3                                              03 04018
011514 147000 I 4240           SUB     ET2                                              03 04019
011515 054002 A 4241           STA     GS2M         COUNT                               03 04020
011516 002000 A 4242           JMPM    MOVW         MOVE TABLE 3 OUT OF WAY             03 04021
011517 011761 R
011520 000000 A 4243 GS2M      DATA    0            COUNT                               03 04022
011521 000000 A 4244           DATA    0            FROM ADDRESS                        03 04023
011522 000000 A 4245           DATA    0            TO ADDRESS                          03 04024
011523 017000 I 4246           LDA     ET2                                              03 04025
011524 005014 A 4247           TAX                                                      03 04026
011525 124140 A 4248           ADD     GST                                              03 04027
011526 057000 I 4249           STA     ET2          (&PT3)                              03 04028
011527 017000 I 4250           LDA     ET3                                              03 04029
011530 124135 A 4251           ADD     GST                                              03 04030
011531 057000 I 4252           STA     ET3                                              03 04031
011532 001000 A 4253           JMP*    GS2          RETURN (A REG. IS POSITIVE)         03 04032
011533 111501 R
                 4254 *                                                                  03 04033
                 4255 *         THIS IS A SUBROUTINE TO GET MORE SPACE OR RETURN SPACE   03 04034
                 4256 *         TO TABLE #3.                                             03 04035
                 4257 *         CALLING SEQUENCE                                         03 04036
                 4258 *         LDA     +SPACE TO GET SPACE                              03 04037
                 4259 *         LDA     -SPACE TO RETURN SPACE                           03 04038
                 4260 *         JMPM    GS3                                              03 04039
                 4261 *         RETURN            A REG. IS NEGATIVE IF NO SPACE AVALIABLE  03 04040
                 4262 *                           A REG. IS POSITIVE IS SPACE AVALIABLE AND 03 04041
                 4263 *                           X REG. POINTS TO BEGIN OF SPACE           03 04042
                 4264 *                                                                  03 04043
       011534 R 4265 GS31      EQU     *                                                03 04044
011534 001000 A 4266           JMP     NOROOM       NO ROOM LEFT IN TABLE               03 04045
011535 012236 R
011536 000000 A 4267 GS3       ENTR                                                     03 04046
011537 054126 A 4268           STA     GST          SAVE INCREMENT                      03 04047
011540 127000 I 4269           ADD     ET3                                              03 04048
011541 147000 I 4270           SUB     BT4                                              03 04049
011542 001002 A 4271           JAP     GS31         JUMP IF NO ROOM                     03 04050
011543 011534 R
011544 017000 I 4272           LDA     ET3                                              03 04051
011545 005014 A 4273           TAX                                                      03 04052
011546 124117 A 4274           ADD     GST                                              03 04053
011547 057000 I 4275           STA     ET3                                              03 04054
011550 001000 A 4276           JMP*    GS3          RETURN (A REG. IS POSITIVE)         03 04055
011551 111536 R
                 4277 *                                                                  03 04056
                 4278 *         THIS IS A SUBROUTINE TO GET MORE SPACE OR RETURN SPACE   03 04057
                 4279 *         TO TABLE #4.                                             03 04058
                 4280 *         CALLING SEQUENCE                                         03 04059
                 4281 *         LDA     +SPACE TO GET SPACE                              03 04060
                 4282 *         LDA     -SPACE TO RETURN SPACE                           03 04061
                 4283 *         JMPM    GS4                                              03 04062
                 4284 *         RETURN            A REG. IS NEGATIVE IF NO SPACE AVALIABLE  03 04063
                 4285 *                           A REG. IS POSITIVE IS SPACE AVALIABLE AND 03 04064
                 4286 *                           X REG. POINTS TO BEGIN OF SPACE           03 04065
                 4287 *                                                                  03 04066
       011552 R 4288 GS41      EQU     *                                                03 04067
011552 001000 A 4289           JMP     NORDOM       NO ROOM LEFT IN TABLE               03 04068
011553 012236 R
011554 000000 A 4290 GS4       ENTR                                                     03 04069
011555 054110 A 4291           STA     GST          SAVE INCREMENT                      03 04070
011556 127000 I 4292           ADD     ET3                                              03 04071
011557 147000 I 4293           SUB     BT4                                              03 04072
011560 001002 A 4294           JAP     GS41         JUMP IF NO ROOM                     03 04073
011561 011552 R
011562 017000 I 4295           LDA     BT4                                              03 04074
011563 144102 A 4296           SUB     GST                                              03 04075
011564 005014 A 4297           TAX                                                      03 04076
011565 057000 I 4298           STA     BT4                                              03 04077
011566 001000 A 4299           JMP*    GS4          RETURN (A REG. IS POSITIVE)         03 04078
011567 111554 R
                 4300 *                                                                  03 04079
                 4301 *         THIS IS A SUBROUTINE TO GET MORE SPACE OR RETURN SPACE   03 04080
                 4302 *         TO TABLE #5.                                             03 04081
                 4303 *         CALLING SEQUENCE                                         03 04082
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                    4304 *       LDA     +SPACE TO GET SPACE                                                    03 04083
                    4305 *       LDA     -SPACE TO RETURN SPACE                                                 03 04084
                    4306 *       JMPM    GS5                                                                    03 04085
                    4307 *       RETURN                  A REG. IS NEGATIVE IF NO SPACE AVALIABLE               03 04086
                    4308 *                               A REG. IS POSITIVE IS SPACE AVALIABLE AND              03 04087
                    4309 *                               X REG. POINTS TO BEGIN OF SPACE                        03 04088
                    4310 *                                                                                      03 04089
        011570  R   4311 GS51    EQU     *                                                                      03 04090
011570  001000  A   4312         JMP     NOROOM          NO ROOM LEFT IN TABLE                                  03 04091
011571  012236  R
011572  000000  A   4313 GS5     ENTR                                                                           03 04092
011573  054072  A   4314         STA     GST             SAVE INCREMENT                                         03 04093
011574  127000  I   4315         ADD     ET3                                                                    03 04094
011575  147000  I   4316         SUB     BT4                                                                    03 04095
011576  001002  A   4317         JAP     GS51            JUMP IF NO ROOM                                        03 04096
011577  011570  R
011600  017000  I   4318         LDA     BT4                                                                    03 04097
011601  054010  A   4319         STA     GS5M+1          FROM ADDRESS                                           03 04098
011602  144063  A   4320         SUB     GST                                                                    03 04099
011603  054007  A   4321         STA     GS5M+2          TO ADDRESS                                             03 04100
011604  017000  I   4322         LDA     BT5                                                                    03 04101
011605  147000  I   4323         SUB     BT4                                                                    03 04102
011606  054002  A   4324         STA     GS5M            COUNT                                                  03 04103
011607  002000  A   4325         JMPM    MOVW            MOVE TABLE 4 OUT OF WAY                                03 04104
011610  011761  R
011611  000000  A   4326 GS5M    DATA    0               COUNT                                                  03 04105
011612  000000  A   4327         DATA    0               FROM ADDRESS                                           03 04106
011613  000000  A   4328         DATA    0               TO ADDRESS                                             03 04107
011614  017000  I   4329         LDA     BT5                                                                    03 04108
011615  144050  A   4330         SUB     GST                                                                    03 04109
011616  005014  A   4331         TAX                                                                            03 04110
011617  057000  I   4332         STA     BT5             (&ET4)                                                 03 04111
011620  017000  I   4333         LDA     BT4                                                                    03 04112
011621  144044  A   4334         SUB     GST                                                                    03 04113
011622  057000  I   4335         STA     BT4                                                                    03 04114
011623  001000  A   4336         JMP*    GS5             RETURN (A REG. IS POSITIVE)                            03 04115
011624  111572  R
                    4337 *                                                                                      03 04116
                    4338 *       THIS IS A SUBROUTINE TO GET MORE SPACE OR RETURN SPACE                         03 04117
                    4339 *       TO TABLE #6.                                                                   03 04118
                    4340 *       CALLING SEQUENCE                                                               03 04119
                    4341 *       THE B-REG. PLUS THE A-REG. CONTAINS THE HIGHEST LOCATION                       03 04120
                    4342 *       IN TABLE #6 TO BE MOVED                                                        03 04121
                    4343 *       LDA     +SPACE TO GET SPACE                                                    03 04122
                    4344 *       LDA     -SPACE TO RETURN SPACE                                                 03 04123
                    4345 *       JMPM    GS6                                                                    03 04124
                    4346 *       RETURN                  A REG. IS NEGATIVE IF NO SPACE AVALIABLE               03 04125
                    4347 *                               A REG. IS POSITIVE IS SPACE AVALIABLE AND              03 04126
                    4348 *                               X REG. POINTS TO BEGIN OF SPACE                        03 04127
                    4349 *                                                                                      03 04128
        011625  R   4350 GS61    EQU     *                                                                      03 04129
011625  001000  A   4351         JMP     NOROOM          NO ROOM LEFT IN TABLE                                  03 04130
011626  012236  R
011627  000000  A   4352 GS6     ENTR                                                                           03 04131
011630  054035  A   4353         STA     GST             SAVE INCREMENT                                         03 04132
011631  127000  I   4354         ADD     ET3                                                                    03 04133
011632  147000  I   4355         SUB     BT4                                                                    03 04134
011633  001002  A   4356         JAP     GS61            JUMP IF NO ROOM                                        03 04135
011634  011625  R
011635  017000  I   4357         LDA     BT4                                                                    03 04136
011636  054011  A   4358         STA     GS6M+1          FROM ADDRESS                                           03 04137
011637  144026  A   4359         SUB     GST                                                                    03 04138
011640  054010  A   4360         STA     GS6M+2          TO ADDRESS                                             03 04139
011641  005021  A   4361         TBA                                                                            03 04140
011642  124023  A   4362         ADD     GST                                                                    03 04141
011643  147000  I   4363         SUB     BT4                                                                    03 04142
011644  054002  A   4364         STA     GS6M            COUNT                                                  03 04143
011645  002000  A   4365         JMPM    MOVW            MOVE TABLES 4&5 OUT OF WAY                             03 04144
011646  011761  R
011647  000000  A   4366 GS6M    DATA    0               COUNT                                                  03 04145
011650  000000  A   4367         DATA    0               FROM ADDRESS                                           03 04146
011651  000000  A   4368         DATA    0               TO ADDRESS                                             03 04147
011652  017000  I   4369         LDA     BT6                                                                    03 04148
011653  144012  A   4370         SUB     GST                                                                    03 04149
011654  005014  A   4371         TAX                                                                            03 04150
011655  057000  I   4372         STA     BT6             (&ET5)                                                 03 04151
011656  017000  I   4373         LDA     ET4                                                                    03 04152
011657  144006  A   4374         SUB     GST                                                                    03 04153
011660  057000  I   4375         STA     ET4             (&BT5)                                                 03 04154
011661  017000  I   4376         LDA     BT6                                                                    03 04155
011662  144003  A   4377         SUB     GST                                                                    03 04156
011663  057000  I   4378         STA     BT6                                                                    03 04157
011664  001000  A   4379         JMP*    GS6             RETURN (A REG. IS POSITIVE)                            03 04158
011665  111627  R
011666  000000  A   4380 GST     DATA    0                                                                      03 04159
                    4381 *
                    4382 *       THIS IS A SUBROUTINE TO STORE THE A-REGISTER REPEATIATELY
                    4383 *       CALLING SEQUENCE
                    4384 *       JMPM    SAR
                    4385 *       DATA    COUNT
                    4386 *       DATA    DATA ADDRESS
                    4387 *       RETURN
                    4388 *
```

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011667 034015 A 4389 SAR1   LDX     SAR          GET ADDRESS OF CALL                    03 04168
011670 005012 A 4390        TAB                  PUT A-REG. INTO B-REG.                 03 04169
011671 015000 A 4391        LDA     0,X          GET COUNT                              03 04170
011672 035001 A 4392        LDX     1,X          GET DATA ADDRESS                       03 04171
011673 005311 A 4393 SAR2   DAR                  DECREMENT COUNT                        03 04172
011674 001004 A 4394        JAN     SAR3         JUMP IF END OF COUNT                   03 04173
011675 011702 R
011676 065000 A 4395        STB     0,X          STORE 'A-REGISTER'                     03 04174
011677 005144 A 4396        IXR                  INCREMENT DATA ADDRESS                 03 04175
011700 001000 A 4397        JMP     SAR2         KEEP TRYING                            03 04176
011701 011673 R
                4398 *                                                                  03 04177
011702 044002 A 4399 SAR3   INR     SAR          ADJUST                                 03 04178
011703 044001 A 4400        INR     SAR          RETURN ADDRESS                         03 04179
011704 001000 A 4401        JMP     0            RETURN                                 03 04180
011705 000000 A
011705          4402 SAR    BES     0            ENTRY                                  03 04181
011706 001000 A 4403        JMP     SAR1                                                03 04182
011707 011667 R
                4404 *                                                                  03 04183
                4405 *      MOVE WORD SUBROUTINE                                        03 04184
                4406 *      THIS IS A 'SMART' MOVE SUBROUTINE                           03 04185
                4407 *      IF THE 'TO' AREA OVERLAPS THE 'FROM' AREA                   03 04186
                4408 *      IT WILL MOVE IN A REVERSE ORDER                             03 04187
                4409 *      CALLING SEQUENCE                                            03 04188
                4410 *      JMPM    MOVW                                                03 04189
                4411 *      DATA    COUNT                                               03 04190
                4412 *      DATA    FROM ADDRESS                                        03 04191
                4413 *      DATA    TO ADDRESS                                          03 04192
                4414 *      RETURN                                                      03 04193
                4415 *                                                                  03 04194
011710 034050 A 4416 MOV1   LDX     MOVW                                                03 04195
011711 015001 A 4417        LDA     1,1          GET 'FROM' ADDRESS                     03 04196
011712 145002 A 4418        SUB     2,1          SUBTRACT 'TO' ADDRESS                  03 04197
011713 001004 A 4419        JAN     MOVR         JUMP IF REVERSE MOVE                   03 04198
011714 011733 R
                4420 *      FORWARD MOVE                                                03 04199
011715 025001 A 4421        LDB     1,1          GET 'FROM' ADDRESS                     03 04200
011716 015000 A 4422        LDA     0,1          GET COUNT                              03 04201
011717 035002 A 4423        LDX     2,1          GET 'TO' ADDRESS                       03 04202
011720 005311 A 4424 MOV2   DAR                  DECREMENT COUNT                        03 04203
011721 001004 A 4425        JAN     MOVE         JUMP IF END OF COUNT                   03 04204
011722 011755 R
011723 054040 A 4426        STA     MOVC                                                03 04205
011724 016000 A 4427        LDA     0,2                                                 03 04206
011725 055000 A 4428        STA     0,1                                                 03 04207
011726 005122 A 4429        IDR                                                         03 04208
011727 005144 A 4430        IXR                                                         03 04209
011730 014033 A 4431        LDA     MOVC         GET COUNT                              03 04210
011731 001000 A 4432        JMP     MOV2         KEEP TRYING                            03 04211
011732 011720 R
                4433 *      REVERSE MOVE                                                03 04212
011733 015000 A 4434 MOVR   LDA     0,1          GET COUNT                              03 04213
011734 125001 A 4435        ADD     1,1          ADD 'FROM' ADDRESS                     03 04214
011735 005012 A 4436        TAB                                                         03 04215
011736 015000 A 4437        LDA     0,1          GET COUNT                              03 04216
011737 054024 A 4438        STA     MOVC         SAVE                                   03 04217
011740 125002 A 4439        ADD     2,1          ADD 'TO' ADDRESS                       03 04218
011741 005014 A 4440        TAX                                                         03 04219
011742 014021 A 4441 MOV3   LDA     MOVC                                                03 04220
011743 005311 A 4442        DAR                  DECREMENT COUNT                        03 04221
011744 001004 A 4443        JAN     MOVE         JUMP IF END OF COUNT                   03 04222
011745 011755 R
011746 054015 A 4444        STA     MOVC                                                03 04223
011747 005322 A 4445        DBR                                                         03 04224
011750 005344 A 4446        DXR                                                         03 04225
011751 016000 A 4447        LDA     0,2                                                 03 04226
011752 055000 A 4448        STA     0,1                                                 03 04227
011753 001000 A 4449        JMP     MOV3         KEEP TRYING                            03 04228
011754 011742 R
                4450 *                                                                  03 04229
011755 044003 A 4451 MOVE   INR     MOVW         ADJUST                                 03 04230
011756 044002 A 4452        INR     MOVW         RETURN                                 03 04231
011757 044001 A 4453        INR     MOVW         ADDRESS                                03 04232
011760 001000 A 4454        JMP     0            RETURN                                 03 04233
011761 000000 A
011761          4455 MOVW   BES     0            ENTRY                                  03 04234
011762 001000 A 4456        JMP     MOV1                                                03 04235
011763 011710 R
011764 000000 A 4457 MOVC   DATA    0            TEMP STORAGE FOR MOVW                  03 04236
                4458 *                                                                  03 04237
                4459 *      STORE BYTE SUBROUTINE                                       03 04238
                4460 *      CALLING SEQUENCE                                            03 04239
                4461 *      LDA     BYTE TO BE STORED IN A(7-0), A(15-8) IGNORED        03 04240
                4462 *      JMPM    SBT                                                 03 04241
                4463 *      RETURN  B-REG. AND X-REG. ARE NOT DESTROYED                 03 04242
                4464 *      A(15-8) WILL BE ZERO                                        03 04243
                4465 *      A(7-0) WILL STILL CONTAIN THE ORIGINAL BYTE                 03 04244
                4466 *                                                                  03 04245
011765 000000 A 4467 SBT    DATA    0                                                   03 04246
011766 064040 A 4468        STB     SBT3         SAVE B-REGISTER                        03 04247
011767 150000 L 4469        ANA     =0377        EXTRACT BYTE JUST IN CASE              03 04249
011770 054035 A 4470        STA     SBT1         SAVE BYTE                              03 04249
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011771 027000 I 4471          LDB     SBTA        GET STORE BYTE ADDRESS                          03 04250
011772 002000 A 4472          JMPM    BYTE        HOUSEKEEPING                                    03 04251
011773 012012 R
011774 006150 A 4473          ANAI    -256        EXTRACT                                         03 04252
011775 177400 A
011776 114027 A 4474          ORA     SBT1        PUT BYTE IN WORD                                03 04253
011777 001001 A 4475          JOF     *+3         JUMP IF RIGHT BYTE                              03 04254
012000 012002 R
012001 004250 A 4476          LRLA    8           LEFT BYTE                                       03 04255
012002 056000 A 4477          STA     0,2         STORE WORD                                      03 04256
012003 014022 A 4478          LDA     SBT1        RESTORE BYTE                                    03 04257
012004 047000 I 4479          INR     SBTA        INCREMENT STORE BYTE ADDRESS                    03 04258
012005 024021 A 4480          LDB     SBT3        RESTORE B-REGISTER                              03 04259
012006 001000 A 4481          JMP*    SBT         EXIT                                            03 04260
012007 111765 R
                4482 *                                                                            03 04261
                4483 *        LOAD BYTE AND STORE BYTE HOUSEKEEPING SUBROUTINE                    03 04262
                4484 *                                                                            03 04263
012010 016000 A 4485 BYT1     LDA     0,2         GET DATA WORD                                   03 04264
012011 001000 A 4486          JMP     0           RETURN                                          03 04265
012012 000000 A
012012          4487 BYTE     BES     0           ENTRY                                           03 04266
012013 005021 A 4488          TBA                                                               03 04267
012014 005002 A 4489          TZB                                                               03 04268
012015 004457 A 4490          LLRL    NBIT-1      COMPUTE WORD ADDRESS, DIV=2.                    03 04269
012016 007400 A 4491          ROF                                                               03 04270
012017 127000 I 4492          ADD     C2          SET OVERFLOW INDICATOR TO REFLECT A(SIGN)        03 04271
012020 001002 A 4493          JAP     BYT1        JUMP IF RIGHT BYTE                              03 04272
012021 012010 R
012022 016000 A 4494          LDA     0,2         GET DATA WORD                                   03 04273
012023 004250 A 4495          LRLA    NBIT-8      LEFT BYTE                                       03 04274
012024 001000 A 4496          JMP*    BYTE        EXIT                                            03 04275
012025 112012 R
012026 000000 A 4497 SBT1     DATA    0           TEMP STORAGE FOR SBT+LBT                        03 04276
012027 000000 A 4498 SBT3     DATA    0           TEMP STORAGE FOR SBT+LBT                        03 04277
                4499 *                                                                            03 04278
                4500 *        SUBROUTINE TO CONVERT A POSITIVE BINARY NUMBER                      03 04279
                4501 *        IN THE A-REGISTER TO FOUR ASCII CHARACTERS                          03 04280
                4502 *        IN THE A+B REGISTERS.                                               03 04281
                4503 *        RIGHT JUSTIFIED AND LEADING ZEROS SUPPRESSED.                       03 04282
                4504 *        CALLING SEQUENCE                                                    03 04283
                4505 *        LDA     BINARY                                                      03 04284
                4506 *        JMPM    B2A                                                         03 04285
                4507 *                                                                            03 04286
012030 000000 A 4508 B2A      DATA    0                                                           03 04287
012031 030000 L 4509          LDX     =TENS+3     INITIATE TABLE ADDRESS                          03 04288
012032 005002 A 4510          TZB                                                               03 04289
012033 002000 A 4511          JMPM    B2S1        SUBTRACT OFF TEN THOUSAND'S DIGIT               03 04290
012034 012075 R
012035 007400 A 4512          ROF                                                               03 04291
012036 003020 A 4513          XBZ     XSOF        SET NO LEADING ZERO IF ANY 10,000'S DIGIT       03 04292
012037 014014 R
012040 005002 A 4514          TZB                 CLEAR ACCUMULATOR                             03 04293
012041 002000 A 4515          JMPM    B2S1        SUBTRACT OFF THOUSAND'S DIGIT                   03 04294
012042 012075 R
012043 002000 A 4516          JMPM    B2S1        SUBTRACT OFF HUNDRED'S DIGIT                    03 04295
012044 012075 R
012045 002000 A 4517          JMPM    B2S1        SUBTRACT OFF TEN'S DIGIT                        03 04296
012046 012075 R
012047 005032 A 4518          MERG    032         B=B.OR.A                                        03 04297
012050 004040 A 4519          LRLB    NBIT-16     ADJUST FOR 16 BIT                               03 04298
012051 002000 A 4520          JMPM    B2AB        GET THOUSAND'S DIGIT                            03 04299
012052 012107 R
012053 004250 A 4521          LRLA    8           MOVE IT OVER AND                                03 04300
012054 005014 A 4522          TAX                 SAVE THOUSAND'S DIGIT                           03 04301
012055 002000 A 4523          JMPM    B2AB        GET HUNDRED'S DIGIT                             03 04302
012056 012107 R
012057 005054 A 4524          MERG    054         X = X .OR. A                                    03 04303
012060 002000 A 4525          JMPM    B2AB        GET TEN'S DIGIT                                 03 04304
012061 012107 R
012062 004244 A 4526          LRLA    4                                                           03 04305
012063 004444 A 4527          LLRL    4                                                           03 04306
012064 120000 L 4528          ADD     ='0'                                                        03 04307
012065 005012 A 4529          TAB                                                               03 04308
012066 005041 A 4530          TXA                                                               03 04309
012067 001000 A 4531          JMP*    B2A         RETURN                                          03 04310
012070 112030 R
                4532 *                                                                            03 04311
012071 125000 A 4533 B2S2     ADD     0,1         ADD BACK IN                                     03 04312
012072 005344 A 4534          BXR                 GET TO NEXT POWER OF TEN'S                      03 04313
012073 004044 A 4535          LRLB    4           MOVE ACCUMULATED DIGITS OVER                    03 04314
012074 001000 A 4536          JMP     0           RETURN                                          03 04315
012075 000000 A
012075          4537 B2S1     RES     0           ENTRY                                           03 04316
012076 145000 A 4538 B2S3     SUB     0,1         SUBTRACT DIVISOR                                03 04317
012077 001004 A 4539          JAN     B2S2        JUMP WHEN NEGATIVE                              03 04318
012100 012071 R
012101 005122 A 4540          IBR                 COUNT SUCESSFULL SUBTRACTIONS                   03 04319
012102 001000 A 4541          JMP     B2S3        KEEP TRYING                                     03 04320
012103 012076 R
                4542 *                                                                            03 04321
012104 007401 A 4543 B2B1     SOF                 KEEP LEADING ZERO FLAG SET                      03 04322
012105 120000 L 4544          ADD     =' '        MAKE IT AN ASCII BLANK                          03 04323
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012106 001000 A 4545          JMP     0               RETURN                                  03 04324
012107 000000 A
012107          4546 B2AB     BES     0               ENTRY                                   03 04325
012110 005001 A 4547          TZA                                                             03 04326
012111 004444 A 4548          LLRL    4               GET A CHACT                             03 04327
012112 001011 A 4549          JIF     011,B2B1        JUMP IF LEADING ZERO (AZ+0F)            03 04328
012113 012104 R
012114 007400 A 4550          R0F                     RESET LEADING ZERO FLAG                 03 04329
012115 120000 L 4551          ADD     ='0'            MAKE IT AN ASCII CHACT.                 03 04330
012116 001000 A 4552          JMP*    B2AB            RETURN                                  03 04331
012117 112107 R
                4553 *                                                                        03 04332
012120 000012 A 4554 TENS     DATA    10,100,1000,10000                                       03 04333
012121 000144 A
012122 001750 A
012123 023420 A
                4555 *                                                                        03 04334
012124 004334 R 4556 MOPT     DATA    MEX,FEX,T1,T2,T3,T4,T5                                  03 04335
012125 003635 R
012126 004507 R
012127 005004 R
012130 004772 R
012131 005026 R
012132 005033 R
                4557          IFT     V75                                     V75********
012133 005103 R 4558          PZE     V75INS          V75 INSTRUCTION SET     V75********
012134 000000 A 4559          DATA    0,0                                             03 04336
012135 000000 A
                4560 *                                                                        03 04337
        012136 R 4561 TITLE   EQU     *                                                       03 04338
012136 017000 I 4562          LDA     =BBQ            SET WORD 4 OF TITLE BLOCK               03 04339
012137 057000 I 4563          STA     TTLBLK+4        TO BLANKS                               03 04340
012140 014010 A 4564          LDA     =IGHT           SET NUMBER OF CHARS                     03 04341
012141 057000 I 4565          STA     ISM7-3          TO 8                                    03 04342
012142 002000 A 4566          CALL    ISM             INPUT IST 6 CHARACTERS OF TITLE         03 04343
012143 007474 R
012144 000117 R 4567          DATA    TTLBLK                                                  03 04344
012145 006010 A 4568          LDAI    6               RESET NUMBER OF CHARS                   03 04345
012146 000006 A
012147 057000 I 4569          STA     ISM7-3          TO 6                                    03 04346
012150 006010 A 4570          LDAI    8                                                       03 04347
012151 000010 A
        012151 R 4571 EIGHT   EQU     *-1                                                     03 04348
012152 057000 I 4572          STA     TTLBLK          RESTORE NUMBER OF CHARS                 03 04349
                4573 *                                                                        03 04350
012153 002000 A 4574          CALL    MOVW            MOVE IT INTO PAGE HEADER BUFFER         03 04351
012154 011761 R
012155 000004 A 4575          DATA    4                                                       03 04352
012156 000120 R 4576          DATA    TTLBLK+1                                                03 04353
012157 000726 R 4577          DATA    HED+24                                                  03 04354
012160 002000 A 4578          CALL    LLN             LIST THE TITLE DIRECTIVE STATEMENT      03 04355
012161 010300 R
012162 001000 A 4579          JMP     RET             AND RETURN                              03 04356
012163 007115 R
                4580 *                                                                        03 04357
                4581 *        GET SECTOR RECORD ADDRESS                                       03 04358
                4582 *                                                                        03 04359
012164 000000 A 4583 GSRCAD   ENTR                                                            03 04360
012165 001002 A 4584          JAP     GSRC01                                                  03 04361
012166 012175 R
012167 005111 A 4585          IAR                     UPDATE                                  03 04362
012170 057000 I 4586          STA     SRAF            SECTOR RECORD ADDRESS FLAG              03 04363
012171 006010 A 4587          LDAI    SBUF            GET RECORD BUFFER POINTER               03 04364
012172 000124 R
012173 001000 A 4588          JMP*    GSRCAD          RETURN                                  03 04365
012174 112164 R
                4589 *                                                                        03 04366
        012175 R 4590 GSRC01  EQU     *                                                       03 04367
012175 001010 A 4591          JAZ     GSRC02                                                  03 04368
012176 012205 R
012177 005301 A 4592          DECR    1               UPDATE                                  03 04369
012200 057000 I 4593          STA     SRAF            SECTOR RECORD ADDRESS FLAG              03 04370
012201 006010 A 4594          LDAI    SBUF+80         GET RECORD BUFFER POINTER               03 04371
012202 000244 R
012203 001000 A 4595          JMP*    GSRCAD          RETURN                                  03 04372
012204 112164 R
                4596 *                                                                        03 04373
        012205 R 4597 GSRC02  EQU     *                                                       03 04374
012205 005111 A 4598          IAR                     UPDATE                                  03 04375
012206 057000 I 4599          STA     SRAF            SECTOR RECORD ADDRESS FLAG              03 04376
012207 006010 A 4600          LDAI    SBUF+40         GET RECORD BUFFER POINTER               03 04377
012210 000174 R
012211 001000 A 4601          JMP*    GSRCAD          RETURN                                  03 04378
012212 112164 R
                4602 *                                                                        03 04379
                4603 *                                                                        03 04380
                4604 *        GET BO (G4) BUFFER MOVE ADDR                                    03 04381
                4605 *                                                                        03 04382
012213 000000 A 4606 GBOMO    ENTR                                                            03 04383
012214 001010 A 4607          JAZ     GBOM01                                                  03 04384
012215 012230 R
012216 005111 A 4608          IAR                                                             03 04385
012217 057000 I 4609          STA     GSRF            UPDATE FLAG (ALTERNATE 0 AND -1)        03 04386
```

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012220 002000 A 4610          CALL    SAR       CLEAR ALL 120 WORDS OF                    03 04387
012221 011705 R
012222 000170 A 4611          DATA    120       OBJECT OUTPUT BUFFER                      03 04388
012223 000504 R 4612          DATA    OBUF+60                                             03 04389
012224 006010 A 4613          LDAI    OBUF+60   GET 1ST MOVE ADDR                        03 04390
012225 000504 R
012226 001000 A 4614          JMP*    GBOMD     RETURN                                    03 04391
012227 112213 R
                4615 *                                                                    03 04392
        012230 R 4616 GBOMD1  EQU     *                                                   03 04393
012230 005311 A 4617          DAR                                                         03 04394
012231 057000 I 4618          STA     OSRF      UPDATE FLAG                               03 04395
012232 006010 A 4619          LDAI    OBUF+120  GET 2ND MOVE ADDR                       03 04396
012233 000600 R
012234 001000 A 4620          JMP*    GBOMD     RETURN                                    03 04397
012235 112213 R
                4621 *                                                                    03 04398
                4622 *                                                                    03 04399
                4623 *    THIS ROUTINE IS CALLED WHEN                                     03 04400
                4624 *    NO ROOM IS LEFT IN AN ASSEMBLER TABLE                           03 04401
                4625 *                                                                    03 04402
                4626 *    ALL ERRORS ENCOUNTERED ON  THE                                  03 04403
                4627 *    CURRENT STATEMENT ARE LISTED,ALONG WITH                         03 04404
                4628 *    THE 'NR' MESSAGE.                                               03 04405
                4629 *    THE ASSEMBLY IS THEN ABORTED.                                   03 04406
                4630 *                                                                    03 04407
        012236 R 4631 NOROOM  EQU     *                                                   03 04408
                4632 *                                                                    03 04409
012236 020000 L 4633          LDB     ='NR'                                               03 04410
012237 002000 A 4634          CALL    ERR                                                 03 04411
012240 007747 R
012241 017000 I 4635          LDA     OBBQ      BLANK FILL LBUF                           03 04412
012242 002000 A 4636          CALL    SAR       BEFORE USE ON PASS 1                      03 04413
012243 011705 R
012244 000074 A 4637          DATA    LBSZ                                                03 04414
012245 000314 R 4638          DATA    LBUF                                                03 04415
012246 002000 A 4639          CALL    LE        LIST MESSAGE                              03 04416
012247 010525 R
012250 001000 A 4640          JMP     STER      ABORT ASSEMBLY                            03 04417
012251 007070 R
                4641 *                                                                    03 04418
                4642 *    WRITE ONE LINE ON LO DEVICE                                     03 04419
                4643 *         CHECK AFTER WRITE                                          03 04420
                4644 *              AND BLANK FILL THE LIST BUFFER                        03 04421
                4645 *                                                                    03 04422
012252 000000 A 4646 LOWRIT   ENTR                                                        03 04423
012253 014112 A 4647          LDQ     $LIST                                               03 04424
012254 001016 A 4648          JANZ    LOWR1                                               03 04425
012255 012271 R
        012256 R 4649 LOWR01  EQU     *                                                   03 04426
                4650          WRITE   LOFCB,LO,0,1                                        03 04427
012256 006505 A
012257 011256 E
012260 100000 A
012261 010405 A
012262 000000 E
012263 000000 A
012264 000000 A
                4651 *                                                                    03 04428
012265 006010 A 4652          LDAI    LOWR01                                              03 04429
012266 012256 R
012267 002000 A 4653          CALL    STAT                                                03 04430
012270 006762 R
        012271 R 4654 LOWR1   EQU     *                                                   03 04431
012271 002000 A 4655          JMPM    CLRBUF    CLEAR LIST BUFFER                     C   03 04432
012272 012275 R
012273 001000 A 4656          JMP*    LOWRIT    RETURN                                C   03 04433
012274 112252 R
                4657 *                                                                  C   03 04434
012275 000000 A 4658 CLRBUF   ENTR                                                      C   03 04435
                4659 *                                                                    03 04436
012276 017000 I 4660          LDA     OB20      (='  ')                                   03 04437
012277 002000 A 4661          JMPM    SAR       CLEAR LIST BUFFER TO BLANKS               03 04438
012300 011705 R
012301 000074 A 4662          DATA    LBSZ                                                03 04439
012302 000314 R 4663          DATA    LBUF                                                03 04440
012303 001000 A 4664          JMP*    CLRBUF    RETURN                                C   03 04441
012304 112275 R
                4665 *                                                                    03 04442
012305 000000 A 4666 LEADER   ENTR                                                        03 04443
012306 017000 I 4667          LDA     SPOW      CHECK BINARY SUPPRESS BIT                 03 04444
012307 004256 A 4668          LRLA    NBIT-2         IN PROG. CONT. WORD                  03 04445
012310 001004 A 4669          JAN*    LEADER    SKIP BINARY OUTPUT                        03 04446
012311 112305 R
        012312 R 4670 LEADR1  EQU     *                                                   03 04447
                4671          FUNC    LDRDCB,BO,0                                         03 04448
012312 006505 A
012313 012257 E
012314 100000 A
012315 002407 A
012316 012363 R
012317 000000 A
012320 000000 A
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                    4672 *                                                                  03 04449
012321 006010 A     4673          LDAI    LEADR1                                            03 04450
012322 012312 R
012323 002000 A     4674          CALL    STAT                                              03 04451
012324 006762 R
                    4675 *                                                                  03 04452
012325 001000 A     4676          JMP*    LEADER                                            03 04453
012326 112305 R
                    4677 *                                                                  03 04454
                    4678 *                        READ NEXT SS RECORD                       03 04455
                    4679 *                                                                  03 04456
012327 000000 A     4680 SSREAD   ENTR                                                      03 04457
                    4681          READ    SSFCB,SS,0,1                                      03 04458
012330 006505 A
012331 012313 E
012332 100000 A
012333 010010 A
012334 006536 E
012335 000000 A
012336 000000 A
                    4682 *                                                                  03 04459
012337 006010 A     4683          LDAI    SSREAD+1      STATUS CHECK SS READ                03 04460
012340 012330 R
012341 002000 A     4684          CALL    STAT                                              03 04461
012342 006762 R
                    4685 *                                                                  03 04462
012343 001000 A     4686          JMP*    SSREAD        RETURN                              03 04463
012344 112327 R
                    4687 *                                                                  03 04464
                    4688 *                                                                  03 04465
                    4689 *                        PI READ AN STATUS CHECK ROUTINE           03 04466
                    4690 *                                                                  03 04467
012345 000000 A     4691 PIREAD   ENTR                                                      03 04468
                    4692          READ    PIFCB,PI,0,1  READ W. WAIT OPTION               03 04469
012346 006505 A
012347 012331 E
012350 100000 A
012351 010004 A
012352 000000 E
012353 000000 A
012354 000000 A
                    4693 *                                                                  03 04470
012355 006010 A     4694          LDAI    PIREAD+1      CHECK STATUS                        03 04471
012356 012346 R
012357 002000 A     4695          CALL    STAT          FOLLOWING THE PI READ               03 04472
012360 006762 R
                    4696 *                                                                  03 04473
012361 001000 A     4697          JMP*    PIREAD        RETURN                              03 04474
012362 112345 R
                    4698 *                                                                  03 04475
                    4699 *                                                                  03 04476
                    4700 *                        LEADER/TRAILER FUNC FCB                   03 04477
       012363 R     4701 LDRDCB   EQU     *                                                 03 04478
                    4702          DCB     60,OBUF+60,0                                      03 04479
012363 000074 A
012364 000504 R
012365 000000 A
012366 000000 A     4703 $LIST    DATA    0                                                 03 04480
                    4704 *                                                                  03 04481
                    4705 *                                                                  03 04482
                    4706 *                                                                  03 04483
                    4707 *                        BEGIN DIRECTIVE TABLE                     03 04484
                    4708 *                                                                  03 04485
012367 147722 A     4709 BDT' *   DATA    'OPS   ',0,OPG                                    03 04486
012370 143640 A
012371 120240 A
012372 000000 A
012373 001244 R
012374 147314 A     4710          DATA    'NLIS  ',0,NLIS                                   03 04487
012375 144723 A
012376 120240 A
012377 000000 A
012400 002071 R
012401 146311 A     4711          DATA    'LIST  ',0,LISTF                                  03 04488
012402 151724 A
012403 120240 A
012404 000000 A
012405 002076 R
012406 146317 A     4712          DATA    'LOC   ',0,LOC                                    03 04489
012407 141640 A
012410 120240 A
012411 000000 A
012412 001250 R
012413 141323 A     4713          DATA    'BSS   ',0,BSS                                    03 04490
012414 151640 A
012415 120240 A
012416 000000 A
012417 001267 R
012420 141303 A     4714          DATA    'BES   ',0,BES                                    03 04491
012421 151640 A
012422 120240 A
012423 000000 A
012424 001304 R
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012425 151705 A 4715          DATA    'SET   ',0,SET                    03 04492
012426 152240 A
012427 120240 A
012430 000000 A
012431 001325 R
012432 142721 A 4716          DATA    'EQU   ',0,EQU                    03 04493
012433 152640 A
012434 120240 A
012435 000000 A
012436 001326 R
012437 141701 A 4717          DATA    'CALL  ',0,CALL                   03 04494
012440 146314 A
012441 120240 A
012442 000000 A
012443 001342 R
012444 146732 A 4718          DATA    'MZE   ',0,MZE                    03 04495
012445 142640 A
012446 120240 A
012447 000000 A
012450 001360 R
012451 150332 A 4719          DATA    'PZE   ',0,PZE                    03 04496
012452 142640 A
012453 120240 A
012454 000000 A
012455 001361 R
012456 142301 A 4720          DATA    'DATA  ',0,DATA                   03 04497
012457 152301 A
012460 120240 A
012461 000000 A
012462 001362 R
012463 147325 A 4721          DATA    'NULL  ',0,NULL                   03 04498
012464 146314 A
012465 120240 A
012466 000000 A
012467 001723 R
012470 141717 A 4722          DATA    'COMN  ',0,COMN                   03 04499
012471 146716 A
012472 120240 A
012473 000000 A
012474 001731 R
012475 142730 A 4723          DATA    'EXT   ',0,EXT                    03 04500
012476 152240 A
012477 120240 A
012500 000000 A
012501 001750 R
012502 147301 A 4724          DATA    'NAME  ',0,NAME                   03 04501
012503 146705 A
012504 120240 A
012505 000000 A
012506 001767 R
012507 151715 A 4725          DATA    'SMRY  ',0,SMRY                   03 04502
012510 151331 A
012511 120240 A
012512 000000 A
012513 002045 R
012514 142305 A 4726          DATA    'DETL  ',0,DETL                   03 04503
012515 152314 A
012516 120240 A
012517 000000 A
012520 002046 R
012521 141717 A 4727          DATA    'CONT  ',0,CONT                   03 04504
012522 147324 A
012523 120240 A
012524 000000 A
012525 002065 R
012526 142712 A 4728          DATA    'EJEC  ',0,EJEC                   03 04505
012527 142703 A
012530 120240 A
012531 000000 A
012532 002051 R
012533 151720 A 4729          DATA    'SPAC  ',0,SPAC                   03 04506
012534 140703 A
012535 120240 A
012536 000000 A
012537 002104 R
012540 143717 A 4730          DATA    'GOTO  ',0,GOTO                   03 04507
012541 152317 A
012542 120240 A
012543 000000 A
012544 002110 R
012545 147720 A 4731          DATA    'OPSY  ',0,OPSY                   03 04508
012546 151731 A
012547 120240 A
012550 000000 A
012551 002241 R
012552 142325 A 4732          DATA    'DUP   ',0,DUP                    03 04509
012553 150240 A
012554 120240 A
012555 000000 A
012556 002312 R
012557 144706 A 4733          DATA    'IFT   ',0,IFT                    03 04510
012560 152240 A
012561 120240 A
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012562 000000 A
012563 002455 R
012564 144706 A 4734          DATA    'IFF   ',0,IFF                                  03 04511
012565 143240 A
012566 120240 A
012567 000000 A
012570 002456 R
012571 142716 A 4735          DATA    'END   ',0,END                                  03 04512
012572 142240 A
012573 120240 A
012574 000000 A
012575 002563 R
012576 143317 A 4736          DATA    'FORM  ',0,FORM                                 03 04513
012577 151315 A
012600 120240 A
012601 000000 A
012602 003535 R
012603 146701 A 4737          DATA    'MAC   ',0,MAC                                  03 04514
012604 141640 A
012605 120240 A
012606 000000 A
012607 003735 R
012610 142715 A 4738          DATA    'EMAC  ',0,EMAC                                 03 04515
012611 140703 A
012612 120240 A
012613 000000 A
012614 004455 R
                4739 *                          TITLE DIRECTIVE FOR                   03 04516
                4740 *                              VORTEX PAGE HEADER                03 04517
012615 152311 A 4741          DATA    'TITLE ',0,TITLE                                03 04518
012616 152314 A
012617 142640 A
012620 000000 A
012621 012136 R
                4742 *                                                                03 04519
                4743 *                                                                03 04520
                4744 *                                                                03 04521
                4745 *          END DIRECTIVE TABLE                                   03 04522
                4746 *                                                                03 04523
                4747 *          BEGIN INSTRUCTION TABLE                               03 04524
                4748 *                                                                03 04525
                4749 *      TYPE 1 INSTRUCTIONS                                       03 04526
                4750 *                                                                03 04527
012622 146304 A 4751          DATA    'LDA   ',06000,010000                           03 04528
012623 140640 A
012624 120240 A
012625 006000 A
012626 010000 A
012627 146304 A 4752          DATA    'LDB   ',06000,020000                           03 04529
012630 141240 A
012631 120240 A
012632 006000 A
012633 020000 A
012634 146304 A 4753          DATA    'LDX   ',06000,030000                           03 04530
012635 154240 A
012636 120240 A
012637 006000 A
012640 030000 A
012641 151724 A 4754          DATA    'STA   ',06000,050000                           03 04531
012642 140640 A
012643 120240 A
012644 006000 A
012645 050000 A
012646 151724 A 4755          DATA    'STB   ',06000,060000                           03 04532
012647 141240 A
012650 120240 A
012651 006000 A
012652 060000 A
012653 151724 A 4756          DATA    'STX   ',06000,070000                           03 04533
012654 154240 A
012655 120240 A
012656 006000 A
012657 070000 A
012660 140704 A 4757          DATA    'ADD   ',06000,0120000                          03 04534
012661 142240 A
012662 120240 A
012663 006000 A
012664 120000 A
012665 151725 A 4758          DATA    'SUB   ',06000,0140000                          03 04535
012666 141240 A
012667 120240 A
012670 006000 A
012671 140000 A
012672 144716 A 4759          DATA    'INR   ',06000,040000                           03 04536
012673 151240 A
012674 120240 A
012675 006000 A
012676 040000 A
012677 142722 A 4760          DATA    'ERA   ',06000,0130000                          03 04537
012700 140640 A
012701 120240 A
012702 006000 A
012703 130000 A
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012704 147722 A 4761          DATA    'DRA  ',06000,0110000                    03 04538
012705 140640 A
012706 120240 A
012707 006000 A
012710 110000 A
012711 140716 A 4762          DATA    'ANA  ',06000,0150000                    03 04539
012712 140640 A
012713 120240 A
012714 006000 A
012715 150000 A
012716 146725 A 4763          DATA    'MUL  ',06000,0160000                    03 04540
012717 146240 A
012720 120240 A
012721 006000 A
012722 160000 A
012723 142311 A 4764          DATA    'DIV  ',06000,0170000                    03 04541
012724 153240 A
012725 120240 A
012726 006000 A
012727 170000 A
                4765 *                                                         03 04542
                4766 *        TYPE 2 INSTRUCTIONS                              03 04543
                4767 *                                                         03 04544
012730 151305 A 4768          DATA    'RETU  ',010000,01000                    03 04545
012731 152325 A
012732 120240 A
012733 010000 A
012734 001000 A
012735 146304 A 4769          DATA    'LDAI  ',010000,06010                    03 04546
012736 140711 A
012737 120240 A
012740 010000 A
012741 006010 A
012742 146304 A 4770          DATA    'LDBI  ',010000,06020                    03 04547
012743 141311 A
012744 120240 A
012745 010000 A
012746 006020 A
012747 146304 A 4771          DATA    'LDXI  ',010000,06030                    03 04548
012750 154311 A
012751 120240 A
012752 010000 A
012753 006030 A
012754 151724 A 4772          DATA    'STAI  ',010000,06050                    03 04549
012755 140711 A
012756 120240 A
012757 010000 A
012760 006050 A
012761 151724 A 4773          DATA    'STBI  ',010000,06060                    03 04550
012762 141311 A
012763 120240 A
012764 010000 A
012765 006060 A
012766 151724 A 4774          DATA    'STXI  ',010000,06070                    03 04551
012767 154311 A
012770 120240 A
012771 010000 A
012772 006070 A
012773 140704 A 4775          DATA    'ADDI  ',010000,06120                    03 04552
012774 142311 A
012775 120240 A
012776 010000 A
012777 006120 A
013000 151725 A 4776          DATA    'SUBI  ',010000,06140                    03 04553
013001 141311 A
013002 120240 A
013003 010000 A
013004 006140 A
013005 144716 A 4777          DATA    'INRI  ',010000,06040                    03 04554
013006 151311 A
013007 120240 A
013010 010000 A
013011 006040 A
013012 142722 A 4778          DATA    'ERAI  ',010000,06130                    03 04555
013013 140711 A
013014 120240 A
013015 010000 A
013016 006130 A
013017 147722 A 4779          DATA    'DRAI  ',010000,06110                    03 04556
013020 140711 A
013021 120240 A
013022 010000 A
013023 006110 A
013024 140716 A 4780          DATA    'ANAI  ',010000,06150                    03 04557
013025 140711 A
013026 120240 A
013027 010000 A
013030 006150 A
013031 146725 A 4781          DATA    'MULI  ',010000,06160                    03 04558
013032 146311 A
013033 120240 A
013034 010000 A
013035 006160 A
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013036 142311 A 4782          DATA    'DIVI  ',010000,06170                    03 04559
013037 153311 A
013040 120240 A
013041 010000 A
013042 006170 A
013043 145315 A 4783          DATA    'JMP   ',010000,01000                    03 04560
013044 150240 A
013045 120240 A
013046 010000 A
013047 001000 A
013050 145317 A 4784          DATA    'JDF   ',010000,01001                    03 04561
013051 143240 A
013052 120240 A
013053 010000 A
013054 001001 A
013055 145301 A 4785          DATA    'JAN   ',010000,01004                    03 04562
013056 147240 A
013057 120240 A
013060 010000 A
013061 001004 A
013062 145301 A 4786          DATA    'JAP   ',010000,01002                    03 04563
013063 150240 A
013064 120240 A
013065 010000 A
013066 001002 A
013067 145301 A 4787          DATA    'JAZ   ',010000,01010                    03 04564
013070 155240 A
013071 120240 A
013072 010000 A
013073 001010 A
013074 145302 A 4788          DATA    'JBZ   ',010000,01020                    03 04565
013075 155240 A
013076 120240 A
013077 010000 A
013100 001020 A
013101 145330 A 4789          DATA    'JXZ   ',010000,01040                    03 04566
013102 155240 A
013103 120240 A
013104 010000 A
013105 001040 A
013106 145323 A 4790          DATA    'JSS1  ',010000,01100                    03 04567
013107 151661 A
013110 120240 A
013111 010000 A
013112 001100 A
013113 145323 A 4791          DATA    'JSS2  ',010000,01200                    03 04568
013114 151662 A
013115 120240 A
013116 010000 A
013117 001200 A
013120 145323 A 4792          DATA    'JSS3  ',010000,01400                    03 04569
013121 151663 A
013122 120240 A
013123 010000 A
013124 001400 A
013125 145315 A 4793          DATA    'JMPM  ',010000,02000                    03 04570
013126 150315 A
013127 120240 A
013130 010000 A
013131 002000 A
013132 145317 A 4794          DATA    'JDFM  ',010000,02001                    03 04571
013133 143315 A
013134 120240 A
013135 010000 A
013136 002001 A
013137 145301 A 4795          DATA    'JANM  ',010000,02004                    03 04572
013140 147315 A
013141 120240 A
013142 010000 A
013143 002004 A
013144 145301 A 4796          DATA    'JAPM  ',010000,02002                    03 04573
013145 150315 A
013146 120240 A
013147 010000 A
013150 002002 A
013151 145301 A 4797          DATA    'JAZM  ',010000,02010                    03 04574
013152 155315 A
013153 120240 A
013154 010000 A
013155 002010 A
013156 145302 A 4798          DATA    'JBZM  ',010000,02020                    03 04575
013157 155315 A
013160 120240 A
013161 010000 A
013162 002020 A
013163 145330 A 4799          DATA    'JXZM  ',010000,02040                    03 04576
013164 155315 A
013165 120240 A
013166 010000 A
013167 002040 A
013170 145323 A 4800          DATA    'JS1M  ',010000,02100                    03 04577
013171 130715 A
013172 120240 A
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013173 010000 A
013174 002100 A
013175 145323 A 4801        DATA    'JS2M   ',010000,02200                  03 04578
013176 131315 A
013177 120240 A
013200 010000 A
013201 002200 A
013202 145323 A 4802        DATA    'JS3M   ',010000,02400                  03 04579
013203 131715 A
013204 120240 A
013205 010000 A
013206 002400 A
013207 154303 A 4803        DATA    'XEC    ',010000,03000                  03 04580
013210 141640 A
013211 120240 A
013212 010000 A
013213 003000 A
013214 154317 A 4804        DATA    'XOF    ',010000,03001                  03 04581
013215 143240 A
013216 120240 A
013217 010000 A
013220 003001 A
013221 154301 A 4805        DATA    'XAM    ',010000,03004                  03 04582
013222 147240 A
013223 120240 A
013224 010000 A
013225 003004 A
013226 154301 A 4806        DATA    'XAP    ',010000,03002                  03 04583
013227 150240 A
013230 120240 A
013231 010000 A
013232 003002 A
013233 154301 A 4807        DATA    'XAZ    ',010000,03010                  03 04584
013234 155240 A
013235 120240 A
013236 010000 A
013237 003010 A
013240 154302 A 4808        DATA    'XBZ    ',010000,03020                  03 04585
013241 155240 A
013242 120240 A
013243 010000 A
013244 003020 A
013245 154330 A 4809        DATA    'XXZ    ',010000,03040                  03 04586
013246 155240 A
013247 120240 A
013250 010000 A
013251 003040 A
013252 154323 A 4810        DATA    'XS1    ',010000,03100                  03 04587
013253 130640 A
013254 120240 A
013255 010000 A
013256 003100 A
013257 154323 A 4811        DATA    'XS2    ',010000,03200                  03 04588
013260 131240 A
013261 120240 A
013262 010000 A
013263 003200 A
013264 154323 A 4812        DATA    'XS3    ',010000,03400                  03 04589
013265 131640 A
013266 120240 A
013267 010000 A
013270 003400 A
013271 154317 A 4813        DATA    'XOFN   ',010000,03007                  03 04590
013272 143316 A
013273 120240 A
013274 010000 A
013275 003007 A
013276 154301 A 4814        DATA    'XAMZ   ',010000,03016                  03 04591
013277 147332 A
013300 120240 A
013301 010000 A
013302 003016 A
013303 154302 A 4815        DATA    'XBMZ   ',010000,03026                  03 04592
013304 147332 A
013305 120240 A
013306 010000 A
013307 003026 A
013310 154330 A 4816        DATA    'XXMZ   ',010000,03046                  03 04593
013311 147332 A
013312 120240 A
013313 010000 A
013314 003046 A
013315 154323 A 4817        DATA    'XS1M   ',010000,03106                  03 04594
013316 130716 A
013317 120240 A
013320 010000 A
013321 003106 A
013322 154323 A 4818        DATA    'XS2M   ',010000,03206                  03 04595
013323 131316 A
013324 120240 A
013325 010000 A
013326 003206 A
013327 154323 A 4819        DATA    'XS3M   ',010000,03406                  03 04596
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013330  131716  A
013331  120240  A
013332  010000  A
013333  003406  A
013334  145317  A 4820          DATA    'JOFNM ',010000,02007                    03 04597
013335  143316  A
013336  146640  A
013337  010000  A
013340  002007  A
013341  145301  A 4821          DATA    'JANZM ',010000,02016                    03 04598
013342  147332  A
013343  146640  A
013344  010000  A
013345  002016  A
013346  145302  A 4822          DATA    'JBNZM ',010000,02026                    03 04599
013347  147332  A
013350  146640  A
013351  010000  A
013352  002026  A
013353  145330  A 4823          DATA    'JXNZM ',010000,02046                    03 04600
013354  147332  A
013355  146640  A
013356  010000  A
013357  002046  A
013360  145323  A 4824          DATA    'JS1NM ',010000,02106                    03 04601
013361  130716  A
013362  146640  A
013363  010000  A
013364  002106  A
013365  145323  A 4825          DATA    'JS2NM ',010000,02206                    03 04602
013366  131316  A
013367  146640  A
013370  010000  A
013371  002206  A
013372  145323  A 4826          DATA    'JS3NM ',010000,02406                    03 04603
013373  131716  A
013374  146640  A
013375  010000  A
013376  002406  A
013377  145317  A 4827          DATA    'JOFN  ',010000,01007                    03 04604
013400  143316  A
013401  120240  A
013402  010000  A
013403  001007  A
013404  145301  A 4828          DATA    'JANZ  ',010000,01016                    03 04605
013405  147332  A
013406  120240  A
013407  010000  A
013410  001016  A
013411  145302  A 4829          DATA    'JBNZ  ',010000,01026                    03 04606
013412  147332  A
013413  120240  A
013414  010000  A
013415  001026  A
013416  145330  A 4830          DATA    'JXNZ  ',010000,01046                    03 04607
013417  147332  A
013420  120240  A
013421  010000  A
013422  001046  A
013423  145323  A 4831          DATA    'JS1N  ',010000,01106                    03 04608
013424  130716  A
013425  120240  A
013426  010000  A
013427  001106  A
013430  145323  A 4832          DATA    'JS2N  ',010000,01206                    03 04609
013431  131316  A
013432  120240  A
013433  010000  A
013434  001206  A
013435  145323  A 4833          DATA    'JS3N  ',010000,01406                    03 04610
013436  131716  A
013437  120240  A
013440  010000  A
013441  001406  A
                  4834 *                                                         03 04611
                  4835 *        TYPE 3 INSTRUCTIONS                              03 04612
                  4836 *                                                         03 04613
013442  145311  A 4837          DATA    'JIF   ',013777,01000                    03 04614
013443  143240  A
013444  120240  A
013445  013777  A
013446  001000  A
013447  145315  A 4838          DATA    'JMIF  ',013777,02000                    03 04615
013450  144706  A
013451  120240  A
013452  013777  A
013453  002000  A
013454  145311  A 4839          DATA    'JIFM  ',013777,02000                    03 04616
013455  143315  A
013456  120240  A
013457  013777  A
013460  002000  A
013461  154311  A 4840          DATA    'XIF   ',013777,03000                    03 04617
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013462 143240 A
013463 120240 A
013464 013777 A
013465 003000 A
013466 151705 A 4841        DATA    'SEN   ',013777,0101000                    03 04618
013467 147240 A
013470 120240 A
013471 013777 A
013472 101000 A
013473 144715 A 4842        DATA    'IME   ',013777,0102000                    03 04619
013474 142640 A
013475 120240 A
013476 013777 A
013477 102000 A
013500 147715 A 4843        DATA    'OME   ',013777,0103000                    03 04620
013501 142640 A
013502 120240 A
013503 013777 A
013504 103000 A
013505 141324 A 4844        DATA    'BT    ',012077,06400                      03 04621
013506 120240 A
013507 120240 A
013510 012077 A
013511 006400 A
                4845 *                                                         03 04622
                4846 *      TYPE 4 INSTRUCTIONS                                03 04623
                4847 *                                                         03 04624
013512 142716 A 4848        DATA    'ENTR  ',014000,0                          03 04625
013513 152322 A
013514 120240 A
013515 014000 A
013516 000000 A
013517 152332 A 4849        DATA    'TZA   ',014000,05001                      03 04626
013520 140640 A
013521 120240 A
013522 014000 A
013523 005001 A
013524 152332 A 4850        DATA    'TZB   ',014000,05002                      03 04627
013525 141240 A
013526 120240 A
013527 014000 A
013530 005002 A
013531 152332 A 4851        DATA    'TZX   ',014000,05004                      03 04628
013532 154240 A
013533 120240 A
013534 014000 A
013535 005004 A
013536 144701 A 4852        DATA    'IAR   ',014000,05111                      03 04629
013537 151240 A
013540 120240 A
013541 014000 A
013542 005111 A
013543 144702 A 4853        DATA    'IBR   ',014000,05122                      03 04630
013544 151240 A
013545 120240 A
013546 014000 A
013547 005122 A
013550 144730 A 4854        DATA    'IXR   ',014000,05144                      03 04631
013551 151240 A
013552 120240 A
013553 014000 A
013554 005144 A
013555 142301 A 4855        DATA    'DAR   ',014000,05311                      03 04632
013556 151240 A
013557 120240 A
013560 014000 A
013561 005311 A
013562 142302 A 4856        DATA    'DBR   ',014000,05322                      03 04633
013563 151240 A
013564 120240 A
013565 014000 A
013566 005322 A
013567 142330 A 4857        DATA    'DXR   ',014000,05344                      03 04634
013570 151240 A
013571 120240 A
013572 014000 A
013573 005344 A
013574 141720 A 4858        DATA    'CPA   ',014000,05211                      03 04635
013575 140640 A
013576 120240 A
013577 014000 A
013600 005211 A
013601 141720 A 4859        DATA    'CPB   ',014000,05222                      03 04636
013602 141240 A
013603 120240 A
013604 014000 A
013605 005222 A
013606 141720 A 4860        DATA    'CPX   ',014000,05244                      03 04637
013607 154240 A
013610 120240 A
013611 014000 A
013612 005244 A
013612          4861 XCPX   BES     0                                          03 04638
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013613 152301 A 4862          DATA    'TAB    ',014000,05012                          03 04639
013614 141240 A
013615 120240 A
013616 014000 A
013617 005012 A
013620 152302 A 4863          DATA    'TBA    ',014000,05021                          03 04640
013621 140640 A
013622 120240 A
013623 014000 A
013624 005021 A
013625 152301 A 4864          DATA    'TAX    ',014000,05014                          03 04641
013626 154240 A
013627 120240 A
013630 014000 A
013631 005014 A
013632 152330 A 4865          DATA    'TXA    ',014000,05041                          03 04642
013633 140640 A
013634 120240 A
013635 014000 A
013636 005041 A
013637 152302 A 4866          DATA    'TBX    ',014000,05024                          03 04643
013640 154240 A
013641 120240 A
013642 014000 A
013643 005024 A
013644 152330 A 4867          DATA    'TXB    ',014000,05042                          03 04644
013645 141240 A
013646 120240 A
013647 014000 A
013650 005042 A
013651 152323 A 4868          DATA    'TSA    ',014000,07402                          03 04645
013652 140640 A
013653 120240 A
013654 014000 A
013655 007402 A
013656 146323 A 4869          DATA    'LSRA   ',014037,04340                          03 04646
013657 151301 A
013660 120240 A
013661 014037 A
013662 004340 A
013663 146323 A 4870          DATA    'LSRB   ',014037,04140                          03 04647
013664 151302 A
013665 120240 A
013666 014037 A
013667 004140 A
013670 146322 A 4871          DATA    'LRLA   ',014037,04240                          03 04648
013671 146301 A
013672 120240 A
013673 014037 A
013674 004240 A
013675 146322 A 4872          DATA    'LRLB   ',014037,04040                          03 04649
013676 146302 A
013677 120240 A
013700 014037 A
013701 004040 A
013702 140723 A 4873          DATA    'ASRA   ',014037,04300                          03 04650
013703 151301 A
013704 120240 A
013705 014037 A
013706 004300 A
013707 140723 A 4874          DATA    'ASRB   ',014037,04100                          03 04651
013710 151302 A
013711 120240 A
013712 014037 A
013713 004100 A
013714 140723 A 4875          DATA    'ASLA   ',014037,04200                          03 04652
013715 146301 A
013716 120240 A
013717 014037 A
013720 004200 A
013721 140723 A 4876          DATA    'ASLB   ',014037,04000                          03 04653
013722 146302 A
013723 120240 A
013724 014037 A
013725 004000 A
013726 146314 A 4877          DATA    'LLSR   ',014037,04540                          03 04654
013727 151722 A
013730 120240 A
013731 014037 A
013732 004540 A
013733 146314 A 4878          DATA    'LLRL   ',014037,04440                          03 04655
013734 151314 A
013735 120240 A
013736 014037 A
013737 004440 A
013740 146301 A 4879          DATA    'LASR   ',014037,04500                          03 04656
013741 151722 A
013742 120240 A
013743 014037 A
013744 004500 A
013745 146301 A 4880          DATA    'LASL   ',014037,04400                          03 04657
013746 151714 A
013747 120240 A
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013750 014037 A
013751 004400 A
013752 140717 A 4881          DATA    'ADFA  ',014000,05511                    03 04658
013753 143301 A
013754 120240 A
013755 014000 A
013756 005511 A
013757 140717 A 4882          DATA    'ADFB  ',014000,05522                    03 04659
013760 143302 A
013761 120240 A
013762 014000 A
013763 005522 A
013764 140717 A 4883          DATA    'ADFX  ',014000,05544                    03 04660
013765 143330 A
013766 120240 A
013767 014000 A
013770 005544 A
013771 151717 A 4884          DATA    'SDFA  ',014000,05711                    03 04661
013772 143301 A
013773 120240 A
013774 014000 A
013775 005711 A
013776 151717 A 4885          DATA    'SDFB  ',014000,05722                    03 04662
013777 143302 A
014000 120240 A
014001 014000 A
014002 005722 A
014003 151717 A 4886          DATA    'SDFX  ',014000,05744                    03 04663
014004 143330 A
014005 120240 A
014006 014000 A
014007 005744 A
014010 151717 A 4887          DATA    'SDF   ',014000,07401                    03 04664
014011 143240 A
014012 120240 A
014013 014000 A
014014 007401 A
014014          4888 XSDF     BES     0                                        03 04665
014015 151317 A 4889          DATA    'RDF   ',014000,07400                    03 04666
014016 143240 A
014017 120240 A
014020 014000 A
014021 007400 A
014022 144314 A 4890          DATA    'HLT   ',014777,0                        03 04667
014023 152240 A
014024 120240 A
014025 014777 A
014026 000000 A
014027 147317 A 4891          DATA    'NOP   ',014000,00000                    03 04668
014030 150240 A
014031 120240 A
014032 014000 A
014033 005000 A
014034 142730 A 4892          DATA    'EXC   ',014777,0100000                  03 04669
014035 141640 A
014036 120240 A
014037 014777 A
014040 100000 A
014041 151705 A 4893          DATA    'SEL   ',014777,0100000                  03 04670
014042 146240 A
014043 120240 A
014044 014777 A
014045 100000 A
014046 142730 A 4894          DATA    'EXC2  ',014777,0104000                  03 04671
014047 141662 A
014050 120240 A
014051 014777 A
014052 104000 A
014053 151705 A 4895          DATA    'SEL2  ',014777,0104000                  03 04672
014054 146262 A
014055 120240 A
014056 014777 A
014057 104000 A
014060 144716 A 4896          DATA    'INA   ',014077,0102100                  03 04673
014061 140640 A
014062 120240 A
014063 014077 A
014064 102100 A
014065 144716 A 4897          DATA    'INB   ',014077,0102200                  03 04674
014066 141240 A
014067 120240 A
014070 014077 A
014071 102200 A
014072 144716 A 4898          DATA    'INAB  ',014077,0102300                  03 04675
014073 140702 A
014074 120240 A
014075 014077 A
014076 102300 A
014077 141711 A 4899          DATA    'CIA   ',014077,0102500                  03 04676
014100 140640 A
014101 120240 A
014102 014077 A
014103 102500 A
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014104 141711 A 4900          DATA    'CIB   ',014077,0102600                    03 04677
014105 141240 A
014106 120240 A
014107 014077 A
014110 102600 A
014111 141711 A 4901          DATA    'CIAB  ',014077,0102700                    03 04678
014112 140702 A
014113 120240 A
014114 014077 A
014115 102700 A
014116 147701 A 4902          DATA    'DAR   ',014077,0103100                    03 04679
014117 151240 A
014120 120240 A
014121 014077 A
014122 103100 A
014123 147702 A 4903          DATA    'DBR   ',014077,0103200                    03 04680
014124 151240 A
014125 120240 A
014126 014077 A
014127 103200 A
014130 147701 A 4904          DATA    'DAB   ',014077,0103300                    03 04681
014131 141240 A
014132 120240 A
014133 014077 A
014134 103300 A
014135 155305 A 4905          DATA    'ZERO  ',014777,05000                      03 04682
014136 151317 A
014137 120240 A
014140 014777 A
014141 005000 A
014142 146705 A 4906          DATA    'MERG  ',014777,05000                      03 04683
014143 151307 A
014144 120240 A
014145 014777 A
014146 005000 A
014147 146705 A 4907          DATA    'MERGE ',014777,05000                      03 04684
014150 151307 A
014151 142640 A
014152 014777 A
014153 005000 A
014154 142305 A 4908          DATA    'DECR  ',014777,05300                      03 04685
014155 141722 A
014156 120240 A
014157 014777 A
014160 005300 A
014161 141717 A 4909          DATA    'COMP  ',014777,05200                      03 04686
014162 146720 A
014163 120240 A
014164 014777 A
014165 005200 A
014166 141717 A 4910          DATA    'COMPL ',014777,05200                      03 04687
014167 146720 A
014170 146240 A
014171 014777 A
014172 005200 A
014173 144716 A 4911          DATA    'INCR  ',014777,05100                      03 04688
014174 141722 A
014175 120240 A
014176 014777 A
014177 005100 A
                4912 *                                                           03 04689
                4913 *        TYPE 5 INSTRUCTIONS                                03 04690
                4914 *                                                           03 04691
014200 146304 A 4915          DATA    'LDAE  ',016200,06017                      03 04692
014201 140705 A
014202 120240 A
014203 016200 A
014204 006017 A
014205 146304 A 4916          DATA    'LDBE  ',016200,06027                      03 04693
014206 141305 A
014207 120240 A
014210 016200 A
014211 006027 A
014212 146304 A 4917          DATA    'LDXE  ',016200,06037                      03 04694
014213 154305 A
014214 120240 A
014215 016200 A
014216 006037 A
014217 151724 A 4918          DATA    'STAE  ',016200,06057                      03 04695
014220 140705 A
014221 120240 A
014222 016200 A
014223 006057 A
014224 151724 A 4919          DATA    'STBE  ',016200,06067                      03 04696
014225 141305 A
014226 120240 A
014227 016200 A
014230 006067 A
014231 151724 A 4920          DATA    'STXE  ',016200,06077                      03 04697
014232 154305 A
014233 120240 A
014234 016200 A
014235 006077 A
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014236 144716 A 4921          DATA    'INRE  ',016200,06047                    03 04698
014237 151305 A
014240 120240 A
014241 016200 A
014242 006047 A
014243 140704 A 4922          DATA    'ADDE  ',016200,06127                    03 04699
014244 142305 A
014245 120240 A
014246 016200 A
014247 006127 A
014250 151723 A 4923          DATA    'SUBE  ',016200,06147                    03 04700
014251 141305 A
014252 120240 A
014253 016200 A
014254 006147 A
014255 147722 A 4924          DATA    'DRAE  ',016200,06117                    03 04701
014256 140705 A
014257 120240 A
014260 016200 A
014261 006117 A
014262 142722 A 4925          DATA    'ERAE  ',016200,06137                    03 04702
014263 140705 A
014264 120240 A
014265 016200 A
014266 006137 A
014267 140716 A 4926          DATA    'ANAE  ',016200,06157                    03 04703
014270 140705 A
014271 120240 A
014272 016200 A
014273 006157 A
014274 146725 A 4927          DATA    'MULE  ',016200,06167                    03 04704
014275 146305 A
014276 120240 A
014277 016200 A
014300 006167 A
014301 142311 A 4928          DATA    'DIVE  ',016200,06177                    03 04705
014302 153305 A
014303 120240 A
014304 016200 A
014305 006177 A
014306 144712 A 4929          DATA    'IJMP  ',016000,06707                    03 04706
014307 146720 A
014310 120240 A
014311 016000 A
014312 006707 A
014313 145323 A 4930          DATA    'JSR   ',016000,06507                    03 04707
014314 151240 A
014315 120240 A
014316 016000 A
014317 006507 A
014320 151722 A 4931          DATA    'SRE   ',016070,06607                    03 04708
014321 142640 A
014322 120240 A
014323 016070 A
014324 006607 A
                4932 *                                                         V75********
                4933 * V75 INSTRUCTIONS                                       V75********
                4934 *                                                         V75********
                4935          IFF     V75                                      V75********
                4936          GOTO    1                                        V75********
                4937 *                                                         V75********
                4938 * TYPE 0                                                  V75********
                4939 *                                                         V75********
014325 146304 A 4940          DATA    'LD    ',020000,07000                    V75********
014326 120240 A
014327 120240 A
014330 020000 A
014331 007000 A
014332 151724 A 4941          DATA    'ST    ',020000,07100                    V75********
014333 120240 A
014334 120240 A
014335 020000 A
014336 007100 A
014337 140704 A 4942          DATA    'AD    ',020000,07200                    V75********
014340 120240 A
014341 120240 A
014342 020000 A
014343 007200 A
014344 151702 A 4943          DATA    'SB    ',020000,07300                    V75********
014345 120240 A
014346 120240 A
014347 020000 A
014350 007300 A
                4944 *                                                         V75********
                4945 * TYPE 1                                                  V75********
                4946 *                                                         V75********
014351 146302 A 4947          DATA    'LBT   ',020001,07460                    V75********
014352 152240 A
014353 120240 A
014354 020001 A
014355 007460 A
014356 151702 A 4948          DATA    'SBT   ',020001,07470                    V75********
014357 152240 A
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014360  120240  A
014361  020001  A
014362  007470  A
                    4949  *                                                                    V75********
                    4950  *  TYPE 2                                                            V75********
                    4951  *                                                                    V75********
014363  145332  A 4952          DATA    'JZ     ',020002,06720                                 V75********
014364  120240  A
014365  120240  A
014366  020002  A
014367  006720  A
014370  145316  A 4953          DATA    'JNZ    ',020002,06730                                 V75********
014371  155240  A
014372  120240  A
014373  020002  A
014374  006730  A
014375  145316  A 4954          DATA    'JN     ',020002,06740                                 V75********
014376  120240  A
014377  120240  A
014400  020002  A
014401  006740  A
014402  145320  A 4955          DATA    'JP     ',020002,06750                                 V75********
014403  120240  A
014404  120240  A
014405  020002  A
014406  006750  A
                    4956  *                                                                    V75********
                    4957  *  TYPE 3                                                            V75********
                    4958  *                                                                    V75********
014407  145304  A 4959          DATA    'JDZ    ',020003,06760                                 V75********
014410  155240  A
014411  120240  A
014412  020003  A
014413  006760  A
014414  145304  A 4960          DATA    'JDNZ   ',020003,06770                                 V75********
014415  147332  A
014416  120240  A
014417  020003  A
014420  006770  A
                    4961  *                                                                    V75********
                    4962  *  TYPE 4                                                            V75********
                    4963  *                                                                    V75********
014421  142314  A 4964          DATA    'DLD    ',020004,04600                                 V75********
014422  142240  A
014423  120240  A
014424  020004  A
014425  004600  A
014426  142323  A 4965          DATA    'DST    ',020004,04610                                 V75********
014427  152240  A
014430  120240  A
014431  020004  A
014432  004610  A
014433  142301  A 4966          DATA    'DADD   ',020004,04620                                 V75********
014434  142304  A
014435  120240  A
014436  020004  A
014437  004620  A
014440  142323  A 4967          DATA    'DSUB   ',020004,04630                                 V75********
014441  152702  A
014442  120240  A
014443  020004  A
014444  004630  A
014445  142301  A 4968          DATA    'DAN    ',020004,04640                                 V75********
014446  147240  A
014447  120240  A
014450  020004  A
014451  004640  A
014452  142317  A 4969          DATA    'DOR    ',020004,04650                                 V75********
014453  151240  A
014454  120240  A
014455  020004  A
014456  004650  A
014457  142305  A 4970          DATA    'DER    ',020004,04660                                 V75********
014460  151240  A
014461  120240  A
014462  020004  A
014463  004660  A
                    4971  *                                                                    V75********
                    4972  *  TYPE 5                                                            V75********
                    4973  *                                                                    V75********
014464  140704  A 4974          DATA    'ADR    ',020005,07500                                 V75********
014465  151240  A
014466  120240  A
014467  020005  A
014470  007500  A
014471  151702  A 4975          DATA    'SBR    ',020005,07600                                 V75********
014472  151240  A
014473  120240  A
014474  020005  A
014475  007600  A
014476  152240  A 4976          DATA    'T      ',020005,07700                                 V75********
014477  120240  A
014500  120240  A
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014501 020005 A
014502 007700 A
                    4977 *                                                                  V75********
                    4978 * TYPE 6                                                          V75********
                    4979 *                                                                  V75********
014503 144716 A     4980          DATA    'INC    ',020006,07410                            V75********
014504 141640 A
014505 120240 A
014506 020006 A
014507 007410 A
014510 142305 A     4981          DATA    'DEC    ',020006,07420                            V75********
014511 141640 A
014512 120240 A
014513 020006 A
014514 007420 A
014515 141717 A     4982          DATA    'COM    ',020006,07430                            V75********
014516 146640 A
014517 120240 A
014520 020006 A
014521 007430 A
                    4983 *                                                                  V75********
                    4984 * TYPE 7                                                          V75********
                    4985 *                                                                  V75********
014522 146304 A     4986          DATA    'LDI    ',020007,07440                            V75********
014523 144640 A
014524 120240 A
014525 020007 A
014526 007440 A
014527 140704 A     4987          DATA    'ADI    ',020007,07450                            V75********
014530 144640 A
014531 120240 A
014532 020007 A
014533 007450 A
                    4988 1        CONT                                                      V75********
                    4989 *                                                                     03 04709
                    4990 *        MACRO OP CODES FOR VORTEX IOC AND RTE                        03 04710
                    4991 *                                                                     03 04711
014534 146661 A     4992          DATA    'M1     ',02000,MC0-MC0                        V2    03 04712
014535 120240 A
014536 120240 A
014537 002000 A
014540 000000 A
014541 151305 A     4993          DATA    'READ   ',02000,MC1-MC0                        V2    03 04713
014542 140704 A
014543 120240 A
014544 002000 A
014545 000064 A
014546 153722 A     4994          DATA    'WRITE  ',02000,MC2-MC0                        V2    03 04714
014547 144724 A
014550 142640 A
014551 002000 A
014552 000105 A
014553 153705 A     4995          DATA    'WEOF   ',02000,MC3-MC0                        V2    03 04715
014554 147706 A
014555 120240 A
014556 002000 A
014557 000126 A
014560 151305 A     4996          DATA    'REW    ',02000,MC4-MC0                        V2    03 04716
014561 153640 A
014562 120240 A
014563 002000 A
014564 000146 A
014565 151722 A     4997          DATA    'SREC   ',02000,MC5-MC0                        V2    03 04717
014566 142703 A
014567 120240 A
014570 002000 A
014571 000166 A
014572 143325 A     4998          DATA    'FUNC   ',02000,MC6-MC0                        V2    03 04718
014573 147303 A
014574 120240 A
014575 002000 A
014576 000207 A
014577 147720 A     4999          DATA    'OPEN   ',02000,MC7-MC0                        V2    03 04719
014600 142716 A
014601 120240 A
014602 002000 A
014603 000227 A
014604 141714 A     5000          DATA    'CLOSE  ',02000,MC8-MC0                        V2    03 04720
014605 147723 A
014606 142640 A
014607 002000 A
014610 000250 A
014611 151724 A     5001          DATA    'STAT   ',02000,MC9-MC0                        V2    03 04721
014612 140724 A
014613 120240 A
014614 002000 A
014615 000271 A
014616 142303 A     5002          DATA    'DCB    ',02000,MC10-MC0                       V2    03 04722
014617 141240 A
014620 120240 A
014621 002000 A
014622 000332 A
014623 143303 A     5003          DATA    'FCB    ',02000,MC11-MC0                       V2    03 04723
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014624 141240 A
014625 120240 A
014626 002000 A
014627 000351 A
014630 146662 A 5004          DATA    'M2    ',02000,MC12-MC0                    V2  03 04724
014631 120240 A
014632 120240 A
014633 002000 A
014634 000423 A
014635 151703 A 5005          DATA    'SCHED ',02000,MC13-MC0                    V2  03 04725
014636 144305 A
014637 142240 A
014640 002000 A
014641 000444 A
014642 142730 A 5006          DATA    'EXIT  ',02000,MC14-MC0                    V2  03 04726
014643 144724 A
014644 120240 A
014645 002000 A
014646 000526 A
014647 151725 A 5007          DATA    'SUSPND',02000,MC15-MC0                    V2  03 04727
014650 151720 A
014651 147304 A
014652 002000 A
014653 000543 A
014654 151305 A 5008          DATA    'RESUME',02000,MC16-MC0                    V2  03 04728
014655 151725 A
014656 146705 A
014657 002000 A
014660 000571 A
014661 140702 A 5009          DATA    'ABORT ',02000,MC17-MC0                    V2  03 04729
014662 147722 A
014663 152240 A
014664 002000 A
014665 000615 A
014666 140714 A 5010          DATA    'ALOC  ',02000,MC18-MC0                    V2  03 04730
014667 147703 A
014670 120240 A
014671 002000 A
014672 000641 A
014673 142305 A 5011          DATA    'DEALOC',02000,MC19-MC0                    V2  03 04731
014674 140714 A
014675 147703 A
014676 002000 A
014677 000660 A
014700 150313 A 5012          DATA    'PMSK  ',02000,MC20-MC0                    V2  03 04732
014701 151713 A
014702 120240 A
014703 002000 A
014704 000675 A
014705 142305 A 5013          DATA    'DELAY ',02000,MC21-MC0                    V2  03 04733
014706 146301 A
014707 154640 A
014710 002000 A
014711 000742 A
014712 152311 A 5014          DATA    'TIME  ',02000,MC22-MC0                    V2  03 04734
014713 146705 A
014714 120240 A
014715 002000 A
014716 001001 A
014717 147726 A 5015          DATA    'DVLAY ',02000,MC23-MC0                    V2  03 04735
014720 146301 A
014721 154640 A
014722 002000 A
014723 001016 A
014724 144717 A 5016          DATA    'IOLINK',02000,MC24-MC0                    V2  03 04736
014725 146311 A
014726 147313 A
014727 002000 A
014730 001060 A
                5017          IFF     VORTEX-2                                   V2  03 04737
                5018          DATA    'PASS  ',02000,MC25-MC0                    V2  03 04738
014731 146303 A 5019          DATA    'LOB   ',02000,MC26-MC0                 V2     03 04739
014732 141240 A
014733 120240 A
014734 002000 A
014735 001115 A
014736 146304 A 5020          DATA    'LDELAY',02000,MC27-MC0                    C.1 03 04740
014737 142714 A
014740 140731 A
014741 002000 A
014742 001210 A
014743 152302 A 5021          DATA    'TBEVNT',02000,MC28-MC0                    V2  03 04741
014744 142726 A
014745 147324 A
014746 002000 A
014747 001247 A
                5022          IFT     VORTEX-2                                   V2  03 04742
                5023          GOTO    1                                          V2  03 04743
                5024          DATA    'ALOCPG',02000,MC29-MC0                    V2  03 04744
                5025          DATA    'DEALPG',02000,MC30-MC0                    V2  03 04745
                5026          DATA    'MAPIN ',02000,MC31-MC0                    V2  03 04746
                5027          DATA    'PAGNUM',02000,MC32-MC0                    V2  03 04747
                5028  1       CONT                                               V2  03 04748
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      014750 R 5029 EIT     EQU     *                                                    V2  03 04749
               5030 *                                                                        03 04750
               5031 *               MACRO EXPANSIONS FOR IOC AND RTE                         03 04751
               5032 *                                                                        03 04752
      014750 R 5033 BMPT    EQU     *                                                        03 04753
014750 120305 A 5034 MC0     DATA    ' EXT V$IOC',0                                       V2  03 04754
014751 154324 A
014752 120326 A
014753 122311 A
014754 147703 A
014755 000000 A
               5035          IFF     VORTEX-1                                             V2  03 04755
014756 120312 A 5036         DATA    ' JSR V$IOC,1',0                                         03 04756
014757 151722 A
014760 120326 A
014761 122311 A
014762 147703 A
014763 126261 A
014764 000000 A
               5037          IFF     VORTEX-2                                             V2  03 04757
               5038          DATA    ' JSR 0404,',0130400                                 V2  03 04758
014765 120304 A 5039         DATA    ' DATA 010000',0130000                                   03 04759
014766 140724 A
014767 140640 A
014770 130261 A
014771 130260 A
014772 130260 A
014773 130000 A
014774 143240 A 5040         DATA    'F FORM 1,3,4,8',0                                       03 04760
014775 143317 A
014776 151315 A
014777 120261 A
015000 126263 A
015001 126264 A
015002 126270 A
015003 000000 A
015004 120306 A 5041         DATA    ' F P(1),P(2),P(3),P(4)',0                               03 04761
015005 120320 A
015006 124261 A
015007 124654 A
015010 150250 A
015011 131251 A
015012 126320 A
015013 124263 A
015014 124654 A
015015 150250 A
015016 132251 A
015017 000000 A
015020 120304 A 5042         DATA    ' DATA P(5),0,0',0                                       03 04762
015021 140724 A
015022 140640 A
015023 150250 A
015024 132651 A
015025 126260 A
015026 126260 A
015027 000000 A
015030 120305 A 5043         DATA    ' EMAC ',0                                               03 04763
015031 146701 A
015032 141640 A
015033 000000 A
               5044 *M1                                                                      03 04764
               5045 *READ                                                                    03 04765
015034 120315 A 5046 MC1     DATA    ' M1 P(3),P(4),0,P(2),P(1',0124400                   V2  03 04766
015035 130640 A
015036 150250 A
015037 131651 A
015040 126320 A
015041 124264 A
015042 124654 A
015043 130254 A
015044 150250 A
015045 131251 A
015046 126320 A
015047 124261 A
015050 124400 A
015051 120305 A 5047         DATA    ' EMAC ',0                                               03 04767
015052 146701 A
015053 141640 A
015054 000000 A
               5048 *WRITE                                                                   03 04768
015055 120315 A 5049 MC2     DATA    ' M1 P(3),P(4),1,P(2),P(1',0124400                   V2  03 04769
015056 130640 A
015057 150250 A
015060 131651 A
015061 126320 A
015062 124264 A
015063 124654 A
015064 130654 A
015065 150250 A
015066 131251 A
015067 126320 A
015070 124261 A
015071 124400 A
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015072 120305 A 5050          DATA    ' EMAC ',0                                    03 04770
015073 146701 A
015074 141640 A
015075 000000 A
                5051 *WEOF                                                          03 04771
015076 120315 A 5052 MC3      DATA    ' M1 P(3),0,2,P(2),P(1)',0                 V2 03 04772
015077 130640 A
015100 150250 A
015101 131651 A
015102 126260 A
015103 126262 A
015104 126320 A
015105 124262 A
015106 124654 A
015107 150250 A
015110 130651 A
015111 000000 A
015112 120305 A 5053          DATA    ' EMAC ',0                                    03 04773
015113 146701 A
015114 141640 A
015115 000000 A
                5054 *REW                                                           03 04774
015116 120315 A 5055 MC4      DATA    ' M1 P(3),0,3,P(2),P(1)',0                 V2 03 04775
015117 130640 A
015120 150250 A
015121 131651 A
015122 126260 A
015123 126263 A
015124 126320 A
015125 124262 A
015126 124654 A
015127 150250 A
015130 130651 A
015131 000000 A
015132 120305 A 5056          DATA    ' EMAC ',0                                    03 04776
015133 146701 A
015134 141640 A
015135 000000 A
                5057 *SREC                                                          03 04777
015136 120315 A 5058 MC5      DATA    ' M1 P(3),P(4),4,P(2),P(1',0124400         V2 03 04778
015137 130640 A
015140 150250 A
015141 131651 A
015142 126320 A
015143 124264 A
015144 124654 A
015145 132254 A
015146 150250 A
015147 131251 A
015150 126320 A
015151 124261 A
015152 124400 A
015153 120305 A 5059          DATA    ' EMAC ',0                                    03 04779
015154 146701 A
015155 141640 A
015156 000000 A
                5060 *FUNC                                                          03 04780
015157 120315 A 5061 MC6      DATA    ' M1 P(3),0,5,P(2),P(1)',0                 V2 03 04781
015160 130640 A
015161 150250 A
015162 131651 A
015163 126260 A
015164 126265 A
015165 126320 A
015166 124262 A
015167 124654 A
015170 150250 A
015171 130651 A
015172 000000 A
015173 120305 A 5062          DATA    ' EMAC ',0                                    03 04782
015174 146701 A
015175 141640 A
015176 000000 A
                5063 *OPEN                                                          03 04783
015177 120315 A 5064 MC7      DATA    ' M1 P(3),P(4),6,P(2),P(1',0124400         V2 03 04784
015200 130640 A
015201 150250 A
015202 131651 A
015203 126320 A
015204 124264 A
015205 124654 A
015206 133254 A
015207 150250 A
015210 131251 A
015211 126320 A
015212 124261 A
015213 124400 A
015214 120305 A 5065          DATA    ' EMAC ',0                                    03 04785
015215 146701 A
015216 141640 A
015217 000000 A
                5066 *CLOSE                                                         03 04786
015220 120315 A 5067 MC8      DATA    ' M1 P(3),P(4),7,P(2),P(1',0124400         V2 03 04787
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015221  130640  A
015222  150250  A
015223  131651  A
015224  126320  A
015225  124264  A
015226  124654  A
015227  133654  A
015230  150250  A
015231  131251  A
015232  126320  A
015233  124261  A
015234  124400  A
015235  120305  A 5068          DATA     ' EMAC ',0                                          03 04788
015236  146701  A
015237  141640  A
015240  000000  A
                  5069 *STAT
                                                                                            03 04789
015241  120305  A 5070 MC9     DATA     ' EXT V$IOS',0152000                           V2   03 04790
015242  154324  A
015243  120326  A
015244  122311  A
015245  147723  A
015246  152000  A
                  5071          IFF      VORTEX-1                                       V2   03 04791
015247  120312  A 5072          DATA     ' JSR V$IOST,',0130400                              03 04792
015250  151722  A
015251  120326  A
015252  122311  A
015253  147723  A
015254  152254  A
015255  130400  A
                  5073          IFF      VORTEX-2                                       V2   03 04793
                  5074          DATA     ' JSR 0373,',0130400                           V2   03 04794
015256  120304  A 5075          DATA     ' DATA P(1),P(2),P(3),P(4),P(5)',0                  03 04795
015257  140724  A
015260  140640  A
015261  150250  A
015262  130651  A
015263  126320  A
015264  124262  A
015265  124654  A
015266  150250  A
015267  131651  A
015270  126320  A
015271  124264  A
015272  124654  A
015273  150250  A
015274  132651  A
015275  000000  A
015276  120305  A 5076          DATA     ' EMAC ',0                                          03 04796
015277  146701  A
015300  141640  A
015301  000000  A
                  5077 *DCB
                                                                                            03 04797
015302  120304  A 5078 MC10    DATA     ' DATA P(1),P(2),P(3)',0                       V2   03 04798
015303  140724  A
015304  140640  A
015305  150250  A
015306  130651  A
015307  126320  A
015310  124262  A
015311  124654  A
015312  150250  A
015313  131651  A
015314  000000  A
015315  120305  A 5079          DATA     ' EMAC ',0                                          03 04799
015316  146701  A
015317  141640  A
015320  000000  A
                  5080 *FCB
                                                                                            03 04800
015321  120304  A 5081 MC11    DATA     ' DATA P(1),P(2',0124400                       V2   03 04801
015322  140724  A
015323  140640  A
015324  150250  A
015325  130651  A
015326  126320  A
015327  124262  A
015330  124400  A
015331  143240  A 5082          DATA     'F FORM 6,2,8',0                                    03 04802
015332  143317  A
015333  151315  A
015334  120260  A
015335  126262  A
015336  126270  A
015337  000000  A
015340  120306  A 5083          DATA     ' F 0,P(3),P(4)',0                                  03 04803
015341  120260  A
015342  126320  A
015343  124263  A
015344  124654  A
015345  150250  A
015346  132251  A
015347  000000  A
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015350  120304 A 5084          DATA    ' DATA 0,0,0,0,P(5),P(6),P(7)',0                        03 04804
015351  140724 A
015352  140640 A
015353  130254 A
015354  130254 A
015355  130254 A
015356  130254 A
015357  150250 A
015360  132651 A
015361  126320 A
015362  124266 A
015363  124654 A
015364  150250 A
015365  133651 A
015366  000000 A
015367  120305 A 5085          DATA    ' EMAC ',0                                              03 04805
015370  146701 A
015371  141640 A
015372  000000 A
                 5086 *M2                                                                       03 04806
015373  120305 A 5087 MC12     DATA    ' EXT V$EXE',0141400                            V2      03 04807
015374  154324 A
015375  120326 A
015376  122305 A
015377  154305 A
015400  141400 A
                 5088          IFF     VORTEX-1                                        V2      03 04808
015401  120312 A 5089          DATA    ' JSR V$EXEC,',0130400                                  03 04809
015402  151722 A
015403  120326 A
015404  122305 A
015405  154305 A
015406  141654 A
015407  130400 A
                 5090          IFF     VORTEX-2                                        V2      03 04810
                 5091          DATA    ' JSR 0406,',0130400                            V2      03 04811
015410  120305 A 5092          DATA    ' EMAC ',0                                              03 04812
015411  146701 A
015412  141640 A
015413  000000 A
                 5093 *SCHED                                                                    03 04813
015414  120315 A 5094 MC13     DATA    ' M2 ',0                                        V2      03 04814
015415  131240 A
015416  000000 A
015417  143240 A 5095          DATA    'F FORM 3,1,6,1,5',0                                    03 04815
015420  143317 A
015421  151315 A
015422  120263 A
015423  126261 A
015424  126266 A
015425  126261 A
015426  126265 A
015427  000000 A
015430  120306 A 5096          DATA    ' F 0,P(2),1,0,P(1)',0                                  03 04816
015431  120260 A
015432  126320 A
015433  124262 A
015434  124654 A
015435  130654 A
015436  130254 A
015437  150250 A
015440  130651 A
015441  000000 A
015442  143240 A 5097          DATA    'F FORM 8,3',0                                          03 04817
015443  143317 A
015444  151315 A
015445  120270 A
015446  126270 A
015447  000000 A
015450  120306 A 5098          DATA    ' F P(4),P(3)',0                                        03 04818
015451  120320 A
015452  124264 A
015453  124654 A
015454  150250 A
015455  131651 A
015456  000000 A
015457  120304 A 5099          DATA    ' DATA P(5),P(6),P(7)',0                                03 04819
015460  140724 A
015461  140640 A
015462  150250 A
015463  132651 A
015464  126320 A
015465  124266 A
015466  124654 A
015467  150250 A
015470  133651 A
015471  000000 A
015472  120305 A 5100          DATA    ' EMAC ',0                                              03 04820
015473  146701 A
015474  141640 A
015475  000000 A
                 5101 *EXIT                                                                     03 04821
015476  120315 A 5102 MC14     DATA    ' M2 ',0                                        V2      03 04822
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015477 131240 A
015500 000000 A
015501 120304 A 5103          DATA    ' DATA 0200',0                                  03 04823
015502 140724 A
015503 140640 A
015504 130262 A
015505 130260 A
015506 000000 A
015507 120305 A 5104          DATA    ' EMAC ',0                                      03 04824
015510 146701 A
015511 141640 A
015512 000000 A
                5105 *SUSPND                                                          03 04825
015513 120315 A 5106 MC15     DATA    ' M2 ',0                                  V2  03 04826
015514 131240 A
015515 000000 A
015516 143240 A 5107          DATA    'F FORM 4,6,4,2',0                              03 04827
015517 143317 A
015520 151315 A
015521 120264 A
015522 126266 A
015523 126264 A
015524 126262 A
015525 000000 A
015526 120306 A 5108          DATA    ' F 0,3,0,P(1',0124400                          03 04828
015527 120260 A
015530 126263 A
015531 126260 A
015532 126320 A
015533 124261 A
015534 124400 A
015535 120305 A 5109          DATA    ' EMAC ',0                                      03 04829
015536 146701 A
015537 141640 A
015540 000000 A
                5110 *RESUME                                                          03 04830
015541 120315 A 5111 MC16     DATA    ' M2 ',0                                  V2  03 04831
015542 131240 A
015543 000000 A
015544 120304 A 5112          DATA    ' DATA 0400,P(1),P(2),P(3',0124400              03 04832
015545 140724 A
015546 140640 A
015547 130264 A
015550 130260 A
015551 126320 A
015552 124261 A
015553 124654 A
015554 150250 A
015555 131251 A
015556 126320 A
015557 124263 A
015560 124400 A
015561 120305 A 5113          DATA    ' EMAC ',0                                      03 04833
015562 146701 A
015563 141640 A
015564 000000 A
                5114 *ABORT                                                           03 04834
015565 120315 A 5115 MC17     DATA    ' M2 ',0                                  V2  03 04835
015566 131240 A
015567 000000 A
015570 120304 A 5116          DATA    ' DATA 0500,P(1),P(2),P(3',0124400              03 04836
015571 140724 A
015572 140640 A
015573 130265 A
015574 130260 A
015575 126320 A
015576 124261 A
015577 124654 A
015600 150250 A
015601 131251 A
015602 126320 A
015603 124263 A
015604 124400 A
015605 120305 A 5117          DATA    ' EMAC ',0                                      03 04837
015606 146701 A
015607 141640 A
015610 000000 A
                5118 *ALOC                                                            03 04838
015611 120315 A 5119 MC18     DATA    ' M2 ',0                                  V2  03 04839
015612 131240 A
015613 000000 A
015614 120304 A 5120          DATA    ' DATA 0600,P(1',0124400                        03 04840
015615 140724 A
015616 140640 A
015617 130266 A
015620 130260 A
015621 126320 A
015622 124261 A
015623 124400 A
015624 120305 A 5121          DATA    ' EMAC ',0                                      03 04841
015625 146701 A
015626 141640 A
015627 000000 A
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                    5122 *DEALOC                                                    03 04842
015630  120315  A   5123 MC19    DATA     ' M2 ',0                          V2     03 04843
015631  131240  A
015632  000000  A
015633  120304  A   5124         DATA     ' DATA 0700',0                           03 04844
015634  140724  A
015635  140640  A
015636  130267  A
015637  130260  A
015640  000000  A
015641  120305  A   5125         DATA     ' EMAC ',0                               03 04845
015642  146701  A
015643  141640  A
015644  000000  A
                    5126 *PMSK                                                      03 04846
015645  120315  A   5127 MC20    DATA     ' M2 ',0                          V2     03 04847
015646  131240  A
015647  000000  A
015650  143261  A   5128         DATA     'F1 FORM 4,6,5,',0130400                 03 04848
015651  120306  A
015652  147722  A
015653  146640  A
015654  132254  A
015655  133254  A
015656  132654  A
015657  130400  A
015660  120306  A   5129         DATA     ' F1 0,010,0,P(3)',0                     03 04849
015661  130640  A
015662  130254  A
015663  130261  A
015664  130254  A
015665  130254  A
015666  150250  A
015667  131651  A
015670  000000  A
015671  143240  A   5130         DATA     'F FORM 3,8',0                           03 04850
015672  143317  A
015673  151315  A
015674  120270  A
015675  126270  A
015676  000000  A
015677  120306  A   5131         DATA     ' F P(1),P(2)',0                         03 04851
015700  120320  A
015701  124261  A
015702  124654  A
015703  150250  A
015704  131251  A
015705  000000  A
015706  120305  A   5132         DATA     ' EMAC ',0                               03 04852
015707  146701  A
015710  141640  A
015711  000000  A
                    5133 *DELAY                                                     03 04853
015712  120315  A   5134 MC21    DATA     ' M2 ',0                          V2     03 04854
015713  131240  A
015714  000000  A
015715  143240  A   5135         DATA     'F FORM 4,6,4,2',0                       03 04855
015716  143317  A
015717  151315  A
015720  120264  A
015721  126266  A
015722  126264  A
015723  126262  A
015724  000000  A
015725  120306  A   5136         DATA     ' F 0,011,0,P(3',0124400                 03 04856
015726  120260  A
015727  126260  A
015730  130661  A
015731  126260  A
015732  126320  A
015733  124263  A
015734  124400  A
015735  120304  A   5137         DATA     ' DATA P(1),P(2',0124400                 03 04857
015736  140724  A
015737  140640  A
015740  150250  A
015741  130651  A
015742  126320  A
015743  124262  A
015744  124400  A
015745  120305  A   5138         DATA     ' EMAC ',0                               03 04858
015746  146701  A
015747  141640  A
015750  000000  A
                    5139 *TIME                                                      03 04859
015751  120315  A   5140 MC22    DATA     ' M2 ',0                          V2     03 04860
015752  131240  A
015753  000000  A
015754  120304  A   5141         DATA     ' DATA 0120',0130000                     03 04861
015755  140724  A
015756  140640  A
015757  130261  A
015760  131260  A
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015761 130000 A
015762 120305 A 5142          DATA    ' EMAC ',0                                  03 04862
015763 146701 A
015764 141640 A
015765 000000 A
                5143 *OVLAY                                                       03 04863
015766 120315 A 5144 MC23     DATA    ' M2 ',0                                V2  03 04864
015767 131240 A
015770 000000 A
015771 143240 A 5145          DATA    'F FORM 4,6,5,1',0                          03 04865
015772 143317 A
015773 151315 A
015774 120264 A
015775 126266 A
015776 126265 A
015777 126261 A
016000 000000 A
016001 120306 A 5146          DATA    ' F 0,013,0,P(1',0124400                    03 04866
016002 120260 A
016003 126260 A
016004 130663 A
016005 126260 A
016006 126320 A
016007 124261 A
016010 124400 A
016011 120304 A 5147          DATA    ' DATA P(2),P(3),P(4)',0                    03 04867
016012 140724 A
016013 140640 A
016014 150250 A
016015 131251 A
016016 126320 A
016017 124263 A
016020 124654 A
016021 150250 A
016022 132251 A
016023 000000 A
016024 120305 A 5148          DATA    ' EMAC ',0                                  03 04868
016025 146701 A
016026 141640 A
016027 000000 A
                5149 *IOLINK                                                      03 04869
016030 120315 A 5150 MC24     DATA    ' M2 ',0                                V2  03 04870
016031 131240 A
016032 000000 A
016033 143240 A 5151          DATA    'F FORM 4,6,6',0                            03 04871
016034 143317 A
016035 151315 A
016036 120264 A
016037 126266 A
016040 126266 A
016041 000000 A
016042 120306 A 5152          DATA    ' F 0,014,P(1',0124400                      03 04872
016043 120260 A
016044 126260 A
016045 130664 A
016046 126320 A
016047 124261 A
016050 124400 A
016051 120304 A 5153          DATA    ' DATA P(2),P(3',0124400                    03 04873
016052 140724 A
016053 140640 A
016054 150250 A
016055 131251 A
016056 126320 A
016057 124263 A
016060 124400 A
016061 120305 A 5154          DATA    ' EMAC ',0                                  03 04874
016062 146701 A
016063 141640 A
016064 000000 A
                5155          IFT     VORTEX-2                                V2  03 04875
                5156          GOTO    1                                       V2  03 04876
                5157 *PASS                                                    V2  03 04877
                5158 MC25     DATA    ' M2 ',0                                V2  03 04878
                5159          DATA    'F FORM 4,6,6',0                        V2  03 04879
                5160          DATA    ' F 0,016,0',0                          V2  03 04880
                5161          DATA    ' DATA P(1),P(2),P(3)',0                V2  03 04881
                5162          DATA    ' EMAC ',0                              V2  03 04882
                5163 1        CONT                                            V2  03 04883
                5164 *LCB                                                         03 04884
016065 120304 A 5165 MC26     DATA    ' DATA P(1)',0                          V2  03 04885
016066 140724 A
016067 140640 A
016070 150250 A
016071 130651 A
016072 000000 A
016073 120311 A 5166          DATA    ' IFF P(5',0124400                          03 04886
016074 143306 A
016075 120320 A
016076 124265 A
016077 124400 A
016100 120304 A 5167          DATA    ' DATA P(2)',0                              03 04887
016101 140724 A
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016102 140640 A
016103 150250 A
016104 131251 A
016105 000000 A
016106 120311 A 5168        DATA    ' IFT P(5',0124400                          03 04888
016107 143324 A
016110 120320 A
016111 124265 A
016112 124400 A
016113 120304 A 5169        DATA    ' DATA (P(2))',0125000                      03 04889
016114 140724 A
016115 140640 A
016116 124320 A
016117 124262 A
016120 124651 A
016121 125000 A
016122 143240 A 5170        DATA    'F FORM 8,8',0                              03 04890
016123 143317 A
016124 151315 A
016125 120270 A
016126 126270 A
016127 000000 A
016130 120306 A 5171        DATA    ' F P(4),P(3)',0                            03 04891
016131 120320 A
016132 124264 A
016133 124654 A
016134 150250 A
016135 131651 A
016136 000000 A
016137 120311 A 5172        DATA    ' IFF P(0),,6',0                            03 04892
016140 143306 A
016141 120320 A
016142 124260 A
016143 124654 A
016144 126266 A
016145 000000 A
016146 120304 A 5173        DATA    ' DATA P(6)',0                              03 04893
016147 140724 A
016150 140640 A
016151 150250 A
016152 133251 A
016153 000000 A
016154 120305 A 5174        DATA    ' EMAC ',0                                  03 04894
016155 146701 A
016156 141640 A
016157 000000 A
                5175 *DELAY3                                                    03 04895
016160 120315 A 5176 MC27   DATA    ' M2 ',0                                C.1 03 04896
016161 131240 A
016162 000000 A
016163 120304 A 5177        DATA    ' DATA 01107,P(1),P(2',0124400          C.1 03 04897
016164 140724 A
016165 140640 A
016166 130261 A
016167 130660 A
016170 133654 A
016171 150250 A
016172 130651 A
016173 126320 A
016174 124262 A
016175 124400 A
016176 143240 A 5178        DATA    'F FORM 8,8',0                          C.1 03 04898
016177 143317 A
016200 151315 A
016201 120270 A
016202 126270 A
016203 000000 A
016204 120306 A 5179        DATA    ' F P(4),P(3)',0                        C.1 03 04899
016205 120320 A
016206 124264 A
016207 124654 A
016210 150250 A
016211 131651 A
016212 000000 A
016213 120305 A 5180        DATA    ' EMAC ',0                              C.1 03 04900
016214 146701 A
016215 141640 A
016216 000000 A
                5181 * EVENT WORD                                           V2  03 04901
016217 120315 A 5182 MC28   DATA    ' M2 ',0                                V2  03 04902
016220 131240 A
016221 000000 A
016222 143240 A 5183        DATA    'F FORM 4,6,6',0                        V2  03 04903
016223 143317 A
016224 151315 A
016225 120261 A
016226 126266 A
016227 126266 A
016230 000000 A
016231 120305 A 5184        DATA    ' F 0,017,0',0                          V2  03 04904
016232 120260 A
016233 126260 A
016234 130667 A
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016235 126260 A
016236 000000 A
016237 120304 A 5185          DATA    ' DATA P(1),P(2),P(3)',0                                  D.1  03 04905
016240 140724 A
016241 140640 A
016242 150250 A
016243 130651 A
016244 126320 A
016245 124262 A
016246 124654 A
016247 150250 A
016250 131651 A
016251 000000 A
016252 120305 A 5186          DATA    ' EMAC ',0                                                V2   03 04906
016253 146701 A
016254 141640 A
016255 000000 A
                5187          IFT     VORTEX-2                                                  V2   03 04907
                5188          GOTO    1                                                         V2   03 04908
                5189 * ALLOCATE PHYSICAL PAGE                                                   V2   03 04909
                5190 MC29     DATA    ' M2 ',0                                                  V2   03 04910
                5191          DATA    'F FORM 4,6,6',0                                          V2   03 04911
                5192          DATA    ' F 0,020,0',0                                            V2   03 04912
                5193          DATA    ' DATA P(1),P(2),P(3)',0                                  V2   03 04913
                5194          DATA    ' EMAC ',0                                                V2   03 04914
                5195 * DEALLOCATE PHYSICAL PAGE                                                 V2   03 04915
                5196 MC30     DATA    ' M2 ',0                                                  V2   03 04916
                5197          DATA    'F FORM 4,6,6',0                                          V2   03 04917
                5198          DATA    ' F 0,021,0',0                                            V2   03 04918
                5199          DATA    ' DATA P(1),P(2),P(3)',0                                  V2   03 04919
                5200          DATA    ' EMAC '                                                  V2   03 04920
                5201 * MAP IN                                                                   V2   03 04921
                5202 MC31     DATA    ' M2 ',0                                                  V2   03 04922
                5203          DATA    'F FORM 4,6,6',0                                          V2   03 04923
                5204          DATA    ' F 0,022,0',0                                            V2   03 04924
                5205          DATA    ' DATA P(1),P(2),P(3),P(4',0124400                        V2   03 04925
                5206          DATA    ' EMAC '                                                  V2   03 04926
                5207 * PAGE NUMBER                                                              V2   03 04927
                5208 MC32     DATA    ' M2 ',0                                                  V2   03 04928
                5209          DATA    'F FORM 4,6,6',0                                          V2   03 04929
                5210          DATA    ' F 0,023,0',0                                            V2   03 04930
                5211          DATA    ' DATA P(1)',0                                            V2   03 04931
                5212          DATA    ' EMAC ',0                                                V2   03 04932
                5213 1        CONT                                                              V2   03 04933
016256 R        5214 BMET     EQU     *                                                              03 04934
                5215          EJEC                                                            V75********
                5216 ***********************************************************************V75********
                5217 *                                                                         V75********
                5218 *          I N I T I A L I Z E   A S S E M B L E R ( I N I T )             V75********
                5219 *                                                                         V75********
                5220 * FUNCTION: TO INITIALIZE VORTEX/VORTEX II DASMR ASSEMBLER               V75********
                5221 *                                                                         V75********
                5222 * ENTRY: DIRECT TO LABEL DASMR FROM VORTEX DISPATCHER                     V75********
                5223 *                                                                         V75********
                5224 * EXIT : DIRECT TO P1INIT                                                V75********
                5225 *         INIT IS OVERLAYED BY DASMR TABLES                               V75********
                5226 *                                                                         V75********
                5227 ***********************************************************************V75********
                5229 ***************************************                                   V75********
                5230 * CONSTRUCT BYTE POINTERS FOR LIST BUFFER *                               V75********
                5231 ***************************************                                   V75********
016256 006010 A 5233 DASMR    LDAI    LBUF                                                    V75********
016257 000314 R
016260 004241 A 5234          LRLA    1               GET BYTE POINTER TO LBUF                V75********
016261 005111 A 5235          IAR                                                             V75********
016262 057000 I 5236          STA     LB2P1           +1  ADDRESS FIELD                       V75********
016263 120467 A 5237          ADD     SEVEN                                                   V75********
016264 057000 I 5238          STA     LB2P8           +8  VALUE FIELD                         V75********
016265 006120 A 5239          ADDI    14                                                      V75********
016266 000016 A
016267 057000 I 5240          STA     LB2P22          +22 LABEL FIELD                         V75********
016270 120466 A 5241          ADD     SIX                                                     V75********
016271 057000 I 5242          STA     LB2P28          +28 OP CODE FIELD-1                     V75********
016272 127000 I 5243          ADD     EIGHT                                                   V75********
016273 057000 I 5244          STA     LB2P36          +36 OPERAND FIELD-1                     V75********
016274 120472 A 5245          ADD     K915                                                    V75********
016275 057000 I 5246          STA     LB2P51          +51 COMMENT FIELD                       V75********
                5248 ***************************************                                   V75********
                5249 * MAP '/DASMR' PARAMETER CHARS INTO SPCW BITS *                               ********
                5250 ***************************************                                   V75********
016276 005002 A 5252          LZB                                                                  03 04969
016277 067000 I 5253          STB     JPCW            CLEAR ANY PREVIOUS OPTION BITS               03 04970
016300 064644 A 5254          STB     PEF             CLEAR INPUT PARAMETER ERROR FLAG             03 04971
016301 030412 A 5255          LDX     VSJCB           JCP BUFFER ADDRESS                           03 04972
016302 R        5256 VDASM1   EQU     *                                                            03 04973
016302 015000 A 5257          LDA     0,1             GET 1ST (NEXT) BUFFER WORD                   03 04974
016303 001010 A 5258          JAZ     S01             ALL DONE                                     03 04975
016304 016422 R
016305 003020 A 5259          XBZ     LSP8            RIGHT ADJUST CHAR AND                        03 04976
016306 016355 R
016307 006150 A 5260          ANAI    0377            MASK OUT CHAR IN UPPER HALF OF WORD           03 04977
016310 000377 A
016311 006140 A 5261          SUBI    0240            CHECK FOR BLANK                              03 04978
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016312 000240 A
016313 001010 A 5262          JAZ     VDASM2                                          03 04979
016314 016345 R
016315 006140 A 5263          SUBI    014                                             03 04980
016316 000014 A
016317 001010 A 5264          JAZ     VDASM2    COMMA                                 03 04981
016320 016345 R
016321 006140 A 5265          SUBI    026                                             03 04982
016322 000026 A
016323 001010 A 5266          JAZ     BOPT      B OPTION (SUPPRESS BINARY OBJECT)     03 04983
016324 016357 R
016325 140464 A 5267          SUB     THREE                                           V75********
016326 001010 A 5268          JAZ     EOPT      E OPTION(V75 EXTENDED INSTRUCTIONS)   V75********
016327 016365 R
016330 140423 A 5269          SUB     FOUR                                            E.2********
016331 001010 A 5270          JAZ     IOPT      I OPTION (DISALLOW INDIRECTS TO BASE PAGE) ********
016332 016372 R
016333 140464 A 5271          SUB     THREE                                           V75********
016334 001010 A 5272          JAZ     LOPT      L OPTION (LOAD-GO OPTION)             03 04985
016335 016377 R
016336 005311 A 5273          DAR                                                     03 04986
016337 001010 A 5274          JAZ     MAPT      M OPTION (SUPPRESS THE SYMBOL TABLE LIST 03 04987
016340 016410 R
016341 005311 A 5275          DAR                                                     03 04988
016342 001010 A 5276          JAZ     NOPT      N OPTION (SUPPRESS LIST OUTPUT)       03 04989
016343 016415 R
016344 044600 A 5277          INR     PEF       ILLEGAL CHAR.                         03 04990
       016345 R 5278 VDASM2   EQU     *                                               03 04991
016345 005122 A 5279          IBR                                                     03 04992
016346 003020 A 5280          XPZ     IXR                                             03 04993
016347 016356 R
016350 001020 A 5281          JBZ     VDASM1                                          03 04994
016351 016302 R
016352 005302 A 5282          DECR    2         SET R/L FLAG FOR RIGHTHAND CHAR       03 04995
016353 001000 A 5283          JMP     VDASM1                                          03 04996
016354 016302 R
016355 004350 A 5284 LSR8     LSRA    8         SHIFT LEFTHAND CHR INTO RT HALF OF WORD 03 04997
016356 005144 A 5285 IXR      IXR               ADVANCE BUFFER POINTER                03 04998
               5286 *                                                                 03 04999
016357 006010 A 5287 BOPT     LDAI    2                                               03 05000
016360 000002 A
016361 117000 I 5288          ORA     $PCW                                            03 05001
016362 057000 I 5289          STA     $PCW      SET B OPTION BIT (BIT 1)              03 05002
016363 001000 A 5290          JMP     VDASM2                                          03 05003
016364 016345 R
016365 010424 A 5291 EOPT     LDA     BS3                                             V75********
016366 117000 I 5292          ORA     $PCW      SET E FLAG                            V75********
016367 057000 I 5293          STA     $PCW                                            V75********
016370 001000 A 5294          JMP     VDASM2                                          V75********
016371 016345 R
016372 010425 A 5295 IOPT     LDA     BS4       I OPTION BIT                          E.2********
016373 117000 I 5296          ORA     $PCW                                            E.2********
016374 057000 I 5297          STA     $PCW                                            E.2********
016375 001000 A 5298          JMP     VDASM2                                          E.2********
016376 016345 R
               5299 *                                                                 03 05004
       016377 R 5300 LOPT     EQU     *                                               03 05005
016377 010421 A 5301          LDA     ONE       SET JCP FLAG FOR                      03 05006
016400 110055 A 5302          ORA     V$JCFG                                          03 05007
016401 050055 A 5303          STA     V$JCFG        'GO' OPTION                       03 05008
016402 006010 A 5304          LDAI    0100000                                         03 05009
016403 100000 A
016404 117000 I 5305          ORA     $PCW                                            03 05010
016405 057000 I 5306          STA     $PCW      SET L OPTION (SIGN BIT)               03 05011
016406 001000 A 5307          JMP     VDASM2                                          03 05012
016407 016345 R
               5308 *                                                                 03 05013
       016410 R 5309 MAPT     EQU     *                                               03 05014
016410 010423 A 5310          LDA     FOUR                                            03 05015
016411 117000 I 5311          ORA     $PCW                                            03 05016
016412 057000 I 5312          STA     $PCW                                            03 05017
016413 001000 A 5313          JMP     VDASM2                                          03 05018
016414 016345 R
               5314 *                                                                 03 05019
016415 005111 A 5315 NOPT     IAR                                                     03 05020
016416 117000 I 5316          ORA     $PCW                                            03 05021
016417 057000 I 5317          STA     $PCW                                            03 05022
016420 001000 A 5318          JMP     VDASM2                                          03 05023
016421 016345 R
               5319 *                                                                 03 05024
               5320 *                LINK ASSEMBLER I/O TO                            03 05025
               5321 *                     GLOBAL FCB'S                                03 05026
               5322 *                                                                 03 05027
       016422 R 5323 $01      EQU     *                                               03 05028
               5324           IOLINK  PI,$BUF,40                                      03 05029
016422 006505 A
016423 007065 E
016424 001404 A
016425 000124 R
016426 000050 A
               5325 *                                                                 03 05030
               5326           IOLINK  PO,$BUF,40                                      03 05031
016427 006505 A
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016430 016423 E
016431 001412 A
016432 000124 R
016433 000050 A
                    5327 *                                                                  03 05032
                    5328          IOLINK  SS,$BUF,40                                        03 05033
016434 006505 A
016435 016430 E
016436 001410 A
016437 000124 R
016440 000050 A
                    5329 *                                                                  03 05034
016441 006010 A     5330          LDAI    SI              CHECK SI FOR RMD                  03 05035
016442 000002 A
016443 002000 A     5331          CALL    RMDTST                                            03 05036
016444 017076 R
016445 064510 A     5332          STB     SILUN           SAVE SI DST INDEX                 V75*********
016446 006010 A     5333          LDAI    PI              CHECK IF PI IS AN RMD             03 05038
016447 000004 A
016450 002000 A     5334          CALL    RMDTST          ON RETURN, SET                    03 05039
016451 017076 R
016452 064504 A     5335          STB     PILUN           SAVE PI DST INDEX                 V75*********
016453 057000 I     5336          STA     PIRMD           PI RMD FLAG=1 IF PI=RMD,OTHERWISE ZERO  V75*********
016454 005021 A     5337          TBA                     GET A=PI DST INDEX                V75*********
016455 134500 A     5338          ERA     SILUN           COMPARE SI AND PI                 03 05042
016456 005012 A     5339          TAB                                                       03 05044
016457 017000 I     5340          LDA     PIRMD           TEST IF                           03 05045
016460 005311 A     5341          DAR                     PI=RMD                            03 05046
016461 006030 A     5342          LDXI    PIFCB           POINTER TO GLOBAL PI FCB          03 05047
016462 012352 E
016463 001022 A     5343          JIF     022,DAS0        JUMP IF PI=RMD=SI                 V75*********
016464 016479 R
016465 001002 A     5344          JAP     DAS$00          JUMP IF PI=RMD#SI                 V75*********
016466 016514 R
016467 005001 A     5345          TZA                     PI NOT RMD                        V75*********
016470 057000 I     5346          STA     PDRF            SET PD SECT REC FLAG 0 IF PI IS NOT RMD  03 05051
016471 001000 A     5347          JMP     DAS$01                                            03 05052
016472 016517 R
016473 015005 A     5348 DAS0     LDA     5,X             PI=RMD=SI                         V75*********
016474 001015 0     5349          JANZ    DAS$00          IS PI GLOBAL FCB ACTIVE ?         V75*********
016475 016514 R
016476 067000 I     5350          STB     PIRMD           NO. THIS IS RMD JOB STACK         V75*********
016477 067000 I     5351          STB     PDRF            SET FLAG FOR PI .NE. RMD          03 05057
016500 006030 A     5352          LDXI    PIREAD+5        SUBSTITUTE                        03 05058
016501 012352 R
016502 006010 A     5353          LDAI    SIFCB                SI FCB FOR PI FCB IN READ MACRO  03 05059
016503 000000 E
016504 055000 A     5354          STA     0,1                                               03 05060
                    5355 *                                                                  03 05061
                    5356          IOLINK  SI,$BUF,40                                        03 05062
016505 006505 A
016506 016435 E
016507 001402 A
016510 000124 R
016511 000050 A
016512 001000 A     5357          JMP     DAS$01                                            03 05063
016513 016517 R
       016514 R     5358 DAS$00   EQU     *                                                 03 05064
016514 006010 A     5359          LDAI    120             SET SOURCE BUFF LENGTH            03 05065
016515 000170 A
016516 055000 A     5360          STA     0,1                  IN PI FCB                    03 05066
       016517 R     5361 DAS$01   EQU     *                                                 03 05067
016517 006010 A     5362          LDAI    PD                                                03 05068
016520 000012 A
016521 002000 A     5363          CALL    RMDTST                                            03 05069
016522 017076 R
016523 064431 A     5364          STB     PDLUN           STORE PD DST INDEX                V75*********
016524 057000 I     5365          STA     PDRMD           A=0 IF PD NOT RMD                 V75*********
016525 027000 I     5366          LDB     PDRF                                              03 05072
016526 006030 A     5367          LDXI    PDFCB           POINTER TO GLOBAL PD FCB          03 05073
016527 006745 E
016530 003010 A     5368          MAZ     DFCB            SET PDRF=-1 IF PD NOT RMD         V75*********
016531 017161 R
016532 067000 I     5369          STB     PDRF            OTHERWISE, LEAVE ALONE            V75*********
016533 001010 0     5370          JAZ     DAS$02          JUMP IF NOT RMD                   03 05076
016534 016553 R
016535 006010 A     5371          LDAI    120             SET FCB REC LEN = 120             03 05077
016536 000170 A
016537 055000 A     5372          STA     0,1                                               03 05078
                    5373 *                                                                  03 05079
       016540 R     5374 PDPN     EQU     *                                                 03 05080
                    5375          OPEN    PDFCB,PD,0,0                                      03 05081
016540 006505 A
016541 012347 E
016542 100000 A
016543 003012 A
016544 016527 E
016545 000000 0
016546 000000 0
016547 006010 A     5376          LDAI    PDPN            CHECK OPEN STATUS                 03 05082
016550 016540 R
016551 002000 A     5377          CALL    STAT                                              03 05083
016552 006762 R
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                    5378 *                                                                                  03 05084
         016553 R   5379 DAS$02 EQU     *                                                                   03 05085
016553   006010 A   5380         LDAI    SS                                                                  03 05086
016554   000010 A
016555   002000 A   5381         CALL    RMDTST                                                              03 05087
016556   017076 R
016557   006030 A   5382         LDXI    SSFCB       POINTER TO GLOBAL SS FCB                                03 05088
016560   012334 E
016561   064372 A   5383         STB     SSLUN       SAVE SS DST INDEX                                   V75*********
016562   057000 I   5384         STA     SSRMD       A=1 IF SS=RMD,ZERO OTHERWISE                        V75*********
016563   001010 A   5385         JAZ     *+5         JUMP IF NOT RMD                                         03 05091
016564   016570 R
016565   006010 A   5386         LDAI    120         SET FCB REC. LENGTH= 120                                03 05092
016566   000170 A
016567   055000 A   5387         STA     0,1                                                                 03 05093
016570   014363 A   5388         LDA     SSLUN       COMPARE SS                                              03 05094
016571   134363 A   5389         ERA     POLUN       AND PO FOR SAME DEVICE OR RMD PARTITION             V75*********
016572   006030 A   5390         LDXI    POSS                                                                03 05096
016573   003376 R
016574   055000 A   5391         STA     0,1         POSS=0 IF SS=PO                                         03 05097
016575   001010 A   5392         JAZ     *+4         PO=SS                                                   03 05098
016576   016601 R
016577   001000 A   5393         JMP     DAS$03                                                              03 05099
016600   016606 R
016601   002000 A   5394         CALL    MOVW                                                                03 05100
016602   011761 R
016603   000012 A   5395         DATA    10          MOVE ALL 10 WORDS                                       03 05101
016604   016544 E   5396         DATA    POFCB       FROM THE PO FCB                                         03 05102
016605   016560 E   5397         DATA    SSFCB       TO THE SS FCB                                           03 05103
         016606 R   5398 DAS$03 EQU     *                                                                   03 05104
016606   017000 I   5399         LDA     SSRMD       IS SS AN RMD#                                           03 05105
016607   001010 A   5400         JAZ     DAS$05      NO                                                      03 05106
016610   016633 R
016611   014344 A   5401         LDA     SILUN       COMPARE SI DEVICE/PARTITION                         V75*********
016612   134341 A   5402         ERA     SSLUN       WITH SS                                             V75*********
016613   057000 I   5403         STA     SSRMD       IF EQUAL, RESET SS RMD FLAG TO 0 (NON RMD)              03 05109
016614   001010 A   5404         JAZ     DAS$04      AND JUMP                                                03 05110
016615   016626 R
                    5405 *                                                                                  03 05111
016616   014340 A   5406         LDA     PILUN       COMPARE PI DEVICE/PARTITION                         V75*********
016617   134334 A   5407         ERA     SSLUN       WITH SS                                             V75*********
016620   005311 A   5408         DAR                                                                         03 05114
016621   001002 A   5409         JAP     DAS$05      PI .NE. SS                                              03 05115
016622   016633 R
                    5410 *                           PI = SS = RMD                                          03 05116
016623   006010 A   5411         LDAI    PIFCB       PREPARE TO TRANSFER THE                                 03 05117
016624   016462 E
016625   054003 A   5412         STA     DAS$04+3    CONTENTS OF THE PI FCB TO THE SS FCB                    03 05118
         016626 R   5413 DAS$04 EQU     *                                                                   03 05119
016626   002000 A   5414         CALL    MOVW                                                                03 05120
016627   011761 R
016630   000012 A   5415         DATA    10          MOVE ALL 10 WORDS                                       03 05121
016631   016503 E   5416         DATA    SIFCB       FROM THE SI (OR PI) FCB                                 03 05122
016632   016605 E   5417         DATA    SSFCB       TO THE SS FCB                                           03 05123
         016633 R   5418 DAS$05 EQU     *                                                                   03 05124
016633   017000 I   5419         LDA     $PCW        CHECK PO SUPPRESS BIT AND                               03 05125
016634   004256 A   5420         LRLA    NBIT-2                                                              03 05126
016635   001004 A   5421         JAN     DAS$50      SKIP BO SETUP IF SUPPRESS BIT SET                       03 05127
016636   016677 R
                    5422         IOLINK  BO,OBUF+60,60                                                       03 05128
016637   006505 A
016640   016506 E
016641   001407 A
016642   000504 R
016643   000074 A
                    5423 *                                                                                  03 05129
016644   006010 A   5424         LDAI    BO                                                                  03 05130
016645   000007 A
016646   002000 A   5425         CALL    RMDTST                                                              03 05131
016647   017076 R
016650   006030 A   5426         LDXI    'BOFCB'     POINTER TO GLOBAL BO FCB                                03 05132
016651   011233 E
016652   057000 I   5427         STA     BORMD                                                               03 05133
016653   001010 A   5428         JAZ     DAS$50      JUMP IF NOT RMD                                         03 05134
016654   016677 R
016655   006010 A   5429         LDAI    120         SET SECTOR SIZE IN FCB                                  03 05135
016656   000170 A
016657   055000 A   5430         STA     0,1                                                                 03 05136
016660   015004 A   5431         LDA     ',1         CHECK IF BO FCB                                         03 05137
016661   005311 A   5432         DAR                 IS ALREADY OPENED                                       03 05138
016662   001002 A   5433         JAP     DAS$50      YES, DON'T RE-OPEN                                      03 05139
016663   016677 R
         016664 R   5434 BOPEN   EQU     *                                                                   03 05140
                    5435         OPEN    BOFCB,BO,0,1 OPEN AND LEAVE THE BO FILE                             03 05141
016664   006505 A
016665   016541 E
016666   100000 A
016667   013007 A
016670   016651 E
016671   000000 A
016672   000000 A
016673   006010 A   5436         LDAI    BOPEN       STATUS CHECH BO OPEN                                    03 05142
016674   016664 R
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016675 002000 A 5437          CALL    STAT                                                    03 05143
016676 006762 R
       016677 R 5438 DAS$50   EQU     *                                                       03 05144
016677 017000 I 5439          LDA     $PCW            DONT SET GO FCB IF GO OPTION NOT SPECIFIED 03 05145
016700 001002 A 5440          JAP     DAS$06          JUMP IF 'GO' OPTION NOT SPECIFIED       03 05146
016701 016742 R
               5441           IOLINK  GO,OBUF+60,60                                           03 05147
016702 006505 A
016703 016640 E
016704 001411 A
016705 000504 R
016706 000074 A
016707 006010 A 5442          LDAI    GO                                                      03 05148
016710 000011 A
016711 002000 A 5443          CALL    RMDTST                                                  03 05149
016712 017076 R
016713 006030 A 5444          LDXI    GOFCB           POINTER TO GLOBAL GO FCB                03 05150
016714 011261 E
016715 057000 I 5445          STA     GORMD                                                   03 05151
016716 001010 A 5446          JAZ     DAS$06          JUMP IF NOT RMD                         03 05152
016717 016742 R
016720 006010 A 5447          LDAI    120             SET SECTOR SIZE IN FCB                  03 05153
016721 000170 A
016722 055000 A 5448          STA     0,1                                                     03 05154
016723 015004 A 5449          LDA     4,1             CHECK IF GO FCB                         03 05155
016724 005311 A 5450          DAR                     IS ALREADY OPENED                       03 05156
016725 001002 A 5451          JAP     DAS$06          YES, DON'T RE-OPEN                      03 05157
016726 016742 R
               5452 *                                                                         03 05158
       016727 R 5453 GOPN     EQU     *                                                       03 05159
               5454           OPEN    GOFCB,GO,0,1    OPEN AND LEAVE GO FILE                  03 05160
016727 006505 A
016730 016665 E
016731 100000 A
016732 013011 A
016733 016714 E
016734 000000 A
016735 000000 A
016736 006010 A 5455          LDAI    GOPN            CHECK STATUS                            03 05161
016737 016727 R
016740 002000 A 5456          CALL    STAT            OF OPEN                                 03 05162
016741 006762 R
       016742 R 5457 DAS$06   EQU     *                                                       03 05163
               5458 *                                                                         03 05164
               5459           IOLINK  LO,LBUF,60                                              03 05165
016742 006505 A
016743 016703 E
016744 001405 A
016745 000314 R
016746 000074 A
016747 006010 A 5460          LDAI    LO                                                      03 05166
016750 000005 A
016751 002000 A 5461          CALL    RMDTST                                                  03 05167
016752 017076 R
016753 006030 A 5462          LDXI    LOFCB           POINTER TO GLOBAL LO FCB                03 05168
016754 012262 E
016755 001010 A 5463          JAZ     DAS$60          JUMP IF NOT RMD                         03 05169
016756 016777 R
016757 057000 I 5464          STA     LORMD                                           C.1     03 05170
               5465 *                                                                         03 05171
016760 015004 A 5466          LDA     4,1             CHECK IF LO FCB                         03 05172
016761 005311 A 5467          DAR                     IS ALREADY OPENED                       03 05173
016762 001002 A 5468          JAP     DAS$60          YES, DONT RE-OPEN                       03 05174
016763 016777 R
               5469 *                                                                         03 05175
       016764 R 5470 LOPEN    EQU     *                                                       03 05176
               5471           OPEN    LOFCB,LO,0,1    OPEN AND LEAVE THE LO FILE              03 05177
016764 006505 A
016765 016730 E
016766 100000 A
016767 013005 A
016770 016754 E
016771 000000 A
016772 000000 A
016773 006010 A 5472          LDAI    LOPEN           CHECK STATUS                            03 05178
016774 016764 R
016775 002000 A 5473          CALL    STAT            OF LO OPEN                              03 05179
016776 006762 R
               5474 *                                                                         03 05180
       016777 R 5475 DAS$60   EQU     *                                                       03 05181
016777 002000 A 5476          CALL    MOVW            MOVE JOB NAME INTO HEADER               03 05182
017000 011761 R
017001 000004 A 5477          DATA    4                                                       03 05183
017002 000050 A 5478          DATA    V$JNAM          FROM ADDRESS                            03 05184
017003 000711 R 5479          DATA    HED+11          TO ADDRESS                              03 05185
017004 002000 A 5480          JMPN    MOVW                                                    03 05186
017005 011761 R
017006 000004 A 5481          DATA    4                                                       03 05187
017007 000070 A 5482          DATA    V$DATE          FROM ADDR                               03 05188
017010 000704 R 5483          DATA    HED+6           TO ADDRESS                              03 05189
017011 017000 I 5484          LDA     BUFS            INITIATE (=$BUF)                        03 05190
017012 127000 I 5485          ADD     BUFS            INPUT BUFFER (=$BUF)                    03 05191
017013 057000 I 5486          STA     IBBA            BYTE ADDRESS                            03 05192
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017014 010317 A 5487          LDA     V$LLUP          ADDR OF TOP OF SYMBOL TABLE                    03 05193
017015 006140 A 5488          SUBI    120                                                            03 05194
017016 000170 A
017017 057000 I 5489          STA     MACM+1                                                         03 05195
017020 057000 I 5490          STA     MEX3+1                                                         03 05196
017021 057000 I 5491          STA     BT7                                                            03 05197
017022 147000 I 5492          SUB     D40             (=40)                                          03 05198
017023 057000 I 5493          STA     BDUT            BEGIN DUP TABLE-40                             03 05199
                5494 *                                                                               03 05200
017024 010412 A 5495          LDA     V$JCB           JCP BUFFER ADDRESS                             03 05201
017025 057000 I 5496          STA     STEF-1          TO MOVE FINAL '/' DATA                         03 05202
017026 017000 I 5497          LDA     QBBQ                                                           03 05203
017027 002000 A 5498          CALL    SAR             BLANK FILL THE                                 03 05204
017030 011705 R
017031 000074 A 5499          DATA    LBSZ                                                           03 05205
017032 000314 R 5500          DATA    LBUF            LIST BUFFER                                    03 05206
017033 002000 A 5501          CALL    LEADER          OUTPUT LEADER/TRAILER ON BO DEVICE             03 05207
017034 012305 R
                5502 *                                                                               03 05208
017035 014107 A 5503          LDA     PEF             CHECK IF PARAMETER ERROR                       03 05209
017036 001010 A 5504          JAZ     S1                                                             03 05210
017037 030740 R
                5505          WRITE   SODCB,SO,0,1                                                   03 05211
017040 006505 A
017041 016765 E
017042 100009 A
017043 010403 A
017044 017146 R
017045 000000 A
017046 000000 A
017047 006505 A 5506          JSR     V$SOLO,X        CHECK IF SO = LO                               03 05212
017050 017130 R
017051 001010 A 5507          JAZ     S1                                                             03 05213
017052 000740 R
                5508          IOLINK  LO,BUFER,3      SET UP FCB                                     03 05214
017053 006505 A
017054 016743 E
017055 001405 A
017056 017151 R
017057 000003 A
                5509          WRITE   LOFCB,LO,0,1    WRITE LC02 AND WAIT                            03 05215
017060 006505 A
017061 017041 E
017062 100000 A
017063 010405 A
017064 016770 E
017065 000000 A
017066 000000 A
                5510          IOLINK  LO,LBUF,60      RESET FCB                                      03 05216
017067 006505 A
017070 017054 E
017071 001405 A
017072 000314 R
017073 000074 A
017074 001000 A 5511          JMP     S1              NOW START THE ASSEMBLY PROCESS                 03 05217
017075 000740 R
                5512 *                                                                               03 05218
                5513 *                                CHECK IF SI IS AN RMD                          03 05219
017076 000000 A 5514 RMDTST   ENTR                                                                   03 05220
017077 120400 A 5515          ADD     V$LUT1          ADDRESS OF LUN TABLE                           03 05221
017100 003012 A 5516          TAB                                                                    03 05222
017101 016000 A 5517          LDA     0,B             GET DISPLACEMENT INTO DST'S                    03 05223
017102 006150 A 5518          ANAI    0377                                                           03 05224
017103 000377 A
017104 054022 A 5519          STA     LUN             SAVE ACTUAL LUN                                03 05225
017105 003311 A 5520          DAR                                                                    03 05226
017106 054053 A 5521          STA     TEMP                                                           03 05227
017107 004201 A 5522          ASLA    1                                                              03 05228
017110 124051 A 5523          ADD     TEMP                                                           03 05229
017111 120355 A 5524          ADD     V$DSTB          ADDRESS OF DST'S                               03 05230
017112 005014 A 5525          TAX                                                                    03 05231
017113 005002 A 5526          TZB                     SET FLAG FOR NON-RMD                           03 05232
017114 015001 A 5527          LDA     1,X             GET DEVICE NAME                                03 05233
017115 006150 A 5528          ANAI    0177400                                                        03 05234
017116 177400 A
017117 006130 A 5529          ERAI    0142000         IS IT AN RMD TYPE? IF                          03 05235
017120 142000 A
017121 003010 A 5530          XPZ     DIBR            SET FLAG FOR RMD                               03 05236
017122 017160 R
017123 005021 A 5531          TDA                                                                    03 05237
017124 024002 A 5532          LIB     LUN             RETURN WITH LUN IN B-REG                       03 05238
017125 001000 A 5533          JMP*    RMDTST          NO                                             03 05239
017126 117076 R
017127          5534 LUN      BSS     1                                                              03 05240
                5535          EJEC                                                                   03 05241
                5536 *                                                                               03 05242
                5537 *                                SUBROUTINE TO DETERMINE IF LO LOGICAL          03 05243
                5538 *                                UNIT AND SO LOGICAL UNIT ARE ASSIGNED          03 05244
                5539 *                                TO THE SAME DEVICE.                            03 05245
                5540 *                                                                               03 05246
                5541 *                                CALLING SEQUENCE:                              03 05247
                5542 *                                                                               03 05248
                5543 *                                JSR  V$SOLO,X                                  03 05249
```

```
                        5544 *                                                                                  03 05250
                        5545 *   ENTRANCE PARAMETERS - NONE                                                     03 05251
                        5546 *                                                                                  03 05252
                        5547 *   RETURN PARAMETER - A REGISTER = ZERO,                                          03 05253
                        5548 *      SAME DEVICE.  A REGISTER NOT = ZERO,                                        03 05254
                        5549 *      DIFFERENT DEVICES.                                                          03 05255
                        5550 *                                                                                  03 05256
                        5551 *   B REGISTER IS PRESERVED DURING EXECUTION.                                      03 05257
                        5552 *                                                                                  03 05258
017130 074012 A 5553 V$SOLO STX     SOLO1                                                                       03 05259
017131 030400 A 5554        LDX     V$LUT1                                                                      03 05260
017132 015003 A 5555        LDA     3,X      GET SO CURRENT                                                     03 05261
017133 150463 A 5556        ANA     RHW      ASSIGNMENT                                                         03 05262
017134 054007 A 5557        STA     SOLO2                                                                       03 05263
017135 015005 A 5558        LDA     5,X      GET LO CURRENT                                                     03 05264
017136 150463 A 5559        ANA     RHW      ASSIGNMENT                                                         03 05265
017137 144004 A 5560        SUB     SOLO2    TAKE DIFFERENCE                                                    03 05266
017140 034002 A 5561        LDX     SOLO1                                                                       03 05267
017141 006705 A 5562        IJMP    0,X      RETURN                                                             03 05268
017142 000000 A
017143 000000 A 5563 SOLO1  DATA    0                                                                           03 05269
017144 000000 A 5564 SOLO2  DATA    0                                                                           03 05270
017145 000000 A 5565 PEF    DATA    0                                                                           03 05271
017146 000003 A 5566 SODCB  DATA    3,BUFER,C                                                                   03 05272
017147 017151 R
017150 000000 A
017151 120240 A 5567 BUFER  DATA    '  JC02'                                                                    03 05273
017152 145303 A
017153 130262 A
017154          5568 SSLUN  BSS     1                                                                           03 05274
017155          5569 POLUN  BSS     1                                                                           03 05275
017156 000000 A 5570 SILUN  DATA    0                                                                           03 05276
017157          5571 PILUN  BSS     1                                                                           03 05277
017160 005102 A 5572 DIBR   INCR    2                                                                           03 05278
017161 005302 A 5573 DECB   DECR    2                                                                           03 05279
017162          5574 TEMP   BSS     1                                                                           03 05280
                5575 *                                                                                      03 05281
017163          5576        BSS     01044        EXTEND TO TOP OF 8K                                            03 05282
020227          5577 DASEND ORG     *                                                                           03 05283
        016256 R 5578       END     DASMR                                                                       03 05284
ENTRY NAMES
016256 R DASMR
EXTERNAL NAMES
016670 E BOFCB   016733 E GOFCB   017064 E LOFCB   016624 E PIFCB
016604 E POFCB   016631 E SIFCB   016632 E SSFCB   017070 E V$EXEC
017061 E V$IOC   006765 E V$IOST
SYMBOLS
000124 R $BUF    012366 R $LIST   000076 R $PCW    006263 R ADD
006273 R ADD1    006275 R ADD2    006277 R ADDB    006312 R ADDS
000053 R AF      006335 R AOF     000002 A AP      011152 R ARP1
011136 R ARPT    000022 R AS      001176 R ASR2    001212 R ASR3
001222 R ASR4    001226 R ASR5    001221 R ASRJ    001106 R ASSB
001103 R ASSR    000010 A AZ      000000 A B       012030 R B2A
012107 R B2AB    012104 R B2B1    012075 R B2S1    012071 R B2SA
002076 R B2S3    000000 R BASE    005274 R BCK     005302 R BCKS
012367 R BDT     000077 R BDUT    001304 R BES     001321 R BES1
016256 R BMET    014750 R BMPT    000007 A BO      016670 E BOFCB
011204 R BOMOV   016664 R BOPEN   016357 R BOPT    000113 R BORF
000105 R BORMD   003323 R BOWR    000421 A BS0     000424 A BS3
000425 A BS4     000427 A BS6     001267 R BSS     000066 R BT1
000067 R BT2     000070 R BT3     000072 R BT4     000073 R BT5
000074 R BT6     000075 R BT7     000674 R BUF$    017151 R BUFER
012010 R BYT1    012012 R BYTE    000020 A BZ      000100 R C1
000101 R C2      011402 R CS26    001342 R CALL    012275 R CLRBUF
000050 R CMSZ    000036 R CODE    001731 R COMN    002065 R CONT
011126 R COUT    000055 R CRF     011356 R CSY1    011321 R CSYM
007675 R CTS1    007677 R CTST    002377 R D40     001360 R DA1
001432 R DA2     001400 R DA3     001462 R DAF     001540 R DAF1
001504 R DAF2    001555 R DAF3    001547 R DAF4    001553 R DAF5
001604 R DAF6    001635 R DAF7    001640 R DAF8    001647 R DAF9
007663 R DAF$    001410 R DAQ     001433 R DAQ1    001411 R DAQ2
001412 R DAQ3    001436 R DAQ4    001452 R DAQ5    001420 R DAQ6
001450 R DAQ7    001443 R DAQ8    016514 R DAS$00  016517 R DAS$01
016553 R DAS$02  016606 R DAS$03  016622 R DAS$04  016625 R DAS$05
016742 R DAS$06  016677 R DAS$50  016727 R DAS$60  016473 R DAS0
020227 R DASEND  016256 R DASMR   001362 R DATA    017101 R DEC8
007154 R DEF1    007161 R DEF2    007252 R DEF3    007235 R DEF4
007273 R DEF5    007131 R DEF6    007216 R DEF7    007150 R DEF8
007164 R DEFI    007277 R DEFT    002016 R DETL    007162 R DF24
007142 R DFLG    017160 R DIBR    000057 R DIPF    006316 R DIV
006362 R DIV*    006427 R DIV2    0064   R DIV3    002452 R DPCT
000064 R DPF     002453 R DPLN    001717 R DS1     011224 R DSUB
002312 R DUP     002324 R DUP1    002371 R DUP2    002401 R DUP3
002432 R DUP4    002451 R DUP5    002364 R DUP6    002405 R DUP7
002417 R DUP8    002446 R DUP9    002424 R DUPB    002441 R DUPC
000027 R E       012151 R EIGHT   014719 R EIT     002031 R EJECT
004500 R EM41    004455 R EMAC    002637 R EN04    002662 R EN05
002675 R EN08    002710 R EN09    002734 R EN10    002754 R EN11
003013 R EN12    003031 R EN13    003052 R EN2     003075 R EN21
003121 R EN22    003103 R EN23    003143 R EN24    000161 R EN25
003175 R EN26    003213 R EN27    003227 R EN28    003242 R EN29
003246 R EN3A    003275 R EN3B    003277 R EN3H    003342 R EN41
002715 R EN9A    002563 R END     000027 R ENDT    003377 R ENM1
```

```
003405 R ENM2   003417 R ENM3   003423 R ENM4   016365 R EOPT
000052 R EP     001326 R EQU    000010 R ERCT   010574 R ERLN
007747 R ERR    007765 R ERR1   000011 R ERSC   000012 R ERSK
001703 R ES     000067 R ET1    000070 R ET2    000071 R ET3
000073 R ET4    000074 R ET5    000075 R ET6    005516 R EX
005551 R EX1    005540 R EX2    005562 R EX3    005525 R EX5
005337 R EXN    005476 R EXP    005370 R EXP1   005364 R EXP2
005441 R EXP3   005463 R EXP4   005454 R EXP5   005434 R EXP6
005471 R EXP7   005461 R EXP8   005462 R EXP9   001750 R EXT
001752 R EXT1   003635 R FEX    003652 R FEX1   003702 R FEX2
003653 R FEX3   000465 A FIVE   003535 R FORM   000423 A FOUR
002624 R FPOWR  000675 R FRM$   003550 R FRM1   003557 R FRM2
003543 R FRM3   003620 R FRM5   003630 R FRM7   003622 R FRM8
003626 R FRM9   003603 R FRMA   000027 R FT1    000030 R FT2
012213 R GBOMO  012230 R GBOMO1 007724 R GN01   007727 R GN02
007720 R GN03   007707 R GNC0   007737 R GNC1   000011 A GO
016733 E GOFCB  016727 R GOPN   000114 R GORF   000106 R GORMO
002240 R GOT    002150 R GOT1   002124 R GOT2   002155 R GOT3
002202 R GOT4   002206 R GOT5   002144 R GOT7   002225 R GOTL
002110 R GOTO   003357 R GOWR   011441 R GS1    011437 R GS11
011460 R GS1M   011501 R GS2    011477 R GS21   011520 R GS2M
011536 R GS3    011534 R GS31   011554 R GS4    011552 R GS41
011572 R GS5    011570 R GS51   011611 R GS5M   011627 R GS6
011625 R GS61   011647 R GS6M   012175 R GSRC01 012205 R GSRC02
012164 R GSRCAD 011666 R GST    002212 R GTS    011411 R GV75R
011435 R GV75RE 000676 R HED    005317 R IAC    005334 R IAC1
010007 R IADC   000032 R IADF   000065 R IBBA   000034 R ICP
000033 R ICP0   007656 R IDN    007605 R IDN1   007612 R IDN2
007654 R IDN3   007662 R IDNC   007661 R IDND   007574 R IDOF
007521 R IDS    007527 R IDS1   007560 R IDS2   007516 R IDS4
000060 R IDSA   007573 R IDSO   002512 R IF1    002541 R IF2
002554 R IF3    002542 R IF4    002545 R IF5    002465 R IFE
002456 R IFF    002561 R IFFG   002455 R IFT    002502 R IFTP
016372 R IOPT   010030 R ISA    010026 R ISA1   010054 R ISO
010052 R ISO1   007502 R ISG    007500 R ISG1   007477 R ISG2
007474 R ISM    007421 R ISM1   007444 R ISM2   007453 R ISM3
007465 R ISM6   007440 R ISM7   000023 R IWA    016356 R IXR
000472 A KD13   000044 R LAB1   000040 R LAB2   000000 R LB2P1
000002 R LB2P22 000003 R LB2P28 000004 R LB2P36 000005 R LB2P51
000001 R LB2P8  000074 A LBSZ   000314 R LBUF   000300 A LC
000050 A LCJP   000007 R LCT    012363 R LDRDCB 010525 R LE
010526 R LE1    010565 R LE2    012305 R LEADER 012312 R LEADR1
007301 R LF1    007310 R LF2    007343 R LF3    007334 R LF4
007346 R LFNO   010117 R LIST   010130 R LIST01 010134 R LIST02
010141 R LIST03 002076 R LISTF  007773 R LITC   010205 R LL
010300 R LLN    010335 R LLN1   010330 R LLN2   010376 R LLNA
010415 R LLNB   010427 R LLNC   010443 R LLNC1  010457 R LLND
010477 R LLNE   010310 R LLNH   010315 R LLNJ   010323 R LLNK
010516 R LLNL   010475 R LLNM   010523 R LLNT   010446 R LLNV75
010170 R LLV    010202 R LLV1   000017 R LNCT   000005 A LO
001250 R LOC    017064 E LOFCB  016754 R LOPEN  016377 R LOPT
000107 R LORMO  003461 R LOUT   012256 R LOWR01 012271 R LOWR1
012252 R LOWRIT 016355 R LSR8   010143 R LST    017127 R LUN
010223 R LV     000060 R M      003735 R MAC    003756 R MAC1
003747 R MAC2   004010 R MAC3   003752 R MAC4   004322 R MAC5
004317 R MAC6   004004 R MAC7   003717 R MAC8   004277 R MAC9
004031 R MACA   004050 R MACB   004112 R MACC   004126 R MACC1
004132 R MACC2  004167 R MACC3  004171 R MACC4  004204 R MACC5
004216 R MACC6  004221 R MACCHC 004232 R MACCMC 004223 R MACD
004232 R MACE   004251 R MACF   004274 R MACM   016410 R MAPT
014750 R MC0    015034 R MC1    015302 R MC10   015321 R MC11
015373 R MC12   015414 R MC13   015476 R MC14   015513 R MC15
015541 R MC16   015565 R MC17   015611 R MC18   015630 R MC19
015055 R MC2    015645 R MC20   015712 R MC21   015751 R MC22
015766 R MC23   016030 R MC24   016065 R MC26   016160 R MC27
016217 R MC28   015076 R MC3    015116 R MC4    015136 R MC5
015157 R MC6    015177 R MC7    015220 R MC8    015241 R MC9
001701 R MD     004334 R MEX    004354 R MEX2   004425 R MEX3
004433 R MEX4   004451 R MEX5   004375 R MEX6   004446 R MEX7
004441 R MEX8   000035 R MLF    003531 R MOP    003534 R MOPJ
012124 R MOPT   011710 R MOV1   011720 R MOV2   011740 R MOV3
011764 R MOVC   011755 R MOVE   011733 R MOVR   011761 R MOVW
001702 R MS     000420 A MT     006457 R MUL    006476 R MUL1
006427 R MUL2   006504 R MUL3   006451 R MUL4   006522 R MULA
006523 R MULE   006524 R MULS   001360 R MZE    002030 R NAM1
002017 R NAM2   001776 R NAM3   002040 R NAM4   001767 R NAME
000020 A NBIT   003045 R NCON   002071 R NLIS   016415 R NOPT
012236 R NOROOM 003440 R NOUT   006761 R NREC   001723 R NULL
001052 R O1000  001031 R O2000  000062 R OBPT   000074 A OBSZ
000410 R OBUF   007414 R OCF1   007371 R OCF2   007355 R OCF3
007411 R OCF4   007351 R OCF5   007336 R OCF6   007416 R OCFO
010161 R OLV    000421 A ONE    010260 R OO     010267 R OO1
010671 R OOR1   010655 R OOR2   010644 R OORG   002303 R OPS1
002305 R OPS2   002277 R OPS4   002241 R OPSY   001244 R ORG
001254 R ORLC   000116 R OSRF   011001 R OT21   011011 R OT22
011016 R OUT2   011044 R OUT3   011073 R OUT4   010724 R OWL
010751 R OWL1   010674 R OWL2   010743 R OWL3   010720 R OWL4
010760 R OWL7   010701 R OWL8   000740 R P1INIT 000063 R PASS
000020 R PC     017145 R PEF    000006 R PGNO   000004 A PI
016624 E PIFCB  017157 R PILUN  012345 R PIREAD 000110 R PIRF
000102 R PIRMD  000056 R PLF    000012 A PO     000031 R POBP
016604 E POFCB  017105 R POLUN  001002 R POPEN  016540 R POPN
000111 R PORF   000103 R PORID  003376 R POSS   006146 R PO1
```

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006167 R PQ2     006160 R PQ3     006204 R PQ4     006201 R PQ5
000054 R PRF     005735 R PRI     006111 R PRI1    006073 R PRI2
006036 R PRI3    006052 R PRI4    006210 R PRI5    006025 R PRI6
005761 R PRI7    006106 R PRI8    006066 R PRI9    006134 R PRIA
006102 R PRIB    006141 R PRID    006120 R PRIP    006145 R PRIQ
001361 R PZE     005515 R QADD    000725 R QBBQ    000732 R QBBR
003437 R QEBQ    003415 R QEXQ    004771 R QIIE    003416 R QSYQ
000025 R RDF     006561 R RDSS    007118 R REC     007075 R REC1
007115 R RET     000463 A RHW     000021 R RLC     017076 R RMDTST
006623 R RN01    006630 R RN02    006634 R RN03    006667 R RN04
006677 R RN05    006715 R RN07    006723 R RN08    006730 R RN09
006734 R RN10    006746 R RN11    006525 R RNP2    006563 R RNP4
006570 R RNR     006612 R RNR1    006554 R RNR2    006662 R RNR3
006564 R RNR4    006566 R RNR5    006760 R RNRT    000050 R RVAL
016422 R S01     000740 R S1      001011 R S2      001041 R S21
001065 R S22     001060 R S23     005254 R S345    011705 R SAR
011667 R SAR1    011673 R SAR2    011702 R SAR3    007126 R SBK
007124 R SBK1    011765 R SBT     012026 R SBT1    012027 R SBT3
000024 R SBTA    001325 R SET     000467 A SEVEN   000002 A SI
016631 E SIFCB   000026 R SIGN    017156 R SILUN   000466 A SIX
000037 R SMFL    002045 R SMRY    000003 A SO      017146 R SODCB
011436 R SOF     017140 R SOLO1   017144 R SOLO2   002104 R SPAC
000115 R SRAF    000010 A SS      016632 E SSFCB   017154 R SSLUN
012327 R SSREAD  000112 R SSRF    000104 R SSRMD   000004 A STA
006764 R STA0    006773 R STA1    006762 R STAT    007007 R STEF
007015 R STEF1   007040 R STEND   007056 R STEND1  007056 R STEND2
007070 R STER    000000 A STS     000002 A STV     006202 R SUB
006256 R SUB1    006216 R SUB2    004507 R T1      004534 R T11
004563 R T12     004573 R T13     004547 R T14     004601 R T15
004630 R T16     004640 R T17     004631 R T18     004667 R T19
004701 R T1A     004720 R T1B     004727 R T1C     004705 R T1D
004656 R T1G     004530 R T1H     004570 R T1X     005004 R T2
005021 R T21     005010 R T22     004772 R T3      005026 R T4
005030 R T41     005033 R T5      005066 R T51     000027 R T5T
017162 R TEMP    000471 A TEN     012120 R TENS    005644 R TERM
000464 A THREE   012136 R TITLE   010241 R TL      010006 R TOF
010111 R TOF1    010636 R TOU1    010570 R TOUT    005666 R TRM1
005677 R TRM2    005663 R TRM3    005710 R TRM4    005700 R TRM5
005722 R TRM6    005653 R TRM7    000117 R TTLBLK  010251 R TV
000422 A TWO     005607 R UN1     005631 R UN2     005636 R UN3
005570 R UNOP    000070 A V$DATE  000336 A V$DSTB  017070 E V$EXEC
017061 E V$IOC   006765 E V$IOST  000412 A V$JCB   000055 A V$JCFG
000056 A V$JFCB  000050 A V$JNAM  000054 A V$LCNT  000017 A V$LLUP
000400 A V$LUT1  017130 R V$SOLO  000001 A V75     005127 R V751
005134 R V752    005140 R V752A   005156 R V752B   005161 R V753
005202 R V754    005204 R V755    005207 R V756    005223 R V757
005246 R V759    000016 R V75FD   005103 R V75INS  005117 R V75JT
005253 R V75TMP  000051 R VAL     016302 R VDASM1  016345 R VDASM2
000001 A VORTEX  011160 R WR1     011307 R WR2     011236 R WR3
011243 R WR4     011264 R WR5     011227 R WRBD    011255 R WRGD
011303 R WRIT    006737 R WRPD    006743 R WRPD1   000001 A X
013612 R XCPX    007744 R XICP    014014 R XSOF    000040 A XZ
000006 R ZBEG    000062 R ZCND
  0 ERRORS ASSEMBLY COMPLETE
```

```
  202  $BUF      212   928   952  1055  2764  2829  2889  3621  4587
                4594  4610  5224  5326  5328  5356
 4703  $LIST     768   774  1036  4647
  168  $POW      753  1201  1293  1314  1624  1841  1944  2022  2909
                2916  3503  4042  4058  4667  5253  5298  5299  5292
                5293  5296  5297  5305  5306  5311  5312  5315  5317
                5419  5439
 2586  ADD      2296  2500
 2594  ADD1     2602
 2596  ADD2     2604
 2598  ADDB     2202  2559  2600  2605
 0610  ADDS     2588  2605
  142  AF       2210  2237  2255  2587  2639  2703
 2629  AOF      2561  2616  2733  2677  2689  2693
 4010  ARP1     4005  4008
 4000  ARPT     1177  3832  3942  3960  4014
  120  AS        355  2059  2060  2069  2084  2094  2117
  363  ASR2      358
  372  ASR3      368
  332  ASR4      333   338
  388  ASR5      347   350  2024
  377  ASRJ      364
  322  ASSB      327
  320  ASSR      312   326  1776
   35  AZ        560  1594  1600  1677  1710  2227  2229  2232
   31  P         873   875  1041  1688  2130  2031  2109  2481  2483
             2947  3082  3082  3097  3104  3098  3123  3136  3140
             3144  3168  3170  3171  3172  3256  3224  3930  5517
 4508  B2A      1269  1278  3478  3640  2766  4531
 4546  B2AB     4520  4523  4585  4558
 4543  B2B1     4549
 4537  B2S1     4511  4515  4516  4517
 4533  B2S2     4533
 4538  B2S3     4541
 2128  BCK       406   424   439   441   453   491   630   700   726
                 738   878  1154  1512  1843  1846  1946  1949  1951
```

		1981							
2137	BCKS	834	911	981	1180	1751	2128	2139	2141	2144
4709	BDT	154								
169	BDUT	914	939	5493						
431	BES	4714								
440	BES1	401	427							
5214	BMET	268	273							
5033	BMPT	156	268	270						
96	BO	1305	2922	4053	4671	5422	5424	5435		
67	BOFCB	1288	1305	2907	2922	4055	5426	5435		
4036	BOMOV	4027								
5434	BOPEN	5436								
5287	BOPT	5266								
190	BORF	1298	1310	4031	4047					
179	BORMD	1296	2920	4045	5427					
1304	BOWR	1307								
48	BS0	1641								
50	BS3	5291								
51	BS4	1842	1945	5293						
420	BSS	4713								
154	BT1	3127								
156	BT2	1547	3356	3357						
158	BT3	306								
161	BT4	305	2200	2214	2248	2445	2451	2556	2570	2611
		2624	2632	2640	2650	2674	2700	2704	2714	4193
		4233	4270	4293	4295	4298	4316	4318	4323	4333
		4335	4355	4357	4363	4376	4378			
163	BT5	304	1795	2454	2464	4322	4329	4332		
165	BT6	237	283	1143	1184	1209	1231	1253	3085	4369
		4372								
167	BT7	1549	1550	1690	1731	1740	1741	1742	1743	1760
		5491								
212	BUF$	2748	2810	2891	3625	5484	5485			
5567	BUFER	5508	5566							
4485	BYT1	4493								
4487	BYTE	1684	3361	4472	4496					
86	BZ	562	1594	1600	1710	2227	2229	2232		
170	C1	663	2678	2713	3330					
171	C2	666	1420	1470	2685	2725	2733	3312	4492	
4149	C826	4105	4108	4111	4154					
459	CALL	4717								
4658	CLRBUF	3510	4655	4664						
1165	CMSZ	276	681	683	684	1157				
135	CODE	1142	1160	1176	1183	1836	1880	1941	3831	3859
		3874	3881	3908	3927	3944	3969	4010	4013	
680	COMN	4722								
762	CONT	747	754	4727						
3991	COUT	3906	3921	3941	3965	3995				
144	CRF	2226	2255	2550	2552	2596				
4128	CSY1	4144								
4103	CSYM	3967	4115	4131						
3341	CTS1	3346								
3343	CTST	344	374	489	701	723	832	893	979	998
		1009	1019	1428	1503	1578	1670	1749	1866	1963
		1994	2013	2073	2087	2099	3347	3683	3717	
927	D40	924	946	2745	2819	5492				
482	DA1	490								
489	DA2	516								
488	DA3	468	519	650						
530	DAF	486	546							
567	DAF1	543								
544	DAF2	571								
579	DAF3	563								
573	DAF4	580								
577	DAF5	597	617							
599	DAF6	583								
622	DAF7	582								
639	DAF8	562	627							
629	DAF9	623	624							
3326	DAFS	596	606	610	614	3334				
495	DAQ	484								
509	DAQ1	503								
496	DAQ2	507								
497	DAQ3	510								
512	DAQ4	501								
521	DAQ5	514								
502	DAQ6	522								
524	DAQ7	499								
515	DAQ8	526								
5358	DAS$00	5344	5349							
5361	DAS$01	5347	5357							
5379	DAS$02	5370								
5398	DAS$03	5393								
5413	DAS$04	5404	5412							
5418	DAS$05	5400	5409							
5457	DAS$06	5440	5446	5451						
5438	DAS$50	5421	5428	5433						
5475	DAS$60	5463	5468							
5348	DAS0	5343								
5233	DASMR	75	5578							
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5573	DECB	5368								
3000	DEF1	3018	3026							

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3055   DEF3     3015
3041   DEF4     3028
3064   DEF5     2997   3057
2997   DEF6     3066
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2999   DEF8     3032
3008   DEFI      453    688    997    730   2991
3067   DEFT     3000   3001   3011   3012   3019   3034   3049
 746   DETL     4726
3006   DF21     3022   3035   3046   3050   3053
2988   DFLC      388    414    420    435    459    480    674   1034   1406
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5572   DIBR     5530
 146   DIFF      310    688    895    965   1519   1728   2872
2638   DIV      2371   2675
2651   DIV1     2645
2677   DIV2     2653
2671   DIV3     2679
 967   DPCT      897    933    936
 152   DPF       235   1045   3003   3031
 968   DPLN      910    918    941
 667   DS1       662    665
 660   DSUB      465    488    506    647    670
 888   DUP      4732
 895   DUP1      889
 910   DUP2      901    906
 929   DUP3      915    923    925
 951   DUP4      940    945    947   2746   2813
 969   DUP5      921    930
 919   DUP6      931
 933   DUP7      920    943
 942   DUP8      950
 964   DUP9      935
 959   DUPB      944    957
 960   DUPC      917    927
 126   E         535    536    550    551    559    573    587    589    622
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5029   EIT       271
 751   EJEC     4720
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1790   EMAC     4738
1072   EN04     1059   1061   1063   1075
1084   EN05     1087
1089   EN08     1082
1097   EN09     1091
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1118   EN11     1093   1096   1099   1105   1116
1144   EN12     1154
1156   EN13     1146
1170   EN2      1038
1181   EN21     1171   1173
1197   EN22     1187
1185   EN23     1195
1210   EN24     1220
1222   EN25     1212
1232   EN26     1242
1244   EN27     1234
1254   EN28     1261
1263   EN29     1256
1267   EN2A     1203
1285   EN2B     1277
1312   EN2I     1285   1287   1299
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1034   END      4735
 125   ENDT     1362   1364   1399   1400
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1340   ENM3     1330
1341   ENM4     1274
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3779   ERLN      229   1276   3760   3775
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3401   ERR1     3386   3395
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 653   ES        513    552
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 157   ET2       273   1046   4210   4212   4235   4240   4246   4249
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 164   ET5       263
 166   ET6       236    285   1147   1186   1211   1233   1255   3087
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2285  EX2      2279
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2275  EX5      2289  2297
2167  EXN       411   452  1174  1998  2114  2150  2181
2250  EXP       460   487  1739  1813  1968  1991  2091  2168
2193  EXP1     2261
2189  EXP2     2260
2225  EXP3     2209  2218
2239  EXP4     2227
2220  EXP6     2211
2245  EXP7     2195  2235
2237  EXP8     2232
2238  EXP9     2229
 694  EXT      4723
 695  EXT1      702
1464  FEX      4556
1474  FEX1     1469
1493  FEX2     1487  1490
1475  FEX3     1504
  53  FIVE     1638  2069
1412  FORM     4736
  47  FOUR      234   588   720   905  2056  2063  2928  3964  3980
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1421  FRM1     1425
1427  FRM2     1421
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1438  FRM7     1431  1433
1453  FRM8     1442  1460
1436  FRM9     1413
1440  FRMA     1436
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4616  GBOMO1   4607
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3366  GN02     3354
3360  GN03     3369
3352  GNCO      336   365   482   512   541   544   785   793  1170
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 850  GOT       833   843
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 792  GOT2      803
 808  GOT3      823
 822  GOT4      814   818
 825  GOT5      801   821
 802  GOT7      796
 842  GOTL      802   822   844   849
 785  GOTO     4730
1326  GOWR     1329
4190  GS1       864  1441  1535  4216
4188  GS11     4194
4203  GS1M     4196  4198  4201
4230  GS2      1692  4253
4228  GS21     4234
4243  GS2M     4236  4238  4241
4267  GS3      2942  4276
4265  GS31     4271
4290  GS4      2194  2325  2478  4299
4288  GS41     4294
4313  GS5      1753  1763  1784  1797  1803  4336
4311  GS51     4317
4326  GS5M     4319  4321  4324
4352  GS6      3059  4379
4350  GS61     4356
4366  GS6M     4358  4360  4364
4590  GSRC01   4584
4597  GSRC02   4591
4583  GSRCAD   2743  2808  2839  4588  4595  4601
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               4359  4362  4370  4374  4377
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4160  GV75R    2043  2049  2054  2077  2101  4166  4173
4174  GV75RE   4172
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2149  IAC       421   431   680   896   903   978  1003  1010  1020
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2159  IAC1     2153
3423  IADC      481  1933  2174  3427  3434
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 133   ICP       335   371   495   521   530   567   826   954  1557
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                3360  3366  3381  3633  3657  3660  3684  3741
 132   ICP0      334   825   955  1556  1580  1585  1757  1769  1801
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3318   IDN       539   549   568  3283  3285
3283   IDN1     3319
3288   IDN2     3297  3314
3316   IDN3     3290  3293
3321   IDNC     3287  3298  3316
3320   IDND     3291  3309
3269   IDOF     2534  3226  3271  3274
3228   IDS       341   788   798  2511
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3255   IDS2     3243
3226   IDS4     3238  3240
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1015   IF2      1012  1022
1026   IF3       999
1016   IF4      1028
1019   IF5      1006
 981   IFE      1017
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1029   IFFG      977   987
 973   IFT      4733
1030   IFTP      997  1004  1008  1011  1027
5295   IOPT     5270
3443   ISA       786  3178  3445  3449  3453
3441   ISA1     3447  3451  3454
3463   ISD       794  3187  3465  3469
3461   ISD1     3467
3212   ISG       537   547  3219
3210   ISG1     3215
3209   ISG2     3217
3199   ISM       339   345   698   707   724   805   809   856  1583
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3165   ISM1     3200
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3185   ISM3     3181
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3178   ISM7     3190  4565  4569
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                1838  1851  1876  1892  1923  1937  1971  1986  2011
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                3972  3974  4104  4106  4107  4109  4110  4112  4113
                4114  4116  4117  4121  4123  4126  4127  4128  4132
                4133  4137  4139  4142  4143
 137   LAB2      346   349   810   812   816   820   857   860   862
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                1708  2423  2433  2474
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 105   LB2P22   3667  5240
 106   LB2P28   3686  3742  5242
 107   LB2P36   3721  3724  5241
 108   LB2P51   1396  3733  5240
 104   LB2P8    3588  5238
 206   LBSZ     1125  4637  4662  5499
 204   LBUF     1126  1207  1229  1251  1270  1271  1275  1279  1280
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                5500  5510
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  13   LCJP       14    15    16    22    23
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4701   LDRDCB   2925  4671
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3750   LE1      3777
3773   LE2      3762  3764
4636   LEADER   4669  4676  5501
4670   LEADR1   4673
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3106   LF3      3084  3088  3100
3100   LF4      3092  3096
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3499   LIST      780  3513  3605
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3508   LIST02   3501  3505
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3410 LITC 1821 2175 3413 3418
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3635 LLN2 3643
3669 LLNA 3677
3681 LLNB 3672 3674
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3699 LLNC1 3707
3712 LLND 3693 3698 3704
3727 LLNE 3738
3621 LLNH 3663
3625 LLNJ 2747 3670 3691 3729 3735
3630 LLNK 3627
3740 LLNL 3716
3725 LLNM 3722 3743
3744 LLNT 3632 3658 3685 3740
3703 LLNV75 3696

3538 LLV 1840 1943 1950 3532 3546
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1525 MAC4 1536
1717 MAC5 1693
1715 MAC6 1594 1600
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1534 MAC8 1530
1699 MAC9 1555 1560
1564 MACA 1572
1576 MACB 1567 1569
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1619 MACC1 1661
1624 MACC2 1615
1644 MACC3 1639
1645 MACC4 1643
1653 MACC5 1627
1660 MACC6 1648 1652
1662 MACCHC 1604 1619 1647
1663 MACCMC 1605 1626 1646 1656 1657
1668 MACD 1612 1617 1625 1630 1634 1642 1655 1659
1673 MACE 1681
1683 MACF 1565 1610 1675 1677
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5087 MC12 5004
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5123 MC19 5011
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5140 MC22 5014
5144 MC23 5015
5150 MC24 5016
5158 MC25 5018

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1739  MEX2     1750
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1785  MEX5     1754  1781
1752  MEX6     1736  1738
1783  MEX7     1764
1779  MEX8     1729
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1408  MOPJ      360
4556  MOPT      359  2490
4416  MOV1     4456
4424  MOV2     4432
4441  MOV3     4449
4457  MOVC     4426  4431  4438  4441  4444
4451  MOVE     4425  4443
4434  MOVR     4419
4455  MOVW      267   926   949  1131  1135  1204  1226  1248  1272
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2715  MUL1     2709
2684  MUL2     2722
2721  MUL3     2730
2686  MUL4     2690
2732  MULA     2727
2733  MULE     2729
2734  MULS     2688
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 723  NAM2      734
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1351  NOUT     1150  1162  1191  1365
2878  NREC      930  1168  2871  2902
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3135  OCF2     3131
3125  OCF3     3147
3146  OCF4     3138  3142
3121  OCF5     3152
3126  OCF6     3133
3151  OCFD      343   859  1434  1520  1628  3121  3122  3145
3530  OLV       394   395   669  1511  1975  1980  3533
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3599  OO       1375  3591  3591  3607
3603  OO1      3608
3836  OOR1     3825
3826  OOR2     3821  3837
3819  OORG      440  3834
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 882  OPS2      861
 877  OPS4      865   884
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3912   DT22     3932
3917   DUT2     1178  1881  3833  3860  3919
3937   DUT3     1837  3875  3939  3955
3961   DUT4     1363  1942  3882  3963  3982
3862   DWL      3531  3878

3880   DWL1     3872
3842   DWL2     3865
3876   DWL3     3883
3859   DWL4     3854  3857
3885   DWL7     3845
3846   DWL8     3900
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                3539  3552  3565  3918  3938  3962
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5565   PEF      5254  5277  5503
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  62   PIFCB    4692  5342  5411
5571   PILUN    5335  5406
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 184   PIRF     2801  2807  2819  2822
 173   PIRMD    1060  1090  2820  2849  2855  5336  5340  5350
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2530   PQ2      2523
2524   PQ3      2533
2539   PQ4      2512  2535
2537   PQ5      2521
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2409   PRI      2356  2369  2377
2488   PRI1     2475
2476   PRI2     2491  2507  2540
2452   PRI3     2448
2462   PRI4     2456
2542   PRI5     2497  2501
2445   PRI6     2442
2422   PRI7     2419
2485   PRI8     2460

2473   PRI9     2427  2431  2436
2505   PRIA     2417
2481   PRIB     2468  2471
2511   PRID     2421
2495   PRIP     2415
2516   PRIQ     2413
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1342   QEBQ     1806  2142  3428
1838   QEXQ     2299  2341  2388  2438  2443  2542
1952   QIIE     1844  1947
1339   QSYQ      721   882  2488
 123   RDF       327   445  3006  3016
2766   RDSS     2759
2952   REC       321  2272  2312  2355  2410  2943
2941   REC1     2953
2960   RET       383   396   676   763   769   776   781   893   966
                988   994  1526  1710  1724  1786  1804  1809  2130
               2274  2281  2302  2313  2326  2334  2340  2344  2357
               2364  2391  2425  2479  2486  2560  2545  4579
  59   RHW      1636  5556  5559
 119   RLC       281   413  2506  2990  3826  3896
5514   RMDTST   5331  5334  5363  5381  5425  5443  5461  5533
2799   RN01     2852
2803   RN02     2856
2806   RN03     2800  2802  2850  2857
2830   RN04     2823
2837   RN05     2824
2848   RN07     2796
2854   RN08     2798
2859   RN09     2844
2863   RN10     2846
2870   RN11     2847
2741   RNP2     2791
2769   RNP4     2760
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2775   RNR      311   792   808   922   989  1552  1777
2790   RNR1    2777
2761   RNR2    2744  2757
2826   RNR3    2809  2821
2771   RNR4    2873  2876
2773   RNR5    2789
2877   RNRT    2840  2864
 139   RVAL     328   391   668   687  1359  1377  1747  1822  1825
               1832  1834  1868  1894  1897  1900  1901  1934  1974
               1977  2154  2155  2158  2176  2178  2190  2192  2237
               2238  2240  2241  2252  2394  2395  3411  3414  3415
               3424  3431  3433  3789  3794  3799  3804  3827  3842
               3846  3850  3863  3866  3869  3886  3894  4001
5323   $01     5258
 228   $1      1315  1318  1320  1333  5504  5507  5511
 264   $2      1158  1163
 284   $21      300
 302   $22      286   313
 297   $23      291
2113   $345    1960  1985  2016  2124
4402   $AR      278  1120  1124  2762  2827  4078  4389  4399  4400
               4610  4636  4661  5498
4389   $AR1    4403
4393   $AR2    4397
4399   $AR3    4394
2976   $BK      332   343   373  1554  1577  1669  2083  2979  2983
               3682  3713
2974   $BK1    2982
4467   $BT     1381  1383  1386  1388  1391  1393  1571  1608  1673
               3184  3604  3676  3689  3727  3813  4481
4497   $BT1    4470  4474  4478
4498   $BT3    4468  4480
 122   $BTA    1224  1246  1265  1394  1395  1551  1581  1588  1649
               1651  1683  3175  3512  3520  3579  3588  3668  3687
               3720  3725  3732  3787  3814  4471  4479
 445   $ET     4715
  56   $EVEN   1678  2085  3195  5237
  22   $I      5330  5356
  64   $IFCB   5353  5416
 124   $IGM     326   472   476   661
5570   $ILUN   5332  5338  5401
  55   $IX      245   611  2418  3446  5241
 136   $MFL     746   835   847   912   982   992
 742   $MRY    4725
  99   $O      5505
5366   $ODCB   5505
4175   $OF     4170
5563   $OLO1   5553  5561
5564   $OLO2   5557  5560
 780   $PAC    4729
 194   $RAF    2753  2818  2841  4586  4593  4599
  97   $S      1085  1105  1110  4681  5328  5390
  66   $SFCB   1054  1085  1105  1110  2749  4681  5382  5397  5417
5568   $SLUN   5383  5388  5402  5407
4680   $SREAD  1095  2767  4683  4686
 188   $SRF    1092  1098  2742  2754  2758
 177   $SRMD   1078  2756  5384  5399  5403
  90   $TA      287   294   296   713   717   719   731   738   873
               874  1147  1188  1213  1235  1358  1375  2483  2506
              2999  3004  3023  3030  3036  3038  3041  3892  3897
2888   $TA0    2889
2890   $TA1    2832  2835
2936   $TAT    1048  1070  1076  1088  1113  1302  1306  1323  1330
               2805  2861  2875  2885  4020  4022  4653  4624  4684
               4695  5327  5427  5450  5472
2901   $TEF    2811  2831  5496
2915   $TEND   2911  2913
2923   $TEND1  2918  2921
2924   $TEND2  2933
2927   $TER    2834  2889  2889  2889  2905  4640
   89  $TS      867   869   871  1352  1354  1356  1379  1382  1384
              1387  1389  1030  3089  3093  3097
   91  $TV      293   875   876  1360  1374  2469  2481  3002  3033
              3048  3090  3892
2554   $UB     2288  2322  2571  2576  2581
2578   $UB1    2573
2550   $UB2    2575
1813   $1      4556
1829   $11     1887  1890
1848   $12     1924
1855   $13     1820
1835   $14     1808
1860   $15     1857
1877   $16     1853
1884   $17     1871  1875
1878   $18     1895  1925
1904   $19     1899
1911   $1A     1906
1922   $1B     1916  1919
1927   $1C     1817
1950   $1D     1882
1897   $1G     1867
1825   $1H     1850  1863  1865
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1852 T1X 1938
1968 T2 2086 4556
1979 T21 1987 2079
1971 T22 1995 2015 2017 2107
1956 T3 4556
1985 T4 4556
1986 T41 2081
1991 T5 4556
2010 T51 2001 2004 2007
127 T5T 461 462 466 467 1912 1924 1957 1961 1969
1970 1976 1978 1992 1993 2092 2093 2105 2106
5574 TEMP 5521 5523
57 TEN 241 250
4554 TENS 4509
2354 TERM 2286 2294 2318 2330 2339
60 THREE 2061 2447 4168 4174 5267 5271
4561 TITLE 4741
3577 TL 3541 3557 3582
3473 TOF 282 758 3495 3524
3491 TOF1 3475
3812 TOU1 3792 3797 3802 3807 3810
3786 TOUT 1378 3592 3815
2368 TRM1 2362
2376 TRM2 2360
2363 TRM3 2396
2382 TRM4 2378
2393 TRM5 2383 2385 2387
2388 TRM6 2370
2358 TRM7 2372 2380
198 TTLBLK 1133 4563 4567 4572 4576
3587 TV 1179 3542 3570 3593
49 TWO 1658 2095
2323 UN1 2317
2338 UN2 2315
2341 UN3 2331
2311 UNOP 2273
0 V$DASM 11
23 V$DATE 1137 5482
35 V$DSTB 5524
37 V$JCB 2900 5255 5495
16 V$JCFG 2929 2930 5302 5303
14 V$JNAM 5478
15 V$LCNT 213
34 V$LLUP 5487
36 V$LUT1 5515 5554
5553 V$SOLO 5506
12 V75 115 329 1601 1614 1616 1618 1622 2018 3695
3697 3701 3718 3730 4158 4557 4935
2043 V751 2032 2037
2049 V752 2034 2038 2039
2054 V752A 2035 2036
2060 V752B 2057
2066 V753 2045 2050 2053 2064
2077 V754 2074
2078 V755 2076
2080 V756 2071
2091 V757 2033
2104 V759 2096 2098 2100
116 V75ED 330 1644 1645 1653 2070 2072 3703 3706
2023 V75INS 4558
2032 V75JT 2030
2108 V75TMP 2026 2104
140 VAL 393 423 438 497 502 515 667 682 984
996 1005 1007 1014 1361 1486 1500 1510 1745
1827 1828 1839 1848 1864 1873 1877 1878 1886
1904 1907 1908 1911 1927 1939 1972 1979 2115
2118 2122 2159 2180 2246 3402 3590 3829 3848
3849 3877 3889 3891 3912 3946 3976 4165
5256 VDASM1 5281 5283
5278 VDASM2 5262 5264 5290 5294 5298 5307 5313 5318
1 VORTEX 215 217 5017 5028 5035 5037 5071 5073 5088
5090 5155 5187
4018 WR1 4094
4092 WR2 4098
4057 WR3 4044 4048
4062 WR4 4059
4075 WR5 4060 4066
4054 WRBO 1301 4019 4025 4046 4049
4071 WRGO 1322 4021 4023 4064 4067
4089 WRIT 1200 3994
2866 WRPO 1047 2804 2860 2874
2868 WRPO1 2863
82 X 287 293 294 296 351 353 356 363 713
717 719 731 733 867 869 871 874 876
1147 1188 1213 1235 1352 1354 1356 1358 1360
1374 1376 1379 1382 1384 1387 1389 1392 1437
1444 1446 1448 1450 1452 1531 1538 1540 1542
1544 1548 1631 1635 1722 1723 1733 1734 1746
1748 1756 1758 1798 1800 2197 2198 2201 2203
2205 2215 2217 2221 2222 2224 2239 2243 2328
2329 2446 2452 2455 2458 2459 2462 2463 2482

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                2484   2557   2559   2560   2562   2564   2565   2566   2612
                2614   2615   2617   2619   2620   2621   2641   2642   2643
                2646   2647   2652   2655   2657   2662   2664   2667   2671
                2697   2705   2706   2707   2710   2711   2717   2720   2721
                2732   2734   2950   2962   2999   3002   3004   3023   3030
                3033   3036   3038   3041   3048   3089   3093   3097   3129
                3132   3135   3139   3143   3166   3194   3196   3284   3295
                3299   3300   3302   3303   3305   3306   3308   3313   3399
                3822   3890   3892   3897   3899   3909   3913   3945   3947
                3949   3971   3973   3975   3977   4096   4391   4392   4395
                5348   5506   5527   5555   5558   5562
4861   XCPX     1679
3381   XICP     2787
4888   XSOF     4513
  87   XZ       1677
 109   ZBEG      279    280
 149   ZEND      279
```

```
000001 A     1 VORTEX SET     1                PUT LAST FOR VORTEX                        02 00001
000001 A     2 V75    SET     1                                                       V75 *******
             3 *THIS IS A COPYRIGHTED PROGRAM. COPYRIGHT 1972 BY VARIAN DATA MACHINV2    02 00002
             4 *                                                                          02 00003
             5 *      V.D.M.  PART  NO.         92L0205-019C                              02 00004
             6 *                                                                          02 00005
             7 *                                             RELEASED     03/01/74        02 00006
             8 *                                                                          02 00007
             9 *                 V$DEBUG                                                  02 00008
            10 *                                                                          02 00009
            11 *                                                                          02 00010
            12        TITLE   V$DEBUG                                                     02 00011
            13 ******************************************************************         02 00012
            14 ****     TIDB SETUP                                                   ***  02 00013
            15 *                                                                          02 00014
            16 ******************************************************************         02 00015
000000 A    18 TBTRD  EQU     0                TASK THREAD                                02 00017
000001 A    19 TBST   EQU     1                TASK STATUS                                02 00018
000002 A    20 TBPL   EQU     2                STATUS CONT. (BITS15-6),PRIORITY LEVEL(5-0 02 00019
000003 A    21 TBEVNT EQU     3                INTERRUPT EVENT                            02 00020
000004 A    22 TBRSA  EQU     4                A          REENTRANT AND SUSPEND STACK     02 00021
000005 A    23 TBRSB  EQU     5                B          REENTRANT AND SUSPEND STACK     02 00022
000006 A    24 TBRSX  EQU     6                X          REENTRANT AND SUSPEND STACK     02 00023
000007 A    25 TBRSP  EQU     7                OF/P       REENTRANT AND SUSPEND STACK     02 00024
000010 A    26 TBRSTS EQU     8                TEMP. STG. REENTRANT AND SUSPEND STACK     02 00025
000011 A    27 TBENTY EQU     9                TASK ENTRY LOCATION                        02 00026
000012 A    28 TBTMS  EQU     10               TIME COUNTER - CLOCK RESOLUTION IN 5MS INC 02 00027
000013 A    29 TBTMIN EQU     11               TIME COUNTER - CLOCK MINUTE INCREMENTS     02 00028
000014 A    30 TBISA  EQU     12               A               INTERRUPT STACK            02 00029
000015 A    31 TBISB  EQU     13               B               INTERRUPT STACK            02 00030
000016 A    32 TBISX  EQU     14               X               INTERRUPT STACK            02 00031
000017 A    33 TBISP  EQU     15               OF/P            INTERRUPT STACK            02 00032
000020 A    34 TBISRS EQU     16               REENT. STACK    INTERRUPT STACK            02 00033
000021 A    35 TBIO   EQU     17               BLK ALLOC(15-10),I/O THR(9-5),I/O ACT(4-0) 02 00034
000022 A    36 TBKN1  EQU     18               TASK NAME                                  02 00035
000023 A    37 TBKN2  EQU     19               TASK NAME                                  02 00036
000024 A    38 TBKN3  EQU     20               TASK NAME                                  02 00037
000025 A    39 TBTLC  EQU     21               1ST LOC. OF TASK ALLOCATABLE               02 00038
000026 A    40 TBCPTH EQU     22               BACKGROUND TASK QUEUE                      02 00039
000027 A    41 TBATSK EQU     23               TIDB LOC. OF ACTIVATING TASK               02 00040
000030 A    42 TBRSE  EQU     24               TASK ERROR CODE                            02 00041
            43        EJEC                                                                02 00042
            44 ******************************************************************         02 00043
            45 *                                                                          02 00044
            46 ****     TASK STATUS DESCRIPTION  (BIT SET WORD 1)                    ***  02 00045
            47 *                                                                          02 00046
            48 ******************************************************************         02 00047
000017 A    50 TBS15  EQU     15               INTERRUPT SUSPEND                          02 00049
000016 A    52 TBS14  EQU     14               TASK SUSPEND                               02 00051
000015 A    53 TBS13  EQU     13               TASK ABORT                                 02 00052
000014 A    54 TBS12  EQU     12               TASK EXIT                                  02 00053
000013 A    56 TBS11  EQU     11               TIDB CORE RESIDENT                         02 00055
000012 A    57 TBS10  EQU     10               CORE RESIDENT TASK                         02 00056
000011 A    58 TBS9   EQU     9                FOREGROUND TASK                            02 00057
000010 A    60 TBS8   EQU     8                TASK PROTECTED                             02 00059
000007 A    61 TBS7   EQU     7                TASK SCHEDULED BY TIME DELAY               02 00060
000006 A    62 TBS6   EQU     6                TIME DELAY ACTIVE                          02 00061
000005 A    64 TBS5   EQU     5                TASK WAITING TO BE LOADED                  02 00063
000004 A    65 TBS4   EQU     4                TASK ERROR                                 02 00064
000003 A    66 TBS3   EQU     3                TASK INTERRUPT EXPECTED                    02 00065
000002 A    68 TBS2   EQU     2                OVERLAY TASK                               02 00067
000001 A    69 TBS1   EQU     1                UPON TERMINATION ACTIVATE TASK SCHED TASK  02 00068
000000 A    70 TBS0   EQU     0                TASK SEARCH-ALLOCATED-LOADED               02 00069
            71        EJEC                                                                02 00070
            72 ******************************************************************         02 00071
            73 *                                                                          02 00072
            74 ***      TASK STATUS DESCRIPTION  (BIT SET WORD 2)                    ***  02 00073
            75 *                                                                          02 00074
            76 ******************************************************************         02 00075
            78 *          BIT 15  -  TASK OPENED                                          02 00077
            80 *         BIT 14  V75 FLAG  1=V75 0=NOT A V75 MACHINE                   V75*******
000002 A    81 TB75   EQU     2                WORD 2                                  V75*******
000016 A    82 TB75B  EQU     14               BIT 14                                  V75*******
000001 A    83 TB75Z  EQU     1                1 BIT LONG                              V75*******
            84 *          BIT 13  -  OVERLAY LOAD                                         02 00080
            85 *          BIT 12  -  TASK WAITING FOR BACKGROUND TASK I/O TO COMPLETE     02 00081
            86 *                     TASK LOCKED-OUT UNTIL BG I/O COMPLETE OR BIT 11      02 00082
            87 *                     IS SET  (ALLOCATABLE SPACE AVAILABLE)                02 00083
            89 *          BIT 11  -  DEFINES THAT ALLOCATABLE SPACE IS AVAILABLE, TRY     02 00085
            90 *                     ALLOCATING TASK AGAIN.  OVERRIDES BIT 12 SET OR      02 00086
            91 *                     BIT 5 IN STATUS WORD.                                02 00087
            92 *          BIT 10  -  BACKGROUND TASK BEING WRITTEN ON CHECKPOINT FILE.    02 00088
            93 *          BIT  9  -  TASK WAITING FOR A TIDB TO COME AVAILABLE FOR        02 00089
            94 *                     SCHEDULING.                                          02 00090
            96 *          BIT  8 TU 6  - UNUSED                                           02 00092
            97        EJEC                                                                02 00093
            98 ******************************************************************         02 00094
            99 *                                                                          02 00095
           100 ***      JOB PROCESSOR LOW CORE EQUATES                                **  02 00096
           101 *                                                                          02 00097
           102 ******************************************************************         02 00098
000050 A   104 LCJP   EQU     050                                                         02 00100
000050 A   105 V$JNAM EQU     LCJP             JCP NAME                                   02 00101
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000054 A   106 V$LCNT EQU     LCJP+4          LINE COUNT                                                    02 00102
000055 A   107 V$JCFG EQU     LCJP+5          JCP FLAGS                                                     02 00103
           108 *                              BIT 2-0    = LOAD AND GO FLAGS                                02 00104
           109 *                              BIT  3     = DUMP FLAG  1=DUMP, 0=NO DUMP                     02 00105
           110 *                              BIT  4     = DUMP FLAG IF LOAD AND GO                         02 00106
           111 *                              BIT 9-5    = UNUSED                                           02 00107
           112 *                              BIT 15-10  = BG EXTRA CORE BLOCKS TO ALLOC                    02 00108
000056 A   114 V$BIC1 EQU     LCJP+6          BIC INTERRUPT ADDRESS TABLE  (10 WORDS)                       02 00110
000070 A   115 V$DATE EQU     LCJP+16         JCP DATE RECORD                                               02 00111
000074 A   116 V$PLCT EQU     LCJP+20         PERMINATE LINE COUNT                                          02 00112
000075 A   117 V$BGLB EQU     LCJP+21         JCP LIB KEY AND LU NO. (BACKGROUND LIB)                       02 00113
000076 A   118 V$CRDM EQU     LCJP+22         CARD KEYPUNCH TYPE, 0=026, 1=029                              02 00114
           119 *                              BIT 0 = SYSTEM NOMINAL KEYPUNCH MODE.                         02 00115
           120 *                              BIT 9 = CURRENT JOB KEYPUNCH MODE.                            02 00116
000077 A   121 V$JCTM EQU     LCJP+23         TEMP. STORAGE FOR /MEM BLOCK                                  02 00117
           122           EJEC                                                                             02 00118
           123 ********************************************************************************           02 00119
           124 *                                                                                          02 00120
           125 ****     LOW CORE DESCRIPTION                                                      ***      02 00121
           126 *                                                                                          02 00122
           127 ********************************************************************************           02 00123
000300 A   129 LC      EQU     0300                                                                      02 00125
000300 A   130 V$CTL   EQU     LC              CURRENT TASK TIDB LOCATION                                02 00126
000301 A   131 V$CPL   EQU     LC+1            CURRENT PRIORITY LEVEL                                    02 00127
000302 A   132 V$CRS   EQU     LC+2            CURRENT REENTRANT STACK POINTER                           02 00128
000303 A   133 V$TB    EQU     LC+3            POINTER TO HIGHEST PRIORITY TIDB                          02 00129
000304 A   134 V$UTB   EQU     LC+4            POINTER TO UNUSED TASK TIDB                               02 00130
000305 A   135 V$PTVB  EQU     LC+5            POINTER TO NEXT ENTRY IN REENTRANT STACK                  02 00131
000306 A   136 V$FLRS  EQU     LC+6            FIRST LOC. OF REENTRANT STACK                             02 00132
000307 A   137 V$LRSK  EQU     LC+7            LAST LOC. OF REENTRANT STACK+1                            02 00133
000310 A   138 V$CKPT  EQU     LC+8            CHECKPOINT FLAG 1=ON, 0=OFF                               02 00134
000311 A   139 V$OPCL  EQU     LC+9            LOC. OF TIDB FOR OPCOM TASK                               02 00135
000312 A   140 V$LSAL  EQU     LC+10           LOC. OF TIDB FOR SYSTEM SAL TASK                          02 00136
000313 A   141 V$ERR   EQU     LC+11           LOC. OF TIDB FOR SYSTEM ERROR TASK                        02 00137
000314 A   142 V$TJCP  EQU     LC+12           LOC. OF TIDB FOR JOB CONTROL PROCESSOR TAS                02 00138
000315 A   143 V$BTB   EQU     LC+13           LOC. OF CURRENT ACTIVE BACKGROUND TSK TIDB                02 00139
000316 A   144 V$LUP   EQU     LC+14           LOC. OF 1ST UNPROTECTED WORD                              02 00140
000317 A   145 V$LLUP  EQU     LC+15           LOC. OF LAST UNPROTECTED WORD                             02 00141
000320 A   146 V$IM    EQU     LC+16           INTERRUPT MASK  (8 WORDS)                                 02 00142
000330 A   147 V$MPM   EQU     LC+24           MEMORY PROTECT MASK  (4 WORDS)                            02 00143
000334 A   148 V$CAM   EQU     LC+28           CORE ALLOCATION MASK  (4 WORDS)                           02 00144
           149 *       EQU     LC+32           UNUSED                                                    02 00145
000341 A   150 V$CRDR  EQU     LC+33           CORE RESIDENT DIRECTORY LOCATION                          02 00146
000342 A   151 V$TBGT  EQU     LC+34           TCB OF THREAD OF BG TSK WAITING TO BE ALLO                02 00147
000343 A   152 V$TMS   EQU     LC+35           TIME OF DAY IN 5 MILLISECOND INCREMENTS                   02 00148
000344 A   153 V$TMN   EQU     LC+36           TIME OF DAY IN MINUTE INCREMENTS                          02 00149
000345 A   154 V$LUNT  EQU     LC+37           ADDR. OF LOGICAL UNIT NAME TABLE                          02 00150
000346 A   155 V$OPCF  EQU     LC+38           OPCOM LOCKOUT FLAG                                        02 00151
000347 A   156 V$FGLB  EQU     LC+39           KEY AND LU NO. FOR FOREGROUND LIB                         02 00152
000350 A   157 V$FREE  EQU     LC+40           FREE RUNNING COUNTER INCR. IN MICROSECONDS                02 00153
000351 A   158 V$CTMS  EQU     LC+41           CLOCK RESOLUTION IN 5 MILLISECOND INCR.                   02 00154
000352 A   159 V$SCV   EQU     LC+42           CLOCK SELECTED COUNT VALUE (1 TO 4095)                    02 00155
000353 A   160 V$CKB   EQU     LC+43           BASIC CLOCK INTERRUPT RATE IN MICROSECONDS                02 00156
000354 A   161 V$CRM   EQU     LC+44           CLOCK RESOLUTION INCR. FOR 1 MINUTE.                      02 00157
000355 A   162 V$DSTB  EQU     LC+45           BASE ADDR. FOR DST BLOCK                                  02 00158
000356 A   163 V$LIT   EQU     LC+46           LAST LOCATION OF BACKGROUND LITERAL TABLE                 02 00159
           164 *       EQU     LC+47           UNUSED                                                    02 00160
000360 A   165 V$CTAD  EQU     LC+48           BASE ADDR. FOR CONTROLLER ADDR. TABLE                     02 00161
000361 A   166 V$SCTL  EQU     LC+49           CURRENT CONTROLLER IN SCAN                                02 00162
000362 A   167 V$NCTR  EQU     LC+50           NO. OF CONTROLLERS                                        02 00163
000363 A   168 V$PIMN  EQU     LC+51           EXTERNAL DEVICE ADDRESS TABLE FOR PIMS                    02 00164
           169 *                                (8 WORDS DEFINED IN PIM AD ORDER)                         02 00165
           170 *       EQU     LC+59           UNUSED                                                    02 00166
           171 *       EQU     LC+60           UNUSED                                                    02 00167
000375 A   172 V$SLFG  EQU     LC+61           SAL TASK BUSY FLAG      1=BUSY, 0=NOT BUSY                02 00168
000376 A   173 V$ERFG  EQU     LC+62           ERROR TASK BUSY FLAG    1=BUSY, 0=NOT BUSY                02 00169
000377 A   174 V$JOP   EQU     LC+63           JCP OPERATING FLAG                                        02 00170
000400 A   175 V$LUT1  EQU     LC+64           START LUN ADDR FOR JCP/OPCOM ASSIGNABLE                   02 00171
000401 A   176 V$LUT2  EQU     LC+65           START LUN ADDR FOR UNASSIGNABLE                           02 00172
000402 A   177 V$LUT3  EQU     LC+66           START LUN ADDR FOR OPCOM ASSIGNABLE                       02 00173
000403 A   178 V$IMIN  EQU     LC+67           32767 - (60000/(5*V$CTMS)) + 1                            02 00174
           179 *       EQU     LC+68           UNUSED                                                    02 00175
           180 *       EQU     LC+69           UNUSED                                                    02 00176
           181 *       EQU     LC+70           UNUSED                                                    02 00177
           182 *       EQU     LC+71           UNUSED                                                    02 00178
000410 A   183 V$IOA   EQU     LC+72           I/O ALGORITHM                                             02 00179
000411 A   184 V$CKIT  EQU     LC+73           CLOCK INT. IN PIM BEFORE LOCKOUT FLAG.                    02 00180
000412 A   185 V$JCB   EQU     LC+74           ALL SYSTEM BACKGROUND PROGRAMS AND JCP USE                02 00181
           186 *                              THIS SYSTEM BUFFER TO READ DIRECTIVES AND                 02 00182
           187 *                              SOURCE RECORDS IN.                                        02 00183
000413 A   188 V$OCB   EQU     LC+75           OPCOM WILL READ OPERATOR KEY-IN REQUESTS                  02 00184
           189 *                              IN THIS BUFFER.  IF JCP IS SET NOT ACTIVE                 02 00185
           190 *                              AND A ! DIRECTIVE IS INPUTED, OPCOM                       02 00186
           191 *                              WILL MOVE THE DIRECTIVE TO V$JCB BEFORE                   02 00187
           192 *                              SCHEDULING JCP.                                           02 00188
000414 A   193 V$BVN   EQU     LC+76           BOTTOM OF VORTEX NUCLEUS                                  02 00189
000415 A   194 V$BFC   EQU     LC+77           TOP OF FG OPS. AREA/BOTTOM OF FG BLK COMM.                02 00190
000416 A   195 V$TFC   EQU     LC+78           TOP OF FG BLK COMMON/TOP OF VORTEX CORE.                  02 00191
           196 *       EQU     LC+79           UNUSED                                                    02 00192
           197           EJEC                                                                           02 00193
           198 ********************************************************************************           02 00194
           199 *                                                                                          02 00195
           200 ****     MASK TABLE DESCRIPTION                                                    ***      02 00196
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              201 *                                                                     02 00197
              202 ********************************************************************** 02 00198
000420 A      204 MT       SET      0420                                                02 00200
000420 A      205 ZERO     EQU      MT               ZERO WORD                          02 00201
000421 A      206 BS0      EQU      MT+1             BIT MASK CONTENTS 000001           02 00202
000422 A      207 BS1      EQU      MT+2                               000002           02 00203
000423 A      208 BS2      EQU      MT+3                               000004           02 00204
000424 A      209 BS3      EQU      MT+4                               000010           02 00205
000425 A      210 BS4      EQU      MT+5                               000020           02 00206
000426 A      211 BS5      EQU      MT+6                               000040           02 00207
000427 A      212 BS6      EQU      MT+7                               000100           02 00208
000430 A      213 BS7      EQU      MT+8                               000200           02 00209
000431 A      214 BS8      EQU      MT+9                               000400           02 00210
000432 A      215 BS9      EQU      MT+10                              001000           02 00211
000433 A      216 BS10     EQU      MT+11                              002000           02 00212
000434 A      217 BS11     EQU      MT+12                              004000           02 00213
000435 A      218 BS12     EQU      MT+13                              010000           02 00214
000436 A      219 BS13     EQU      MT+14                              020000           02 00215
000437 A      220 BS14     EQU      MT+15                              040000           02 00216
000440 A      221 BS15     EQU      MT+16                             0100000           02 00217
000441 A      222 BR0      EQU      MT+17            BIT MASK CONTENTS  0177776         02 00218
000442 A      223 BR1      EQU      MT+18                               0177775         02 00219
000443 A      224 BR2      EQU      MT+19                               0177773         02 00220
000444 A      225 BR3      EQU      MT+20                               0177767         02 00221
000445 A      226 BR4      EQU      MT+21                               0177757         02 00222
000446 A      227 BR5      EQU      MT+22                               0177737         02 00223
000447 A      228 BR6      EQU      MT+23                               0177677         02 00224
000450 A      229 BR7      EQU      MT+24                               0177577         02 00225
000451 A      230 BR8      EQU      MT+25                               0177377         02 00226
000452 A      231 BR9      EQU      MT+26                               0176777         02 00227
000453 A      232 BR10     EQU      MT+27                               0175777         02 00228
000454 A      233 BR11     EQU      MT+28                               0173777         02 00229
000455 A      234 BR12     EQU      MT+29                               0167777         02 00230
000456 A      235 BR13     EQU      MT+30                               0157777         02 00231
000457 A      236 BR14     EQU      MT+31                               0137777         02 00232
000460 A      237 BR15     EQU      MT+32                               0077777         02 00233
000461 A      238 NEG      EQU      MT+33            SET ALL BITS                       02 00234
000462 A      239 LHW      EQU      MT+34            LEFT HALF WORD MASK 0177400        02 00235
000463 A      240 RHW      EQU      MT+35            RIGHT HALF WORD MASK    0377       02 00236
000421 A      241 ONE      EQU      MT+1             CONTAINS NUMBER  1                 02 00237
000422 A      242 TWO      EQU      MT+2             CONTAINS NUMBER  2                 02 00238
000464 A      243 THREE    EQU      MT+36            CONTAINS NUMBER  3                 02 00239
000423 A      244 FOUR     EQU      MT+3             CONTAINS NUMBER  4                 02 00240
000465 A      245 FIVE     EQU      MT+37,           CONTAINS NUMBER  5                 02 00241
000466 A      246 SIX      EQU      MT+38            CONTAINS NUMBER  6                 02 00242
000467 A      247 SEVEN    EQU      MT+39            CONTAINS NUMBER  7                 02 00243
000424 A      248 EIGHT    EQU      MT+4             CONTAINS NUMBER  8                 02 00244
000470 A      249 NINE     EQU      MT+40            CONTAINS NUMBER  9                 02 00245
000471 A      250 TEN      EQU      MT+41            CONTAINS NUMBER 10                 02 00246
000421 A      251 BM1      EQU      MT+1             BIT MASK WORD 00001                02 00247
000464 A      252 BM3      EQU      MT+36            BIT MASK WORD  00003               02 00248
000467 A      253 BM7      EQU      MT+39            BIT MASK WORD  00007               02 00249
000472 A      254 BM17     EQU      MT+42            BIT MASK WORD  00017               02 00250
000473 A      255 BM37     EQU      MT+43            BIT MASK WORD  00037               02 00251
000474 A      256 BM77     EQU      MT+44            BIT MASK WORD  00077               02 00252
000475 A      257 BM177    EQU      MT+45            BIT MASK WORD  00177               02 00253
000463 A      258 BM377    EQU      MT+35            BIT MASK WORD  00377               02 00254
000476 A      259 BM777    EQU      MT+46            BIT MASK WORD  00777               02 00255
000477 A      260 BM1777   EQU      MT+47            BIT MASK WORD  01777               02 00256
              261          EJEC                                                         02 00257
              262 ********************************************************************** 02 00258
              263 *                                                                     02 00259
              264 ****      BIT TEST BIT DESIGNATION                                ***  02 00260
              265 *                                                                     02 00261
              266 ********************************************************************** 02 00262
000040 A      268 RA0      EQU      040              BT JUMPS WHEN A REGISTER IS 0      02 00264
000000 A      269 RA1      EQU      000              BT JUMPS WHEN A REGISTER IS 1      02 00265
000060 A      270 RB0      EQU      060              BT JUMPS WHEN B REGISTER IS 0      02 00266
000020 A      271 RB1      EQU      020              BT JUMPS WHEN B REGISTER IS 1      02 00267
              273 ********************************************************************** 02 00269
              274 *                                                                     02 00270
              275 **        THE BIT CHECKED                                             02 00271
              276 *                                                                     02 00272
              277 ********************************************************************** 02 00273
000000 A      279 B0       EQU      0                                                   02 00275
000001 A      280 B1       EQU      1                                                   02 00276
000002 A      281 B2       EQU      2                                                   02 00277
000003 A      282 B3       EQU      3                                                   02 00278
000004 A      283 B4       EQU      4                                                   02 00279
000005 A      284 B5       EQU      5                                                   02 00280
000006 A      285 B6       EQU      6                                                   02 00281
000007 A      286 B7       EQU      7                                                   02 00282
000010 A      287 B8       EQU      8                                                   02 00283
000011 A      288 B9       EQU      9                                                   02 00284
000012 A      289 B10      EQU      10                                                  02 00285
000013 A      290 B11      EQU      11                                                  02 00286
000014 A      291 B12      EQU      12                                                  02 00287
000015 A      292 B13      EQU      13                                                  02 00288
000016 A      293 B14      EQU      14                                                  02 00289
000017 A      294 B15      EQU      15                                                  02 00290
              295          EJEC                                                         02 00291
              296 ********************************************************************** 02 00292
              297 *                                                                     02 00293
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                 298 ****     DEVICE AND FUNCTION CODES                                *** 02 00294
                 299 *                                                                     02 00295
                 300 ********************************************************************** 02 00296
                 302 ****      REAL TIME CLOCK                                          *** 02 00298
        000047 A 303 CLOCK  EQU      047           DEVICE NUMBER 047                       02 00299
                 304 *                                                                     02 00300
        000747 A 305 DISCLK EQU      0700+CLOCK    DISABLE CLOCK                           02 00301
        000147 A 306 ENACLK EQU      0100+CLOCK    ENABLE CLOCK                            02 00302
                 308 *                                                                     02 00304
                 309 ****      PIM                                                      *** 02 00305
        000044 A 310 APIM   EQU      044           ALL PIMS DEVICE NUMBER                  02 00306
        000040 A 311 PIM1   EQU      040                                                   02 00307
        000041 A 312 PIM2   EQU      041                                                   02 00308
        000042 A 313 PIM3   EQU      042                                                   02 00309
        000043 A 314 PIM4   EQU      043                                                   02 00310
        000040 A 315 PIM5   EQU      040                                                   02 00311
        000040 A 316 PIM6   EQU      040                                                   02 00312
        000040 A 317 PIM7   EQU      040                                                   02 00313
        000040 A 318 PIM8   EQU      040                                                   02 00314
                 319 *                                                                     02 00315
        000444 A 320 DISPIM EQU      0400+APIM                                             02 00316
        000244 A 321 ENAPIM EQU      0200+APIM                                             02 00317
                 323 ****       MEMORY PROTECT                                          *** 02 00319
        000045 A 324 MP     EQU      045           DEVICE ADDRESS 045                      02 00320
        000745 A 325 DISMP  EQU      0700+MP       DISABLE MEMORY PROTECT                  02 00321
        000645 A 326 ENAMP  EQU      0600+MP       ENABLE MEMORY PROTECT                   02 00322
        000045 A 327 MPMR0  EQU      0000+MP       SELECT MASK REGISTER 0                  02 00323
        000145 A 328 MPMR1  EQU      0100+MP       SELECT MASK REGISTER 1                  02 00324
        000245 A 329 MPMR2  EQU      0200+MP       SELECT MASK REGISTER 2                  02 00325
        000345 A 330 MPMR3  EQU      0300+MP       SELECT MASK REGISTER 3                  02 00326
                 331        IFT      V75-1                                            V75 *******
                 332        GOTO     1                                                V75 *******
                 333 *           A VTAM TYPE MACRO TO TEST BIT FLAG                    V75*******
                 334 TESTF  MAC                                                        V75*******
                 335        LDA      P(2),P(1)     PICK UP WORD CONTAINING FLA         V75*******
                 336        ANA      BS0+P(3)                                          V75*******
                 337        EMAC                                                       V75*******
                 338 *               SAVE V75 REGISTERS                                V75*******
                 339 SAVE75 MAC                                                        V75*******
                 340        ST,3     P(1)                                              V75*******
                 341        ST,4     P(2)                                              V75*******
                 342        ST,5     P(3)                                              V75*******
                 343        ST,6     P(4)                                              V75*******
                 344        ST,7     P(5)                                              V75*******
                 345        EMAC                                                       V75*******
                 346 LOAD75 MAC                                                        V75*******
                 347        LD,3     P(1)                                              V75*******
                 348        LD,4     P(2)                                              V75*******
                 349        LD,5     P(3)                                              V75*******
                 350        LD,6     P(4)                                              V75*******
                 351        LD,7     P(5)                                              V75*******
                 352        EMAC                                                       V75*******
                 353 1      CONT                                                  V75 *******
                 354        EJEC                                                       02 00327
                 355 *                                                                     02 00328
                 356 *      DEBUG                                                          02 00329
                 357 *                                                                     02 00330
                 358 *      DEBUG ACCEPTS INPUTS FROM DI LOGICAL UNIT, AND OUTPUTS         02 00331
                 359 *       TO THE DO LOGICAL UNIT.                                       02 00332
                 360 *                                                                     02 00333
                 361 *                                                                     02 00334
                 362 *                                                                     02 00335
                 363        NAME     DEBUG                                                 02 00336
        000001 A 364 X      EQU      1                                                     02 00337
        000002 A 365 B      EQU      2                                                     02 00338
        000000 A 366 W      EQU      0             WAIT                                    02 00339
        000001 A 367 NW     EQU      1             NO-WAIT                                 02 00340
        000013 A 368 DI     EQU      11            DEBUG INPUT LOGICAL UNIT                02 00341
        000014 A 369 DO     EQU      12            DEBUG OUTPUT LOGICAL UNIT               02 00342
        000000 R 370 DEBUG  EQU      *                                                     02 00343
000000 006057 A  371        STAE     AP            SAVE A,B,X AND OVERFLOW             V75*******
000001 001024 R
000002 006067 A  372        STBE     BP                                                V75*******
000003 001025 R
000004 006077 A  373        STXE     XP                                                V75*******
000005 001026 R
000006 005001 A  374        TZA                                                   C.1 02 00347
000007 001007 A  375        JOFN     *+3           JUMP IF OVERFLOW NOT ON        C.1 02 00348
000010 000012 R
000011 005111 A  376        IAR                    SET FOR OVERFLOW ON            C.1 02 00349
000012 006057 A  377        STAE     OP                                                V75*******
000013 001027 R
                 378        IFF      VORTEX-2                                     V2   02 00351
                 379        GOTO     END001                                       V2   02 00352
                 380        LDAI     DI            INDEX INTO LOGICAL UNIT TABLE  V2   02 00353
                 381        ADD      V$LUT1        FORM ABSOLUTE ADDRESS OF ENTRY V2   02 00354
                 382        STA      P2A           STORE ADDR. IN PASS CALL       V2   02 00355
                 383        SPAC                                                  V2   02 00356
                 384        PASS     0,*-*,DILUN                                  V2   02 00357
                 385 P2A    EQU      *-2                                          V2   02 00358
                 386        SPAC                                                  V2   02 00359
                 387        LDA      V$CTL         GET TIDB ADDR.                 V2   02 00360
                 388        STA      P2C           STORE ADDR. IN PASS CALL       V2   02 00361
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                    389          SPAC
                    390          PASS    29,*-*,DMSBUF
                    391 P28      EQU     *-2
                    392          SPAC
                    393          LDA     TBKN1+DMSBUF   STORE TASK NAME
                    394          STA     DMSG11
                    395          LDA     TBKN2+DMSBUF
                    396          STA     DMSG11+1
                    397          LDA     TBKN3+DMSBUF
                    398          STA     DMSG11+2
                    399          IFT     V75-1
                    400          GOTO    2
                    401 *        TEST IF A V75 MACHINE
                    402          LDA     DMSBUF+TB75
                    403          ANA     BS14
                    404          STAE    V75FLG         STORE IN DEBUG PROPER
                    405 2        CONT
                    406          LDB     DMSBUF+9       DISPLAY TWENTY AS START LOC.
                    407 ENDC01   CONT
                    408          IFF     VORTEX-2
                    409          GOTO    ENDC02
000014 020300 A     410          LDB     V$CTL
000015 016022 A     411          LDA     TBKN1,B        STORE TASK NAME
000016 054403 A     412          STA     DMSG11
000017 016023 A     413          LDA     TBKN2,B
000020 054402 A     414          STA     DMSG11+1
000021 016024 A     415          LDA     TBKN3,B
000022 054401 A     416          STA     DMSG11+2
                    417          IFT     V75-1
                    418          GOTO    3
                    419          TESTF   B,TB75,TB75B,TB75Z
000023 016002 A
000024 150437 A
000025 006057 A     420          STAE    V75FLG
000026 001023 R
                    421 3        CONT
000027 026011 A     422          LDB     TWENTY,B
                    423          IFF     VORTEX-2
                    424 ENDC02   CONT
                    425          IFT     V75-1
                    426          GOTO    4
                    427 *        SAVE THE ADDITIONAL REGISTERS IF V75
000030 006017 A     428          LDAE    V75FLG
000031 001023 R
000032 001010 A     429          JAZ     EEE            JMP IF NOT V75
000033 000046 R
                    430          SAVE75  R3P,R4P,R5P,R6P,R7P
000034 007130 A
000035 001030 R
000036 007140 A
000037 001031 R
000040 007150 A
000041 001032 R
000042 007160 A
000043 001033 R
000044 007170 A
000045 001034 R
       000046 R     431 EEE      EQU     *
                    432 4        CONT
000046 006067 A     433          STBE    JLOC           SET UP INITIAL TRAP ADDR.
000047 001020 R
000050 006030 A     434          LDXI    DMSG12         CONVERT/STORE 1ST ALLOCATABLE ADDR.
000051 000426 R
000052 002000 A     435          CALL    CNV3
000053 000652 R
000054 006010 A     436          LDAI    11             OUTPUT COMPLETE MESSAGE
000055 000013 A
000056 001000 A     437          JMP     READ1+1
000057 000061 R
       000060 R     438 ENT      EQU     *
000060 010424 A     439 READ1    LDA     EIGHT
000061 054331 A     440          STA     DBDCB1         WORD COUNT
                    441          WRITE   DBDCB1,DO,W,0
000062 006505 A
000063 000000 E
000064 100000 A
000065 000414 A
000066 000413 R
000067 000000 A
000070 000000 A
000071 006010 A     442          LDAI    DI
000072 000013 A
000073 006505 A     443          JSR     V$DVTP,X       CHECK IF DI=TY OR CRT
000074 001720 R
000075 001004 A     444          JAN     ICALL          NO.
000076 000116 R
                    445          IFT     VORTEX-2
                    446          GOTO    ENDC03
                    447          LDAE    DILUN          DEBUG INPUT LUN
                    448          CRAE    DOLUN          CHECK IF SAME AS DEBUG OUTPUT LUN
                    449 ENDC03   CONT
                    450          IFF     VORTEX-2
                    451          GOTO    ENDC04
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000077 030400 A   452          LDX     V$LUT1                                                  02 00405
000100 015013 A   453          LDA     DI,X                                                    02 00406
000101 135014 A   454          ERA     DO,X            SEE IF DI=DO                            02 00407
                  455          IFF     VORTEX-2                                        V2      02 00408
                  456 ENDC04   CONT                                                    V2      02 00409
000102 150463 A   457          ANA     RHW                                                     02 00410
000103 001010 A   458          JAZ     ICALL           YES                              V75*********
000104 000116 R
000105 010423 A   459          LDA     FOUR            YES                                     02 00412
000106 054304 A   460          STA     DRDCB1                                                  02 00413
                  461          WRITE   DRDCB1,DI,NW,0                                          02 00414
000107 006505 A
000110 000063 E
000111 100000 A
000112 100413 A
000113 000413 R
000114 000000 A
000115 000000 A
000116 002000 A   462 ICALL    CALL    DINPT           READ INPUT                       V75*********
000117 001506 R
                  463          IFT     V75-1                                           V75 *********
                  464          GOTO    5                                               V75 *********
                  465 *
                  466 *        THE V75 REGISTERS ARE DESIGNATED R0 THROUGH R7                   V75*********
                  467 *        WHERE : R0 IS THE SAME AS A REGISTER                             V75*********
                  468 *                R1 IS THE SAME AS B REGISTER                             V75*********
                  469 *                R2 IS THE SAME AS X REGISTER                             V75*********
                  470 *                R3 THRU R7 ARE THE NEW REGISTERS                         V75*********
                  471 *        EACH OF THE RX 2 LETTER REGISTERS IS REPLACED BY                 V75*********
                  472 *        A ONE LETTER CODE TO CONFORM WITH THE GENERAL DEB                V75*********
                  473 *        PHILOSOPHY.                                                      V75*********
                  474 *                R3 THRU R7 BECOMES J,K,L,M,N RESPECTIVELY                V75*********
                  475 *                IS DONE VIA THE RTABLE TABLE                             V75*********
                  476 *                                                                         V75*********
000120 014702 A   477          LDA     V75FLG                                                  V75*********
000121 001010 A   478          JAZ     SOF             JUMP IF NOT V75                         V75*********
000122 000162 R
000123 025000 A   479          LDB     0,1             TEST FOR RX CODE                        V75*********
000124 005021 A   480          TBA                                                             V75*********
000125 006140 A   481          SUBI    'R0'                                                    V75*********
000126 151260 A
000127 001004 A   482          JAN     OUT             NOT AN R REGISTER                       V75*********
000130 000160 R
000131 005021 A   483          TBA                                                             V75*********
000132 006140 A   484          SUBI    'R7'+1                                                  V75*********
000133 151270 A
000134 001002 A   485          JAP     OUT             NOT AN R REGISTER                       V75*********
000135 000160 R
000136 005021 A   486          TBA                                                             V75*********
000137 006120 A   487          ADDI    RTABLE-'R0'     GET PROPER RTABLE ENTRY                 V75*********
000140 027152 R
000141 005012 A   488          TAB                                                             V75*********
000142 016000 A   489          LDA     0,B             GET REGISTER CODE IN THE FO             V75*********
000143 025001 A   490 LOOP     LDB     1,X             GET NEXT INPUT WORD (OR SPA             V75*********
000144 004450 A   491          LLFL    8               SHIFT 1 BYTE TO LEFT AND                V75*********
000145 055000 A   492          STA     0,X             STORE BACK                              V75*********
000146 004150 A   493          LSRB    8                                                       V75*********
000147 015001 A   494          LDA     1,X             CHECK IF NO MORE INPUT CHAR             V75*********
000150 006140 A   495          SUBI    '  '            SPACE SPACE ?                           V75*********
000151 120240 A
000152 001010 A   496          JAZ     OUT             IF YES, GET OUT .                       V75*********
000153 000160 R
000154 005021 A   497          TBA                                                             V75*********
000155 005144 A   498          IXR                     X REG POINTS TO INPUT BUF               V75*********
000156 001000 A   499          JMP     LOOP                                                    V75*********
000157 000143 R
000160 006030 A   500 OUT      LDXI    BUF             RESTORE X TO BEGINNING OF B             V75*********
000161 001256 R
                  501 5        CONT                                                    V75 *********
000162 007401 A   502 SOF      SOF                                                             02 00416
000163 015000 A   503          LDA     0,1             X= BUF ADDR.                            02 00417
000164 004350 A   504          LSRA    8               GET COMMAND CODE CHARACTER              02 00418
000165 006140 A   505          SUBI    ',.'                                                    02 00419
000166 000254 A
000167 001011 A   506          JIF     011,CNCM                                                02 00420
000170 000232 R
000171 006140 A   507          SUBI    'A'-',.'                                                02 00421
000172 000025 A
000173 001004 A   508          JAN     NUM1            NOT ALPHABETIC                          02 00422
000174 000754 R
000175 006140 A   509          SUBI    'Z'-'A'+1                                               02 00423
000176 000032 A
000177 001002 A   510          JAP     WHAT2           BAD COMMAND CODE.                       02 00424
000200 000214 R
000201 006120 A   511          ADDI    'Z'-'A'+TABL+1  COMPUTE ROUTINE ADDRESS                02 00425
000202 001720 R
000203 005012 A   512          TAB                                                             02 00426
000204 016000 A   513          LDA     0,2                                                     02 00427
000205 001010 A   514          JAZ     WHAT2           ILLEGAL COMMAND CODE                    02 00428
000206 000214 R
000207 001001 A   515          JOF     CNV1            RESET OVERFLOW FLAG AND JUMP            02 00429
000210 000234 R
000211 010421 A   516 WHAT     LDA     ONE             ENTER FOR PARAMETER ERROR               02 00430
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000212 001000 A  517          JMP     *+3             DG02                                                    02 00431
000213 000215 R
000214 005001 A  518 WHAT2    TZA                                                                             02 00432
000215 006120 A  519          ADDI    0130261         DG01                                                    02 00433
000216 130261 A
000217 006057 A  520          STAE    DBMSG3+2                                                                02 00434
000220 001631 R
                 521          WRITE   DBDCB3,DD,W,0   OUTPUT ERROR MESSAGE                                    02 00435
000221 006505 A
000222 000110 E
000223 100000 A
000224 000414 A
000225 001624 R
000226 000000 A
000227 000000 A
000230 001000 A  522          JMP     ENT                                                                     02 00436
000231 000060 R
000232 006010 A  523 CNCM     LDAI    CMCN            ADDRESS OF CHANGE CONTINUATION ROUTINE                  02 00437
000233 001404 R
000234 004557 A  524 CNV1     LLSR    15              A=ROUT.ADDR, X=BUFFER ,OVFW ON=CHAR N+1                 02 00438
000235 004141 A  525          LSRB    1               REMOVE SIGN BIT                                         02 00439
000236 064145 A  526          STB     GD              SAVE ROUTINE ADDRESS                                    02 00440
000237 054367 A  527          STA     CNV2            SAVE NUMBER TYPE FLAG                                   02 00441
000240 120423 A  528          ADD     FOUR                                                                    02 00442
000241 004241 A  529          LRLA    1               BASE 8 OR 10                                            02 00443
000242 054147 A  530          STA     BASE                                                                    02 00444
000243 005511 A  531          ADFA                                                                            02 00445
000244 054144 A  532          STA     CCNT+1          CHAR N,N+1 FLAG ,1=CHAR N                               02 00446
000245 024134 A  533          LDB     APBF                                                                    02 00447
000246 064137 A  534          STB     PCNT+1          SET PARAMETER LIST ADDRESS                              02 00448
000247 005301 A  535          DECR    1                                                                       02 00449
000250 054134 A  536          STA     PCNT            SET PARAMETER COUNT                                     02 00450
000251 005302 A  537 CNA      DECR    2                                                                       02 00451
000252 064135 A  538          STB     CCNT            SET CHARACTER FLAG                                      02 00452
000253 014353 A  539          LDA     CNV2                                                                    02 00453
000254 054375 A  540          STA     CNV3            SET MAXIMUM WORD SIZE FLAG                              02 00454
000255 005001 A  541          TZA                                                                             02 00455
000256 064130 A  542 NEGA     STB     CSW             SET SIGN FLAG                                           02 00456
000257 054334 A  543          STA     TEMP                                                                    02 00457
000260 025000 A  544 CNB      LDB     0,1                                                                     02 00458
000261 001020 A  545          JRZ     CNE             END OF LINE?                                            02 00459
000262 000374 R
000263 044125 A  546          INR     CCNT+1                                                                  02 00460
000264 005101 A  547          INCR    1                                                                       02 00461
000265 154123 A  548          ANA     CCNT+1                                                                  02 00462
000266 001010 A  549          JAZ     *+4                                                                     02 00463
000267 000272 R
000270 005144 A  550          IXR                     CHAR. N+1                                               02 00464
000271 004050 A  551          LRLB    8                                                                       02 00465
000272 004150 A  552          LSRB    8               SHIFT OUT RHW CHAR                                      02 00466
000273 005021 A  553          TBA                                                                             02 00467
000274 134076 A  554          ERA     SBLA                                                                    02 00468
000275 001010 A  555          JAZ     CNB                                                                     02 00469
000276 000260 R
000277 005001 A  556          TZA                                                                             02 00470
000300 006057 A  557          STAE    CLAST           CLEAR LAST CHAR.IS COMMA FLAG.                          02 00471
000301 001475 R
000302 044105 A  558          INR     CCNT            INITIALLY =177777                                       02 00472
000303 005021 A  559          TBA                                                                             02 00473
000304 006130 A  560          ERAI    0260                                                                    02 00474
000305 000260 A
000306 144103 A  561          SUB     BASE                                                                    02 00475
000307 007400 A  562          ROF                                                                             02 00476
000310 001002 A  563          JAP     CNC             NOT NUMBER                                              02 00477
000311 000326 R
000312 124077 A  564          ADD     BASE                                                                    02 00478
000313 024076 A  565          LDB     BASE                                                                    02 00479
000314 124277 A  566 CNB2     ADD     TEMP                                                                    02 00480
000315 001007 A  567          JDFN    CNB4                                                                    02 00481
000316 000321 R
000317 007400 A  568          ROF                                                                             02 00482
000320 044331 A  569          INR     CNV3            COUNT OVFLW,> 1 ERROR,TOO LARGE                         02 00483
000321 005322 A  570 CNB4     DBR                                                                             02 00484
000322 001020 A  571          JBZ     CNB-1                                                                   02 00485
000323 000257 R
000324 001000 A  572          JMP     CNB2                                                                    02 00486
000325 000314 R
000326 124063 A  573 CNC      ADD     BASE                                                                    02 00487
000327 006130 A  574          ERAI    015             CHECK FOR EQUAL SIGN                                    02 00488
000330 000015 A
000331 001010 A  575          JAZ     CNF                                                                     02 00489
000332 000352 R
000333 006130 A  576          ERAI    021             CHECK FOR COMMA                                         02 00490
000334 000021 A
000335 001010 A  577          JAZ     CNF-2                                                           V2      02 00491
000336 000350 R
000337 005312 A  578          DECR    012             CHECK IF MINUS SIGN                                     02 00492
000340 014047 A  579          LDA     CCNT                                                                    02 00493
000341 001030 A  580          JIF     030,NEGA        CHECK FOR NEGATIVE SIGN                                 02 00494
000342 000256 R
000343 005322 A  581          DBR                                                                             02 00495
000344 001020 A  582          JBZ     CNF             PERIOD. PROCESS AS COMMA OR EQUAL SIGN                  02 00496
000345 000352 R
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000346 001000 A   583          JMP     WHAT        ERROR,NON-NUMERIC                          02 00497
000347 000211 R
000350 006047 A   584          INRE    CLAST       SET LAST CHAR IS COMMA FLAG            V2  02 00498
000351 001475 R
000352 024241 A   585 CNF      LDB     TEMP        ENTER FOR .,= OR ,                         02 00499
000353 014033 A   586          LDA     CSW                                                    02 00500
000354 001004 A   587          JAN     *+4                                                    02 00501
000355 000360 R
000356 005222 A   588          CPB                                                            02 00502
000357 005122 A   589          IBR                                                            02 00503
000360 005021 A   590          TBA                 A= NUMBER                                  02 00504
000361 024024 A   591          LDB     PCNT+1      =PBUF  PARAMETER LIST BUFFER               02 00505
000362 056000 A   592          STA     0,2         PUT INTO BUFFER                            02 00506
000363 044022 A   593          INR     PCNT+1                                                 02 00507
000364 044020 A   594          INR     PCNT        INCREMENT PARAMETER COUNT                  02 00508
000365 014264 A   595          LDA     CNV3                                                   02 00509
000366 004341 A   596          LSRA    1                                                      02 00510
000367 001010 A   597          JAZ     CNA         ONLY 1 OVERFLOW COUNTED                    02 00511
000370 000251 R
000371 001000 A   598          JMP     WHAT        NUMBER TOO LARGE                           02 00512
000372 000211 R
000373 000240 A   599 SBLA     DATA    0240        ASCII BLANK                                02 00513
000374 014013 A   600 CNE      LDA     CCNT                                                   02 00514
000375 001002 A   601          JAP     CNF                                                    02 00515
000376 000352 R
000377 005102 A   602          INCR    2                                                      02 00516
000400 014004 A   603          LDA     PCNT        LOAD NUMBER OF PARAMETERS                  02 00517
000401 006030 A   604          LDXI    PBUF        A=NO.OF PARAMETERS; X= PARAMETER LIST BUFF 02 00518
000402 001236 R
       000402 R   605 APBF     EQU     *-1                                                    02 00519
000403 001000 A   606          JMP                 GO TO REQUESTED ROUTINE                    02 00520
000404 000000 A
       000404 R   607 GO       EQU     * 1                                                    02 00521
000405             608 PCNT     BSS     2                                                      02 00522
000407             609 CSW      BSS     1                                                      02 00523
000410             610 CCNT     BSS     2                                                      02 00524
000412             611 BASE     BSS     1                                                      02 00525
                   612 DBDCB1   DCB     1,DBMSG1,0                                             02 00526
000413 000013 A
000414 000416 R
000415 000000 A
000416 120240 A   613 DBMSG1   DATA    '  '        PRINT CONTROL                              02 00527
000417 142307 A   614          DATA    'DG**  '                                               02 00528
000420 125252 A
000421 120240 A
000422 147301 A   615 DMSG11   DATA    'NAME01  '  TASK NAME                                   02 00529
000423 146705 A
000424 130261 A
000425 120240 A
000426 154330 A   616 DMSG12   DATA    'XXXXXX  '  FIRST ALLOCATABLE LOCATION                  02 00530
000427 154330 A
000430 154330 A
000431 120240 A
                   617          IFF     VORTEX-2                                               02 00531
                   618 DMSBUF   BSS     29          BUFFER FOR TIDB CONTENT                V2  02 00532
                   619          IFT     V75-1                                              V75 **********
                   620          GOTO    1                                                  V75 **********
                   621 *                                                                     V75**********
                   622 *        RTABLE CONVERTS A TWO LETTER REGISTER TO A ONE LE            V75**********
                   623 *        REGISTER CODE. FOR V75 USE ONLY (RIGHT JUSTIFIED)            V75**********
                   624 *                                                                     V75**********
       000432 R    625 RTABLE   EQU     *                                                     V75**********
000432 000301 A    626          DATA    0301        R0--0A                                    V75**********
000433 000302 A    627          DATA    0302        R1--0B                                    V75**********
000434 000330 A    628          DATA    0330        R2--0X                                    V75**********
000435 000312 A    629          DATA    0312        R3--0J                                    V75**********
000436 000313 A    630          DATA    0313        R4--0K                                    V75**********
000437 000314 A    631          DATA    0314        R5--0L                                    V75**********
000440 000315 A    632          DATA    0315        R6--0M                                    V75**********
000441 000316 A    633          DATA    0316        R7--0N                                    V75**********
                   634 *                                                                     V75**********
                   635 *        CONT                                                      V75 **********
                   636          EJEC                                                           02 00535
                   637 *                                                                       02 00534
                   638 * TRAP ROUTINES (T)                                                     02 00535
                   639 *                                                                       02 00536
000442 001010 A    640 T        JAZ     T1          ONE PARAMETER?                             02 00537
000443 000450 R
000444 002000 A    641          CALL    PCHK        TWO PARAMETERS?                            02 00538
000445 001476 R
000446 015001 A    642          LDA     1,1         GET NEW STARTING ADDRESS                   02 00539
000447 054350 A    643          STA     JLOC                                                   02 00540
000450 035000 A    644 T1       LDX     0,1         BREAK POINT ADDRESS                        02 00541
000451 015000 A    645          LDA     0,1                                                    02 00542
000452 054137 A    646          STA     TRPS        SAVE CONTENTS OF BREAK POINT               02 00543
000453 015001 A    647          LDA     1,1                                                    02 00544
000454 054136 A    648          STA     TRPS+1                                                 02 00545
000455 014045 A    649          LDA     JMPM                                                   02 00546
000456 055000 A    650          STA     0,1                                                    02 00547
000457 006010 A    651          LDAI    BRK                                                    02 00548
000460 001020 R
000461 055001 A    652          STA     1,1                                                    02 00549
000462 001000 A    653          JMP     GG                                                     02 00550
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000463 000773 R.
                    654          EJEC                                                                  02 00551
                    655 *                                                                              02 00552
                    656 * TRAP BREAK POINT                                                             02 00553
                    657 *                                                                              02 00554
000464 054337 A     658 BRK1     STA      AP                                                           02 00555
000465 064337 A     659          STB      BP          SAVE REGISTERS IN PSUEDO REGISTERS               02 00556
000466 074337 A     660          STX      XP                                                           02 00557
000467 005001 A     661          TZA                                                                   02 00558
000470 005511 A     662          ADFA                 SAVE OVERFLOW INDICATOR                          02 00559
000471 054335 A     663          STA      DP                                                           02 00560
                    664          IFT      V75-1                                                  V75 ********
                    665          GOTO     2                                                      V75 ********
000472 014330 A     666          LDA      V75FLG      TEST IF V75                                 V75********
000473 001010 A     667          JAZ      BRK2        NO, JUMP                                    V75********
000474 000507 R
                    668          SAVE75   R3P,R4P,R5P,R6P,R7P                                     V75********
000475 007130 A
000476 001030 R
000477 007140 A
000500 001031 R
000501 007150 A
000502 001032 R
000503 007160 A
000504 001033 R
000505 007170 A
000506 001034 R
       000507 R     669 BRK2     EQU      *                                                       V75********
                    670 2        CONT                                                           V75 ********
000507 014102 A     671          LDA      TRPS                                                         02 00561
000510 024307 A     672          LDB      =BRK                                                         02 00562
000511 005322 A     673          DBR                                                                   02 00563
000512 005322 A     674          DBR                                                                   02 00564
000513 056000 A     675          STA      0,2         RESTORE CONTENTS OF BREAK POINT                  02 00565
000514 014076 A     676          LDA      TRPS+1                                                       02 00566
000515 056001 A     677          STA      1,2                                                          02 00567
000516 064301 A     678          STB      JLOC                                                         02 00568
000517 034075 A     679          LDX      TOBF                                                         02 00569
000520 014513 A     680          LDA      DBLK        =0120240                                         02 00570
000521 055000 A     681          STA      0,X         SET UP PRINT CONTROL WORD                        02 00571
000522 005144 A     682          IXR                                                                   02 00572
000523 002003 A     683 JMPM     CALL     CNV3        BREAK POINT ADDRESS                              02 00573
000524 000652 R
000525 024272 A     684          LDB      JLOC                                                         02 00574
000526 026000 A     685          LDB      0,2                                                          02 00575
000527 002000 A     686          CALL     CNV2        BREAK POINT CONTENTS                             02 00576
000530 000627 R
000531 006020 A     687          LDBI     AP                                                           02 00577
000532 001024 R
000533 064060 A     688 T2       STB      TEMP                                                         02 00578
000534 026000 A     689          LDB      0,2         GET REGISTER VALUE                               02 00579
000535 002000 A     690          CALL     CNV3                                                         02 00580
000536 000652 R
000537 024054 A     691          LDB      TEMP                                                         02 00581
000540 005123 A     692          INCR     023                                                          02 00582
000541 006140 A     693          SUBI     DP+1                                                    E.2********
000542 001030 R
000543 001004 A     694          JAN      T2                                                           02 00584
000544 000533 R
                    695          WRITE    DBDCB4,DO,W,0  OUTPUT TRAP MESSAGE.                          02 00585
000545 006505 A
000546 000222 E
000547 100000 A
000550 000414 A
000551 001632 R
000552 000000 A
000553 000000 A
                    696          IFT      V75-1                                                  V75 ********
                    697          GOTO     1                                                      V75 ********
                    698 *        IF V75 PRINT OUT R3 THRU R7                                 V75********
                    699 *                                                                    V75********
000554 014246 A     700          LDA      V75FLG                                             V75********
000555 001010 A     701          JAZ      T4                                                 V75********
000556 000610 R
000557 034035 A     702          LDX      TOBF        OUTPUT BUF ADDRESS                     V75********
000560 014453 A     703          LDA      DBLK        SPACE                                  V75********
000561 055000 A     704          STA      0,X                                                V75********
000562 005144 A     705          IXR                                                     V75 ********
000563 006020 A     706          LDBI     R7P+1                                          V75********
000564 001035 R
000565 064030 A     707          STB      RLIMIT                                         V75********
000566 006020 A     708          LDBI     R3P                                            V75********
000567 001030 R
000570 064023 A     709 T3       STB      TEMP                                           V75********
000571 026000 A     710          LDB      0,2         REGISTER VALUE                     V75********
000572 002000 A     711          CALL     CNV3        CONVERT AND STORE                  V75********
000573 000652 R
000574 024017 A     712          LDB      TEMP                                           V75********
000575 005123 A     713          INCR     023                                            V75********
000576 144017 A     714          SUB      RLIMIT                                         V75********
000577 001004 A     715          JAN      T3                                             V75********
000600 000576 R
                    716          WRITE    DCBXR,DO,W,0                                   V75********
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000601 006505 A
000602 000546 E
000603 100000 A
000604 000414 A
000605 001635 R
000606 000000 A
000607 000000 A
       000610 R   717 T4      EQU     *                                                    V75********
                  718 1       CONT                                                         V75 ********
000610 001000 A   719         JMP     ENT                                                    02 00586
000611 000060 R
000612 000000 A   720 TRPS    DATA    0,0          BREAKPOINT INSTRUCTIONS                   02 00587
000613 000000 A
000614            721 TEMP    BSS     1                                                      02 00588
000615 001304 R   722 TOBF    DATA    LOBF         BUF+22 ,START OF OUTPUT BUFFER            02 00589
                  723         IFF     V75-1                                                V75 ********
000616 000000 A   724 RLIMIT  DATA    0                                                     V75********
                  725         EJEC                                                           02 00590
                  726 *                                                                      02 00591
                  727 * CNV2                                                                 02 00592
                  728 *                                                                      02 00593
                  729 *  SUBROUTINE TO CONVERT A BINARY NUMBER TO 6 ASCII OCTAL DIGITS       02 00594
                  730 *      WITHIN ( ). STORE IN BUFFER SPECIFIED IN X REGISTER.            02 00595
                  731 * B=NUMBER, X=ADDRESS OF BUFFER, ALL REGISTERS CHANGED                 02 00596
                  732 *                                                                      02 00597
000617 006130 A   733 CV2B    ERAI    '0'.4                                                  02 00598
000620 130255 A
000621 055000 A   734         STA     0,1                                                    02 00599
000622 005144 A   735 IXR     IXR                                                            02 00600
000623 014410 A   736         LDA     DBLK                                                   02 00601
000624 055000 A   737         STA     0,1                                                    02 00602
000625 005144 A   738         IXR                                                            02 00603
000626 001000 A   739         JMP                                                            02 00604
000627 000000 A
       000627 R   740 CNV2    EQU     *-1          X=ADDR.OF BUFFER, B=NUMBER                02 00605
000630 006010 A   741         LDAI    0152130                                                02 00606
000631 152130 A
000632 004441 A   742 CV2     LLRL    1                                                      02 00607
000633 055000 A   743 CV2A    STA     0,1                                                    02 00608
000634 005001 A   744         TZA                                                            02 00609
000635 005144 A   745         IXR                                                            02 00610
000636 004443 A   746         LLRL    3                                                      02 00611
000637 004245 A   747         LRLA    5                                                      02 00612
000640 004443 A   748         LLRL    3                                                      02 00613
000641 001020 A   749         JBZ     CV2B                                                   02 00614
000642 000617 R
000643 114371 A   750         ORA     C00                                                    02 00615
000644 001000 A   751         JMP     CV2A                                                   02 00616
000645 000633 R
                  752         EJEC                                                           02 00617
                  753 *                                                                      02 00618
                  754 * CNV3                                                                 02 00619
                  755 *                                                                      02 00620
                  756 *    SUBROUTINE TO CONVERT A BINARY NUMBER TO 6 ASCII OCTAL DIGITS     02 00621
                  757 *       AND STORE IN BUFFER SPECIFIED IN X REGISTER.                   02 00622
                  758 *          B= NUMBER,   X= BUFFER ADDR                                 02 00623
                  759 *                                                                      02 00624
000646 014365 A   760 CV3B    LDA     DBLK                                                   02 00625
000647 055000 A   761         STA     0,1                                                    02 00626
000650 005144 A   762         IXR                                                            02 00627
000651 001000 A   763         JMP                                                            02 00628
000652 000000 A
       000652 R   764 CNV3    EQU     *-1                                                    02 00629
000653 006010 A   765         LDAI    0100000                                                02 00630
000654 100000 A
000655 004441 A   766         LLRL    1            X=ADDR OF BUFFER TO STORE CHAR, B= NUMBER  02 00631
000656 004245 A   767 CV3A    LRLA    5                                                      02 00632
000657 004443 A   768         LLRL    3                                                      02 00633
000660 114354 A   769         ORA     C00                                                    02 00634
000661 055000 A   770         STA     0,1                                                    02 00635
000662 005144 A   771         IXR                                                            02 00636
000663 005001 A   772         TZA                                                            02 00637
000664 004443 A   773         LLRL    3                                                      02 00638
000665 001020 A   774         JBZ     CV3B                                                   02 00639
000666 000646 R
000667 001000 A   775         JMP     CV3A                                                   02 00640
000670 000656 R
                  776         EJEC                                                           02 00641
                  777 *                                                                      02 00642
                  778 * REGISTER CHANGE AND DISPLAY ROUTINES (A,B,X,D)                       02 00643
                  779 *                                                                      02 00644
                  780         IFT     V75-1                                                V75 ********
                  781         GOTO    1                                                    V75 ********
000671 005122 A   782 R7      IBR                  R7-R3 ARE THE V75 REGISTERS              V75********
000672 005122 A   783 R6      IBR                                                           V75********
000673 005122 A   784 R5      IBR                                                           V75********
000674 005122 A   785 R4      IBR                                                           V75********
000675 005122 A   786 R3      IBR                                                           V75********
                  787 1       CONT                                                         V75 ********
000676 005122 A   788 D       IBR                                                            02 00645
000677 005122 A   789 XR      IBR                                                            02 00646
000700 005122 A   790 BR      IBR                                                            02 00647
000701 004460 A   791 A       LLRL    16                                                     02 00648
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000702 006120 A   792          ADDI    AP-1                                                    02 00649
000703 001023 R
000704 004460 A   793          LLRL    16                                                      02 00650
000705 001010 A   794          JAZ     REGX        1 PARAMETER, CHANGE A,B,X OR OVFL           02 00651
000706 001410 R
000707 001002 A   795          JAP     WHAT        MORE THAN ONE?                              02 00652
000710 000211 R
000711 001000 A   796          JMP     DCON                                                    02 00653
000712 000714 R
000713 025000 A   797 NUM1     LDB     0,1         GET ADDRESS OF WORD TO BE DISPLAYED         02 00654
000714 026000 A   798 DCON     LDB     0,2         GET WORD                                    02 00655
000715 034035 A   799          LDX     NMBA        GET ADDRESS OF OUTPUT BUFFER                02 00656
000716 014315 A   800          LDA     DBLK        =0120240                                    02 00657
000717 055000 A   801          STA     0,X         SET PRINT CONTROL WORD                      02 00658
000720 005144 A   802          IXR                                                             02 00659
000721 002000 A   803          CALL    CNV2        CONVERT TO CHARACTERS                       02 00660
000722 000627 R
                  804          WRITE   DBDCB5,DO,W,0   OUTPUT MESSAGE (XXXXXX)                02 00661
000723 006505 A
000724 000602 E
000725 100000 A
000726 000414 A
000727 001640 R
000730 000000 A
000731 000000 A
000732 002000 A   805          CALL    DINPT       INPUT RESPONSE                              02 00662
000733 001506 R
000734 015000 A   806          LDA     0,1         X=BUF ADDR.                                 02 00663
000735 001010 A   807          JAZ     ENT         TERMINATE.RESPONSE WAS CR                   02 00664
000736 000060 R
000737 006140 A   808          SUBI    ' '                                                 C.1 02 00665
000740 120240 A
000741 001016 A   809          JANZ    DCON1       IF A NON CARRIAGE RETURN                C.1 02 00666
000742 000746 R
000743 054527 A   810          STA     CAD+1       CLEAR CONTENT FLAG                      C.1 02 00667
000744 001000 A   811          JMP     ENT                                                 C.1 02 00668
000745 000060 R
        000746 R  812 DCON1    EQU     *                                                   C.1 02 00669
000746 006017 A   813          LDAE    GO          GET SAME ROUTINE'S ADDR                     02 00670
000747 000404 R
000750 007401 A   814          SOF                 SET FOR CHAR N                              02 00671
000751 001000 A   815          JMP     CNV1        COMMON PROCESSING.                          02 00672
000752 000234 R
000753 001304 R   816 NMBA     DATA    LOBF                                                    02 00673
000754 006120 A   817 NUM1     ADDI    'A'-'0'     ENTER FOR CORE DISPLAY REQUEST              02 00674
000755 000021 A
000756 004343 A   818          LSRA    3                                                       02 00675
000757 005311 A   819          DCR                                                             02 00676
000760 001002 A   820          JAP     WHAT        BAD COMMAND CODE                            02 00677
000761 000211 R
000762 006010 A   821          LDAI    NUM         ENTRY ADDRESS                               02 00678
000763 001035 R
        000763 R  822 ANUM     EQU     *-1         ***                                         02 00679
000764 001000 A   823          JMP     CNV1                                                    02 00680
000765 000234 R
                  824          EJEC                                                            02 00681
                  825 * GO TO THE GIVEN ADDRESS (G)                                           02 00682
                  826 *                                                                       02 00683
000766 005002 A   827 G        TZB                                                             02 00684
000767 002000 A   828          CALL    FCHK        ONE PARAMETER                               02 00685
000770 001476 R
000771 015000 A   829          LDA     0,1                                                     02 00686
000772 054025 A   830          STA     JLOC        PUT ADDRESS IN JMP                          02 00687
000773 007401 A   831 GG       SOF                                                             02 00688
000774 014032 A   832          LDA     OP                                                      02 00689
000775 001011 A   833          JIF     S11,*+2     RESTORE OVERFLOW INDICATOR                  02 00690
000776 000777 R
                  834          IFT     V75-1                                           V75 ********
                  835          GOTO    1                                               V75 ********
000777 014023 A   836          LDA     V75FLG                                           V75********
001000 001010 A   837          JAZ     GG1                                              V75********
001001 001014 R
                  838 *                  RESTORE R3 THRU R7 (V75)                      V75********
                  839          LDAB75  R3P,R4P,R5P,R6P,R7P                              V75********
001002 007030 A
001003 001030 R
001004 007040 A
001005 001031 R
001006 007050 A
001007 001032 R
001010 007060 A
001011 001033 R
001012 007070 A
001013 001034 R
        001014 R  840 GG1      EQU     *                                                V75********
                  841 1        CONT                                                     V75 ********
001014 014007 A   842          LDA     AP                                                  02 00691
001015 024007 A   843          LDB     BP          LOAD REGISTERS                          02 00692
001016 034007 A   844          LDX     XP                                                  02 00693
001017 001000 A   845          JMP                                                         02 00694
001020 000000 A
        001020 R  846 JLOC     EQU     *-1                                                 02 00695
        001020 R  847 BRK      EQU     JLOC                                                02 00696
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001021 001000 A   848           JMP     BRK1                                                    02 00697
001022 000464 R
                  849           IFF     V75-1                                           V75 ********
                                                                                         V75********
001023 000000 A   850 V75FLG    DATA    0
001024 000000 A   851 AP        DATA    0
001025 000000 A   852 BP        DATA    0          PSUEDO REGISTERS                          02 00698
001026 000000 A   853 XP        DATA    0                                                    02 00699
001027 000000 A   854 DP        DATA    0                                                    02 00700
                  855           IFT     V75-1                                             02 00701
                  856           GOTO    1                                               V75 ********
                                                                                         V75 ********
001030 000000 A   857 R3P       DATA    0                                                  V75********
001031 000000 A   858 R4P       DATA    0                                                  V75********
001032 000000 A   859 R5P       DATA    0                                                  V75********
001033 000000 A   860 R6P       DATA    0                                                  V75********
001034 000000 A   861 R7P       DATA    0                                                  V75********
                  862 1         CONT                                                    V75 ********
                  863           EJEC                                                      02 00702
                  864 *                                                                   02 00703
                  865 * DISPLAY CORE ROUTINE                                             02 00704
                  866 *                                                                   02 00705
001035 001010 A   867 NUM       JAZ     NUMK       ONE PARAMETER? A= NO.OF PARAMETERS,X=PBUF 02 00706
001036 001132 R
001037 002000 A   868           CALL    PCHK       TWO PARAMETERS?                           02 00707
001040 001476 R
001041 024174 A   869           LDB     PBUF                                                 02 00708
001042 004143 A   870           LSRB    3                                                    02 00709
001043 004003 A   871           ASLB    3          GET TO 8 WORD BOUNDRY                     02 00710
001044 064171 A   872           STB     PBUF                                                 02 00711
001045 034106 A   873 NUMA      LDX     DBDCB8+1   =LOBF OUTPUT BUFFER ADDR.                02 00712
001046 014165 A   874           LDA     DBLK       =0120240                                  02 00713
001047 055000 A   875           STA     0,X                                                  02 00714
001050 005144 A   876           IXR                                                          02 00715
001051 002000 A   877           CALL    CNV3       PRINT ADDRESS                             02 00716
001052 000652 R
001053 024162 A   878 NUMB      LDB     PBUF                                                 02 00717
001054 026000 A   879           LDB     0,2        GET WORD                                  02 00718
001055 044160 A   880           IXR     PBUF       INCREMENT ADDRESS                         02 00719
001056 002000 A   881           CALL    CNV3       PRINT WORD                                02 00720
001057 000652 R
001060 014155 A   882           LDA     PBUF                                                 02 00721
001061 004503 A   883           LASR    3                                                    02 00722
001062 005321 A   884           DECR    021        END OF LINE?                              02 00723
001063 001002 A   885           JAP     NUMB                                                 02 00724
001064 001053 R
                  886           WRITE   DBDCB8,DD,W,0  OUTPUT LINE                          02 00725
001065 006505 A
001066 000724 E
001067 100000 A
001070 000414 A
001071 001153 R
001072 000000 A
001073 000000 A
001074 014141 A   887 NUMC      LDA     PBUF                                                 02 00726
001075 144141 A   888           SUB     PBUF+1                                               02 00727
001076 005311 A   889           DAR                                                          02 00728
001077 001002 A   890           JAP     ENT        EXIT, ALL LINES OUT.                      02 00729
001100 000060 R
001101 014134 A   891           LDA     PBUF                                                 02 00730
001102 140424 A   892           SUB     D10        BACK UP 8 WORDS                           02 00731
001103 005012 A   893           TAB                                                          02 00732
001104 016000 A   894           LDA     0,2                                                  02 00733
001105 136010 A   895           ERA     8,2        COMPARE FOR EQUAL LINES                   02 00734
001106 005122 A   896           IBR                                                          02 00735
001107 001010 A   897           JAZ     *-3                                                  02 00736
001110 001104 R
001111 005323 A   898           DECR    023                                                  02 00737
001112 004143 A   899           LSRB    3                                                    02 00738
001113 005122 A   900           IBR                                                          02 00739
001114 004043 A   901           LRLB    3                                                    02 00740
001115 144120 A   902           SUB     PBUF       CHECK FOR SKIPPED LINES                   02 00741
001116 001004 A   903           JAN     NUMA                                                 02 00742
001117 001045 R
001120 064115 A   904           STB     PBUF       SET NEW DUMP ADDRESS                      02 00743
                  905           WRITE   DBDCB6,DD,NW,0  OUTPUT * FOR SKIPPED LINES          02 00744
001121 006505 A
001122 001066 E
001123 100000 A
001124 100414 A
001125 001643 R
001126 000000 A
001127 000000 A
001130 001000 A   906           JMP     NUMC                                                 02 00745
001131 001074 R
       001132 R   907 NUMK      EQU     *          ENTER TO DISPLAY 1 LOCATION               02 00746
001132 025000 A   908           LDB     0,1        GET ADDR OF WORD TO BE DISPLAYED          02 00747
001133 026000 A   909           LDB     0,2        GET WORD                                  02 00748
001134 034017 A   910           LDX     DBDCB8+1   =LOBF                                     02 00749
001135 014076 A   911           LDA     DBLK                                                 02 00750
001136 055000 A   912           STA     0,X                                                  02 00751
001137 005144 A   913           IXR                                                          02 00752
001140 002000 A   914           CALL    CNV2       CONVERT TO ASC                            02 00753
001141 000627 R
                  915           WRITE   DBDCB5,DD,W,0  DISPLAY 1 LOCATION                   02 00754
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001142 006505 A
001143 001122 E
001144 100000 A
001145 000414 A
001146 001640 R
001147 000000 A
001150 000000 A
001151 001000 A  916          JMP     ENT                                    02 00755
001152 000060 R
                 917 DBDCB8   DCB     37,LOBF,0                              02 00756
001153 000045 A
001154 001304 R
001155 000000 A
                 918          EJEC                                           02 00757
                 919 *                                                       02 00758
                 920 * SEARCH MEMORY FOR A GIVEN VALUE (S)                   02 00759
                 921 *                                                       02 00760
001156 140422 A  922 S        SUB     TWO                                    02 00761
001157 001010 A  923          JAZ     S3              THREE PARAMETERS?      02 00762
001160 001202 R
001161 002000 A  924          CALL    PCHK            FOUR PARAMETERS?       02 00763
001162 001476 R
001163 010471 A  925          LDA     TEN                                    02 00764
       000424 A  926 D10      EQU     EIGHT                                  02 00765
001164 054044 A  927          STA     DBDCB7          SET WRITE LENGTH       02 00766
001165 024050 A  928 SC       LDB     PBUF                                   02 00767
001166 016000 A  929          LDA     0,2                                    02 00768
001167 134050 A  930          ERA     PBUF+2          COMPARE WORD           02 00769
001170 154050 A  931          ANA     PBUF+3          MASK OFF OTHER BITS    02 00770
001171 001010 A  932          JAZ     SB              EQUAL?                 02 00771
001172 001206 R
001173 014042 A  933 SA       LDA     PBUF                                   02 00772
001174 044041 A  934          INR     PBUF                                   02 00773
001175 144041 A  935          SUB     PBUF+1                                 02 00774
001176 001010 A  936          JAZ     ENT             FINISHED?              02 00775
001177 000060 R
001200 001000 A  937          JMP     SC                                     02 00776
001201 001165 R
001202 005301 A  938 S3       DECR    1                                      02 00777
001203 055003 A  939          STA     3,1             SET DEFAULT MASK       02 00778
001204 001000 A  940          JMP     SC-2                                   02 00779
001205 001163 R
001206 034023 A  941 SB       LDX     DBDCB7+1        =LOBF                  02 00780
001207 014024 A  942          LDA     DBLK            =0120240               02 00781
001210 055000 A  943          STA     0,X             PRINT CONTROL WORD     02 00782
001211 005144 A  944          IXR                                            02 00783
001212 002000 A  945          CALL    CNV3            ADDRESS                02 00784
001213 000652 R
001214 024021 A  946          LDB     PBUF                                   02 00785
001215 026000 A  947          LDB     0,2                                    02 00786
001216 002000 A  948          CALL    CNV2            CONTENTS               02 00787
001217 000627 R
                 949          WRITE   DBDCB7,D0,W,0                          02 00788
001220 006505 A
001221 001143 E
001222 100000 A
001223 000414 A
001224 001231 R
001225 000000 A
001226 000000 A
001227 001000 A  950          JMP     SA                                     02 00789
001230 001173 R
                 951 DBDCB7   DCB     9,LOBF,0                               02 00790
001231 000011 A
001232 001304 R
001233 000000 A
001234 120240 A  952 DBLK     DATA    0120240         BLANK,BLANK            02 00791
001235 130260 A  953 C00      DATA    '00'                                   02 00792
001236 000000 A  954 PBUF     DATA    0               =16                    02 00793
                 955          DUP     14                                     02 00794
001237 000000 A  956          DATA    0                                      02 00795
001240 000000 A  956          DATA    0                                      02 00795
001241 000000 A  956          DATA    0                                      02 00795
001242 000000 A  956          DATA    0                                      02 00795
001243 000000 A  956          DATA    0                                      02 00795
001244 000000 A  956          DATA    0                                      02 00795
001245 000000 A  956          DATA    0                                      02 00795
001246 000000 A  956          DATA    0                                      02 00795
001247 000000 A  956          DATA    0                                      02 00795
001250 000000 A  956          DATA    0                                      02 00795
001251 000000 A  956          DATA    0                                      02 00795
001252 000000 A  956          DATA    0                                      02 00795
001253 000000 A  956          DATA    0                                      02 00795
001254 000000 A  956          DATA    0                                      02 00795
001255 120240 A  957          DATA    0120240         PRINT CONTROL WORD     02 00796
001256 000000 A  958 BUF      DATA    0               =60                    02 00797
                 959          DUP     59                                     02 00798
001257 000000 A  960          DATA    0                                      02 00799
001260 000000 A  960          DATA    0                                      02 00799
001261 000000 A  960          DATA    0                                      02 00799
001262 000000 A  960          DATA    0                                      02 00799
001263 000000 A  960          DATA    0                                      02 00799
001264 000000 A  960          DATA    0                                      02 00799
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001263 000000 A   960          DATA    0                                    02 00799
001266 000000 A   960          DATA    0                                    02 00799
001267 000000 A   960          DATA    0                                    02 00799
001270 000000 A   960          DATA    0                                    02 00799
001271 000000 A   960          DATA    0                                    02 00799
001272 000000 A   960          DATA    0                                    02 00799
001273 000000 A   960          DATA    0                                    02 00799
001274 000000 A   960          DATA    0                                    02 00799
001275 000000 A   960          DATA    0                                    02 00799
001276 000000 A   960          DATA    0                                    02 00799
001277 000000 A   960          DATA    0                                    02 00799
001300 000000 A   960          DATA    0                                    02 00799
001301 000000 A   960          DATA    0                                    02 00799
001302 000000 A   960          DATA    0                                    02 00799
001303 000000 A   960          DATA    0                                    02 00799
001304 000000 A   960          DATA    0                                    02 00799
001305 000000 A   960          DATA    0                                    02 00799
001306 000000 A   960          DATA    0                                    02 00799
001307 000000 A   960          DATA    0                                    02 00799
001310 000000 A   960          DATA    0                                    02 00799
001311 000000 A   960          DATA    0                                    02 00799
001312 000000 A   960          DATA    0                                    02 00799
001313 000000 A   960          DATA    0                                    02 00799
001314 000000 A   960          DATA    0                                    02 00799
001315 000000 A   960          DATA    0                                    02 00799
001316 000000 A   960          DATA    0                                    02 00799
001317 000000 A   960          DATA    0                                    02 00799
001320 000000 A   960          DATA    0                                    02 00799
001321 000000 A   960          DATA    0                                    02 00799
001322 000000 A   960          DATA    0                                    02 00799
001323 000000 A   960          DATA    0                                    02 00799
001324 000000 A   960          DATA    0                                    02 00799
001325 000000 A   960          DATA    0                                    02 00799
001326 000000 A   960          DATA    0                                    02 00799
001327 000000 A   960          DATA    0                                    02 00799
001330 000000 A   960          DATA    0                                    02 00799
001331 000000 A   960          DATA    0                                    02 00799
001332 000000 A   960          DATA    0                                    02 00799
001333 000000 A   960          DATA    0                                    02 00799
001334 000000 A   960          DATA    0                                    02 00799
001335 000000 A   960          DATA    0                                    02 00799
001336 000000 A   960          DATA    0                                    02 00799
001337 000000 A   960          DATA    0                                    02 00799
001340 000000 A   960          DATA    0                                    02 00799
001341 000000 A   960          DATA    0                                    02 00799
001342 000000 A   960          DATA    0                                    02 00799
001343 000000 A   960          DATA    0                                    02 00799
001344 000000 A   960          DATA    0                                    02 00799
001345 000000 A   960          DATA    0                                    02 00799
001346 000000 A   960          DATA    0                                    02 00799
001347 000000 A   960          DATA    0                                    02 00799
001350 000000 A   960          DATA    0                                    02 00800
       001304 R   961 LDBF     EQU     BUF+22                               02 00801
                  962          END                                          02 00802
                  963 *                                                     02 00803
                  964 * INITIALIZE CORE (I)                                 02 00804
                  965 *                                                     02 00805
001351 005122 A   966 I        CLR                                          02 00806
001352 002000 A   967          CALL    PCHK    THREE PARAMETERS             02 00807
001353 001476 R                                                             02 00808
001354 025000 A   968          LDB     0,1                                  02 00809
001355 005322 A   969          DLR                                          02 00810
001356 005323 A   970          DFR                                          02 00811
001357 005123 A   971 I1       INCR    CC3                                  02 00812
001360 145001 A   972          SUB     1,1                                  02 00813
001361 001002 A   973          JMP     CNT                                  02 00814
001362 000363 R                                                             02 00815
001363 015002 A   974          LDA     0,1                                  02 00816
001364 056001 A   975          STA     1,2                                  02 00817
001365 001003 A   976          JMP     I1                                   02 00818
001366 001357 R                                                             02 00819
001367 125200 A   977 ASTK     DATA    '* '                                 02 00820
001370 000000 A   978 SEG      DATA    0                                    02 00821
                  979          CJEC                                         02 00822
                  980 *                                                     02 00823
                  981 * CHANGE CORE (C)                                     02 00824
                  982 *                                                     02 00825
001371 024101 A   983 C        LDB     CAD+1   0 FOR ADDR, 1 FOR CONTENT    02 00826
001372 001026 A   984          JDNZ    CDISP2                               02 00827
001373 001431 R                                                             02 00828
001374 025000 A   985          LDB     0,1     X=PARAMETER LIST BUFFER      02 00829
001375 064074 A   986          STB     CAD                                  02 00830
001376 001010 A   987          JMP     CDISP   1 PARAMETER,MUST BE ADDR.    02 00831
001377 001424 R                                                             02 00832
001400 005311 A   988          DAR                                          02 00833
001401 005144 A   989 CA       IXR                                          02 00834
001402 005002 A   990          TZB
001403 064067 A   991          STB     CAD+1   MULTIPLE CHANGES FLAG.
001404 024065 A   992 CMCN     LDB     CAD
001405 001004 A   993          JAN     WHAT
001406 000211 R
001407 044062 A   994          INR     CAD
001410 054063 A   995 REGX     STA     CAD+2   SAVE NO.OF CHANGES.
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001411 015000 A  996          LDA     0,1                                          02 00835
001412 056000 A  997          STA     0,2     PUT CHANGE IN CORE                   02 00836
001413 014060 A  998          LDA     CAD+2                                        02 00837
001414 005311 A  999          DAR                                                  02 00838
001415 001002 A 1000          JAP     CA                                           02 00839
001416 001401 R
001417 014053 A 1001          LDA     CAD+1   CHECK IF MULTIPLE CHANGES            02 00840
001420 001016 A 1002          JANZ    CDISP5  NO.NOW DISPLAY NEXT LOC. CONTENT     02 00841
001421 001463 R
001422 001000 A 1003          JMP     ENT                                          02 00842
001423 000060 R
001424 044046 A 1004 CDISP    INR     CAD+1   SET TO INDICATE NEXT INPUT IS CONTENT 02 00843
001425 024044 A 1005          LDB     CAD     GET WORD TO BE DISPLAYED             02 00844
001426 026000 A 1006          LDB     0,B                                          02 00845
001427 001000 A 1007          JMP     DCON+1  WAIT FOR RESPONSE FROM OPERATOR      02 00846
001430 000715 R
001431 006017 A 1008 CDISP2   LDAE    DINRD+5 NUMBER OF WORDS INPUT          C.1 02 00847
001432 001525 R
001433 001016 A 1009          JANZ    CDISP6  IF CHANGE MADE                 C.1 02 00848
001434 001440 R
001435 054035 A 1010          STA     CAD+1   CLEAR CONTENT FLAG             C.1 02 00849
001436 001000 A 1011          JMP     ENT                                    C.1 02 00850
001437 000060 R
001440 006017 A 1012 CDISP6   LDAE    PCNT                                   C.1 02 00851
001441 000405 R
001442 001010 A 1013          JAZ     CDISP3  ONLY ONE CHARACTER, CHECK IF COMMA C.1 02 00852
001443 001447 R
001444 005001 A 1014          TZA             GTR 1 CHAR.                          02 00853
001445 001000 A 1015          JMP     CMCN    NOW SET CHANGE VALUE.                02 00854
001446 001404 R
001447 014025 A 1016 CDISP3   LDA     CLAST                                        02 00855
001450 001010 A 1017          JAZ     CMCN    NOT COMMA. SET CHANGE                02 00856
001451 001404 R
001452 006017 A 1018          LDAE    BUF                                          02 00857
001453 001256 R
001454 006130 A 1019          ERAI    0126240 CHECK COMMA                          02 00858
001455 126240 A
001456 001016 A 1020          JANZ    CDISP3-3 SET CHANGE                          02 00859
001457 000444 R
001460 044000 R 1021 CDISP4   EQU     *       YES                                  02 00860
001461 001000 A 1022          INR     CAD     SET TO NEXT ADDR.                    02 00861
001462 001424 R 1023          JMP     CDISP   DISPLAY NEXT CONTENT                 02 00862
001463 014011 A
001464 001016 A 1024 CDISP5   LDA     CLAST   LAST CHAR. A COMMA                   02 00863
001465 001424 R   25          JANZ    CDISP   COMMA                                02 00864
001466 054003 A 10.
001467 054003 A 102.          STA     CAD     RESET FLAGS                          02 00865
001470 001000 A 1028          STA     CAD+1                                        02 00866
001471 000060 R               JMP     ENT                                          02 00867
001472 000000 A 1029 CA.
001473 000000 A               DATA    0,0,0                                        02 00868
001474 000000 A
001475 000000 A 1030 CLAST
                1031          DATA    0       LAST CHAR IS COMMA FLAG              02 00869
                1032 *        EJEC                                                 02 00870
001476 000000 A 1033 PCHK     ENTR    TO CHECK NUMBER OF PARAMETERS.               02 00871
001477 064005 A 1034          STB                                                  02 00872
001500 144004 A 1035          SUB     LOWT                                         02 00873
001501 001010 A 1036          JAZ*    LOWT                                         02 00874
001502 101476 R               PCHK                                                 02 00875
001503 001000 A 1037          JMP     WAT                                          02 00876
001504 000211 R
001505 000000 A 1038 LOWT     DATA    0
                1039          EJEC                                                 02 00877
                1040 *                                                             02 00878
                1041 *        DINPT                                                02 00879
                1042 *                                                             02 00880
                1043 *        SUBROUTINE TO CLEAR BUFFER AND EXECUTE READ. INPUT STORED 02 00881
                1044 *           IN BUF. RETURN WITH X= BUF ADDRESS.             02 00882
                1045 *                                                             02 00883
001506 000000 A 1046 DINPT    ENTR                                                 02 00884
001507 005002 A 1047          TZB                                                  02 00885
001510 006030 A 1048          LDXI    PBUF                                         02 00886
001511 001236 R                                                                    02 00887
001512 065000 A 1049          STB     0,X             ZERO INPUT BUFFER            02 00888
001513 005145 A 1050          INCR    045                                          02 00889
001514 006140 A 1051          SUBI    BUF+37                                       02 00890
001515 001323 R
001516 001004 A 1052          JAN     *-4                                          02 00891
001517 001512 R
                1053 DINRD    READ    D3DCB2,DI,W,1                          D.102 00892
001520 006505 A
001521 001221 E
001522 100000 A
001523 010013 A
001524 001621 R
001525 000000 A
001526 000000 A
                1054          STAT    DINRD,DICONT,PCEOF,PCEOF,*             E.2*********
001527 006505 A
001530 000000 E
001531 001520 R
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001532 001536 R
001533 001657 R
001534 001657 R
001535 001527 R
001536                1055 DICONT BSS     0                                                    D.102 00894
001536 006017 A       1056        LDAE    DINRD+5         GET NO. OF WDS READ                    02 00895
001537 001525 R
001540 054037 A       1057        STA     DINWD+1         STORE  WORD COUNT                      02 00896
001541 005111 A       1058        IAR                                                            02 00897
001542 054104 A       1059        STA     DBDCB9                                                 02 00898
                      1060        IFT     VORTEX-2                                        V2     02 00899
                      1061        GOTO    ENDC05                                          V2     02 00900
                      1062        LDA     DILUN                                           V2     02 00901
                      1063        ERA     DOLUN                                           V2     02 00902
                      1064 ENDC05 CONT                                                    V2     02 00903
                      1065        IFF     VORTEX-2                                        V2     02 00904
                      1066        GOTO    ENDC06                                          V2     02 00905
001543 020400 A       1067        LDB     V$LUT1          ECHO INPUT IF DI/DO NOT SAME           02 00906
001544 016013 A       1068        LDA     DI,B                                                   02 00907
001545 136014 A       1069        ERA     DO,B                                                   02 00908
                      1070        IFF     VORTEX-2                                        V2     02 00909
                      1071 ENDC06 CONT                                                    V2     02 00910
001546 150463 A       1072        ANA     RHW                                                    02 00911
001547 001010 A       1073        JAZ     DINEXT          DONT ECHO                              02 00912
001550 001560 R
                      1074        WRITE   DBDCB9,DO,W,0     ECHO INPUT                           02 00913
001551 006505 A
001552 001521 E
001553 100000 A
001554 000414 A
001555 001647 R
001556 000000 A
001557 000000 A
001560 006030 A       1075 DINEXT LDXI    BUF                                                  02 00914
001561 001256 R
001562 015000 A       1076        LDA     0,X             GET 1ST WORD                           02 00915
001563 004350 A       1077        LSRA    8                                                      02 00916
001564 006130 A       1078        ERAI    0257            SLASH                                  02 00917
001565 000257 A
001566 001016 A       1079        JANZ*   DINPT           NOT JCP INPUT,RETURN.                  02 00918
001567 101506 R
001570 010301 A       1080        LDA     V$CPL           SLASH, CK IF PRIORITY 0 OR 1           02 00919
001571 140422 A       1081        SUB     TWO                                                    02 00920
001572 001002 A       1082        JAP     WHAT2           NO. ERROR.                             02 00921
001573 000214 R
001574 010377 A       1083        LDA     V$JOP           YES. CK IF JCP OPERATED.               02 00922
001575 001010 A       1084        JAZ     WHAT2           NO. ERROR                              02 00923
001576 000214 R
001577 006010 A       1085 DINWD  LDAI    *               WORD COUNT                             02 00924
001600 001577 R
001601 005311 A       1086        DAR                                                            02 00925
001602 005012 A       1087        TAB                                                            02 00926
001603 120412 A       1088        AID     V$JCB           JCP BUFFER ADDR.                       02 00927
001604 005014 A       1089        TAX                                                            02 00928
001605 006016 A       1090 DINBF  LDAE    BUF,B           GET WORD FROM BUF                      02 00929
001606 001256 R
001607 055000 A       1091        STA     0,X             STORE IN V$JCB                         02 00930
001610 001020 A       1092        JBZ     DINJCP          DONE                                   02 00931
001611 001616 R
001612 005344 A       1093        DXR                                                            02 00932
001613 005322 A       1094        DBR                                                            02 00933
001614 001000 A       1095        JMP     DINBF           TRANSFER NEXT WORD                     02 00934
001615 001605 R
                      1096 DINJCP EXIT                    NOW CALL EXIT TO SET JCP ACTIVE.       02 00935
001616 006505 A
001617 000000 E
001620 000200 A
                      1097        IFT     VORTEX-2                                        V2     02 00936
                      1098        GOTO    ENDC07                                          V2     02 00937
                      1099 DILUN  DATA    0               DEBUG INPUT LOGICAL UNIT        V2     02 00938
                      1100 DOLUN  DATA    0               DEBUG OUTPUT LOGICAL UNIT       V2     02 00939
                      1101 ENDC07 CONT                                                    V2     02 00940
                      1102        EJEC                                                           02 00941
                      1103 DBDCB2 DCB     36,BUF,0        READ DCB                               02 00942
001621 000044 A
001622 001256 R
001623 000000 A
                      1104 DBDCB3 DCB     3,DBMSG3,0                                             02 00943
001624 000003 A
001625 001627 R
001626 000000 A
001627 120240 A       1105 DBMSG3 DATA    ' '             PRINT CONTROL                          02 00944
001630 142307 A       1106        DATA    'DG','01'       DG0X ERROR MESSAGE                     02 00945
001631 130261 A
                      1107 DBDCB4 DCB     25,LOBF,0       TRAP MESSAGE.                          02 00946
001632 000031 A
001633 001304 R
001634 000000 A
                      1108        IFF     V75-1                                           V75    *******
                      1109 DCBXR  DCB     20,LOBF,0         R3 THRU R7                    V75    ******
001635 000024 A
001636 001304 R
001637 000000 A
```

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                    1110 DBDCB5 DCB     5,LOBF,0        CHANGE/DISPLAY                                  02 00947
001640 000005 A
001641 001304 R
001642 000000 A
                    1111 DBDCB6 DCB     1,DBMSG6,0      * FOR SKIP LINE                                 02 00948
001643 000001 A
001644 001646 R
001645 000000 A
001646 120252 A     1112 DBMSG6 DATA    0120252                                                         02 00949
                    1113 DBDCB9 DCB     36,BUF-1,0      WRITE,ECHO INPUT                                02 00950
001647 000044 A
001650 001253 R
001651 000000 A
                    1114        EJEC                                                                    D.102 00951
001652 014011 A     1115 P      LDA     PC1             PATCH READ TO READ CARDS FROM BI                D.102 00952
001653 006057 A     1116        STAE    DINRD+3                                                         D.102 00953
001654 001523 R
001655 001000 A     1117        JMP     ENT             CONTINUE                                        D.102 00954
001656 000060 R
001657 014005 A     1118 PCEOF  LDA     PC2             RESTORE READ TO DI                              D.102 00955
001660 006057 A     1119        STAE    DINRD+3                                                         D.102 00956
001661 001523 R
001662 001000 A     1120        JMP     ENT                                                             D.102 00957
001663 000060 R
001664 010006 A     1121 PC1    DATA    010006                                                          D.102 00958
001665 010013 A     1122 PC2    DATA    010013                                                          D.102 00959
                    1123        EJEC                                                                    02 00960
                    1124 *                                                                              02 00961
                    1125 * ROUTINE ADDRESS TABLE                                                        02 00962
                    1126 *                                                                              02 00963
                    1127        IFT     V75-1                                                   V75 ********
                    1128        GOTO    1                                                       V75 ********
                    1129 *              R0,R1,R2 ARE A,B,X RESPECTIVELY                         V75********
                    1130 *              R3 THRU R7 ARE J,K,L,M,N RESPECTIVELY                   V75********
                    1131 *                                                                      V75********
001666 000701 R     1132 TABL   DATA    9,BR,C,0,0,0,G,0,I,R3,R4,R5                             V75********
001667 000700 R
001670 001371 R
001671 000000 A
001672 000000 A
001673 000000 A
001674 000766 R
001675 000000 A
001676 001351 R
001677 000675 R
001700 000674 R
001701 000673 R
001702 000672 R     1133        DATA    R6,R7,0,P,0,0,S,T,0,0,0,XR,0,0                          V75********
001703 000671 R
001704 000000 A
001705 001652 R
001706 000000 A
001707 000000 A
001710 001156 R
001711 000442 R
001712 000000 A
001713 000000 A
001714 000000 A
001715 000677 R
001716 000000 A
001717 000000 A
                    1134 1      CONT                                                            V75 ********
                    1135        IFF     V75-1                                                   V75 ********
                    1136        GOTO    2                                                       V75 ********
                    1137 TABL   DATA    A,BR,C,0,0,0,G,I,0,0,0                                  V75 ********
                    1138        DATA    0,0,0,P,0,0,S,T,0,0,0,XR,0,0                            V75 ********
                    1139 2      CONT                                                            V75 ********
                    1140 *                                                                              02 00966
                    1141 *      SUBROUTINE TO DETERMINE IF LOGICAL UNIT IS                              02 00967
                    1142 *      ASSIGNED TO TELETYPE OR CRT.  CALLING SEQUENCE IS:                      02 00968
                    1143 *                                                                              02 00969
                    1144 *              JSR  V$DVTP,X                                                   02 00970
                    1145 *                                                                              02 00971
                    1146 *      ENTRANCE PARAMETER:  A REGISTER CONTAINS LOG. UNIT NO.                  02 00972
                    1147 *                                                                              02 00973
                    1148 *      RETURN PARAMETER:  A REGISTER EQUALS ZERO - DEVICE IS                   02 00974
                    1149 *                                 A TTY OR CRT.                                02 00975
                    1150 *                                                                              02 00976
                    1151 *                         A REGISTER NOT EQUAL ZERO - DEVICE                   02 00977
                    1152 *                                 IS NOT A TTY OR CRT.                         02 00978
                    1153 *                                                                              02 00979
                    1154 *      B REGISTER IS SAVED.                                                    02 00980
                    1155 *                                                                              02 00981
                    1156 *                                                                              02 00982
001720 064021 A     1157 V$DVTP STB     DVTPA                                                           02 00983
                    1158        IFF     VORTEX-2                                                V2  02 00984
                    1159        STX     DVTPX           SAVE RETURN ADDRESS                     V2  02 00985
001721 120400 A     1160        ADD     V$LUT1                                                          02 00986
                    1161        IFT     VORTEX-2                                                V2  02 00987
                    1162        GOTO    ENDC08                                                  V2  02 00988
                    1163        STA     P2C             STORE ADDR. IN PASS CALL                V2  02 00989
                    1164        SPAC                                                            V2  02 00990
                    1165        PASS    1,*-*,DSTNUM                                            V2  02 00991
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                    1166 P2C     EQU     *-2                                                    V2  02 00992
                    1167         SPAC                                                           V2  02 00993
                    1168         LDA     DSTNUM                                                 V2  02 00994
                    1169 ENDC08  CONT                                                           V2  02 00995
                    1170         IFF     VORTEX-2                                               V2  02 00996
                    1171         GOTO    ENDC09                                                 V2  02 00997
001722 005012 A     1172         TAB                                                                02 00998
001723 016000 A     1173         LDA     0,3             GET CURRENT DST ENTRY NO.                  02 00999
                    1174         IFF     VORTEX-2                                               V2  02 01000
                    1175 ENDC09  CONT                                                           V2  02 01001
001724 150463 A     1176         ANA     RHW                                                        02 01002
001725 005312 A     1177         DECR    012                                                        02 01003
001726 010355 A     1178         LDA     V$DSTB          BASE ADDR.                                 02 01004
001727 160464 A     1179         MUL     THREE                                                      02 01005
                    1180         IFT     VORTEX-2                                               V2  02 01006
                    1181         GOTO    ENDC10                                                 V2  02 01007
                    1182         IBR                                                            V2  02 01008
                    1183         STB     P2D             STORE ADDR. IN PASS CALL               V2  02 01009
                    1184         SPAC                                                           V2  02 01010
                    1185         PASS    1,*-*,DVNAME                                           V2  02 01011
                    1186 P2D     EQU     *-2                                                    V2  02 01012
                    1187         SPAC                                                           V2  02 01013
                    1188         LDA     DVNAME          FIRST TWO CHAR.S OF DEVICE NAME        V2  02 01014
                    1189 ENDC10  CONT                                                           V2  02 01015
                    1190         IFT     VORTEX-2                                               V2  02 01016
001730 016001 A     1191         LDA     1,3             GET DEVICE NAME                            02 01017
001731 006140 A     1192         SUBI    'TY'            IS IT TTY                                  02 01018
001732 152331 A
001733 001010 A     1193         JAZ     DVTP1           YES                                        02 01019
001734 001737 R
001735 006140 A     1194         SUBI    'CT'-'TY'       IS IT CRT                                  02 01020
001736 167373 A
001737 024002 A     1195 DVTP1   LDB     DVTPA           RESTORE B                                  02 01021
                    1196         IFF     VORTEX-2                                           V2      02 01022
                    1197         LDX     DVTPX           RESTORE RETURN ADDRESS             V2      02 01023
001740 006705 A     1198         IJMP    0,X             RETURN                                     02 01024
001741 000000 A
001742 000000 A     1199 DVTPA   DATA    0                                                          02 01025
                    1200         IFT     VORTEX-2                                           V2      02 01026
                    1201         GOTO    ENDC11                                             V2      02 01027
                    1202 DVTPX   DATA    0               SAVE CONTENTS OF X REG                     02 01028
                    1203 DSTNUM  DATA    0                                                  V2      02 01029
                    1204 DVNAME  DATA    0                                                  V2      02 01030
                    1205 ENDC11  CONT                                                       V2      02 01031
       000000 R     1206         END     DEBUG                                                      02 01032
ENTRY NAMES
000000 R DEBUG
EXTERNAL NAMES
001517 E V$EXEC  001552 E V$IOC   001530 E V$IOST
SYMBOLS
000701 R A       000763 R ANUM    001024 R AP      000402 R APBF
000044 A APIM    001367 R ASTK    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      000412 R BASE
000421 A BM1     000472 A BM17    000473 A BM177   000477 A BM1777
000464 A BM3     000473 A BM37    000463 A BM377   000467 A BM7
000474 A BM77    000476 A BM777   001025 R BP      000700 R BR
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
001020 R BRK     000464 R BRK1    000507 R BRK2    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     001256 R BUF
001371 R C       001235 R C00     001401 R CA      001472 R CAD
000410 R CCNT    001424 R CDISP   001431 R CDISP2  001447 R CDISP3
001460 R CDISP4  001463 R CDISP5  001440 R CDISP6  001475 R CLAST
000047 A CLOCK   001404 R CMCN    000251 R CNA     000260 R CNB
000314 R CNB2    000321 R CNB4    000326 R CNC     000232 R CNCM
000374 R CNE     000352 R CNF     000234 R CNV1    000627 R CNV2
000652 R CNV3    000407 R CSW     000632 R CV2     000633 R CV2A
000617 R CV2B    000656 R CV3A    000646 R CV3B    000413 R DBDCB1
001621 R DBDCB2  001624 R DBDCB3  001632 R DBDCB4  001640 R DBDCB5
001643 R DBDCB6  001231 R DBDCB7  001153 R DBDCB8  001647 R DBDCB9
001234 R DBLK    000416 R DBMSG1  001627 R DBMSG3  001646 R DBMSG6
001635 R DCBNR   000000 R DEBUG   000013 A DI      001506 R DICONT
001605 R DINBF   001560 R DINCXT  001616 R DINJCP  001506 R DINPT
001500 R DINRD   001577 R DINWD   000747 R DISCLK  000745 R DISKP
000444 A DISPIM  000422 R DMSG11  000426 R DMSG12  000014 A D0
001737 R DVTP1   001742 R DVTPA   000016 R EEE     000424 A EIGHT
000147 A ENACLK  000645 A ENAMP   000244 A ENAPIM  000060 R ENT
000465 A FIVE    000423 A FOUR    000766 R G       000773 R GG
001014 R GG1     000404 R GO      001351 R I       001357 R I1
000116 R ICALL   000622 R IXR     001000 R JLOC    000503 R JMPM
000300 A LC      000050 A LCJP    000402 A LHW     001304 R LOBF
000143 R LOOP    001505 R LOWT    000045 A MP      000045 A MPMR0
000145 A MPMR1   000243 A MPMR2   000345 A MPMR3   000420 A MT
000461 A NEG     000256 R NEGA    000470 A NINE    000733 R NMBA
001035 R NUM     000713 R NUM1    001045 R NUMA    001053 R NUMB
```

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001074 R NUMC   000754 R NUMI   001132 R NUMK   000001 A NW
000676 R O      000424 A O10    000714 R OCON   000746 R OCON1
000421 A ONE    001027 R OP     000160 R OUT    001652 R P
001236 R PBUF   001664 R PC1    001665 R PC2    001657 R PCEOF
001476 R PCHK   000405 R PCNT   000040 A PIM1   000041 A PIM2
000042 A PIM3   000043 A PIM4   000040 A PIM5   000040 A PIM6
000040 A PIM7   000040 A PIM8   000675 R R3     001030 R R3P
000674 R R4     001031 R R4P    000673 R R5     001032 R R5P
000672 R R6     001033 R R6P    000671 R R7     001034 R R7P
000040 A RA0    000000 A RA1    000060 A RB0    000020 A RB1
000060 R READ1  001410 R REGX   000463 A RHW    000616 R RLIMIT
000432 R RTABLE 001156 R S      001202 R S3     001173 R SA
001206 R SB     000373 R SBLA   001165 R SC     001370 R SEQ
000467 A SEVEN  000466 A SIX    000162 R SOF    000442 R T
000450 R T1     000533 R T2     000570 R T3     000610 R T4
001666 R TABL   000002 A TB75   000016 A TB75B  000001 A TB75Z
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  000614 R TEMP   000471 A TEN    000464 A THREE
000615 R TOBF   000612 R TRPS   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 001720 R V$DVTP
000376 A V$ERFG 001617 E V$EXEC 000347 A V$FGLB 000306 A V$FLRS
000350 A V$FREE 000320 A V$IN   000410 A V$IOA  001552 E V$IOC
001530 E V$IOST 000412 A V$JCB  000053 A V$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$TJOP
000344 A V$TMN  000343 A V$TMS  000304 A V$UTB  000001 A V75
001023 R V75FLG 000001 A VORTEX 000000 A W      000211 R WHAT
000214 R WHAT2  000001 A X      001026 R XP     000677 R XR
000420 A ZERO
  0 ERRORS ASSEMBLY COMPLETE
```

```
  791  A        1132  1137
  851  AP        371   658   687   792   842
  605  APBF      533
  310  APIM      320   321
  365  B         411   413   415   419   422   489  1006  1068  1069
           1090  1173  1191
  611  BASE      530   561   564   565   573
  852  BP        372   659   843
  790  BR       1132  1137
  847  BRK       651   672
  658  BRK1      848
  669  BRK2      667
  206  BS0       336
  220  BS14      403
  958  BUF       500   961  1018  1051  1075  1090  1103  1113
  983  C        1132  1137
  953  C00       750   769
  989  CA       1000
 1029  CAD       810   983   986   991   992   994   995   998  1001
           1004  1005  1010  1022  1026  1027
  610  CCNT      532   538   546   548   558   579   600
 1004  CDISP     987  1023  1025
 1008  CDISP2    984
 1016  CDISP3   1013  1020
 1024  CDISP5   1002
 1012  CDISP6   1009
 1030  CLAST     557   584  1016  1024
  303  CLOCK     305   306
  992  CMCN      523  1015  1017
  537  CNA       597
  544  CNB       555   571
  566  CNB2      572
  570  CNB4      567
  573  CNC       563
  523  CNCM      506
  600  CNE       545
  585  CNF       575   577   582   601
  524  CNV1      515   815   820
  740  CNV2      527   539   686   803   914   948
  764  CNV3      435   540   569   595   683   690   711   877   881
           945
  609  CSW       542   586
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 743   CV2A      751
 733   CV2B      749
 767   CV3A      775
 760   CV3B      774
 612   DBDCB1    440    441    460    461
1103   DBDCB2   1053
1104   DBDCB3    521
1107   DBDCB4    695
1110   DBDCB5    804    915
1111   DBDCB6    905
 951   DBDCB7    927    941    949
 917   DBDCB8    873    886    910
1113   DBDCB9   1059   1074
 952   DBLK      680    703    736    760    800    874    911    942
 613   DBMSG1    612
1105   DBMSG3    520   1104
1112   DBMSG6   1111
1109   DCBXR     716
 370   DEBUG     363   1296
 368   DI        380    442    453    461   1053   1068
1055   DICONT   1054
1099   DILUN     384    447   1062
1090   DINBF    1095
1075   DINEXT   1073
1096   DINJCP   1092
1046   DINPT     462    805   1079
1053   DINRD    1008   1054   1056   1116   1119
1085   DINWD    1057
 618   DMSBUF    390    393    395    397    402    406
 615   DMSG11    394    396    398    412    414    416
 616   DMSG12    434
 369   DO        441    454    521    693    716    804    886    905    915
                 949   1069   1074
1100   DOLUN     448   1063
1203   DSTNUM   1165   1168
1204   DVNAME   1185   1188
1195   DVTP1    1193
1199   DVTPA    1157   1195
1202   DVTPX    1159   1197
 431   EEE       429
 248   EIGHT     439    926
 407   ENDC01    379
 424   ENDC02    409
 449   ENDC03    446

 456   ENDC04    451
1064   ENDC05   1061
1071   ENDC06   1066
1101   ENDC07   1098
1169   ENDC08   1162
1175   ENDC09   1171
1189   ENDC10   1181
1205   ENDC11   1201
 438   ENT       522    719    807    811    890    916    936    973   1003
                1011   1028   1117   1120
 244   FOUR      459    528
 827   G        1132   1137
 831   GG        653
 740   GG1       837
 607   GO        526    813
 966   I        1132   1137
 971   I1        976
 462   ICALL     444    458
 846   JLOC      433    643    678    684    830    847
 683   JMPM      649
 129   LC        130    131    132    133    134    135    136    137    138
                 139    140    141    142    143    144    145    146    147
                 148    150    151    152    153    154    155    156    157
                 158    159    160    161    162    163    165    166    167
                 168    172    173    174    175    176    177    178    183
                 184    185    188    190    194    195
 104   LCJP      105    106    107    114    115    116    117    118    121
 961   LOBF      722    816    917    951   1107   1109   1110
 490   LOOP      499
1038   LOWT     1034   1035
 324   MP        325    326    327    328    329    330
 204   MT        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    257    258
                 259    260
 542   NEGA      580
 816   NMBA      799
 867   NUM       821
 873   NUMA      903
 878   NUMB      885
 887   NUMC      906
 817   NUMI      508
 907   NUMK      867
 367   NW        461    905
 926   O10       892
```

798	DCON	796	1007						
812	DCON1	809							
241	DNE	516							
854	DP	377	663	693	832				
500	DUT	482	485	496					
1115	P	335	335	336	1133	1138			
385	P2A	382							
391	P2B	388							
1166	P2C	1163							
1186	P2D	1183							
954	PBUF	604	869	872	878	880	882	887	888
		891	902	904	928	930	931	933	934
		935	946	1048					
1121	PC1	1115							
1122	PC2	1118							
1118	PCEOF	1054	1054						
1033	PCHK	641	828	868	924	967	1036		
608	PCNT	534	536	591	593	594	603	1012	
786	R3	1132							
857	R3P	430	668	708	839				
785	R4	1132							
858	R4P	430	668	839					
784	R5	1132							
859	R5P	430	668	839					
783	R6	1133							
860	R6P	430	668	839					
782	R7	1133							
861	R7P	430	668	706	839				
439	READ1	437							
995	REGX	794							
240	RHW	457	1072	1176					
724	RLIMIT	707	714						
625	RTABLE	487							
922	S	1133	1138						
938	S3	923							
933	SA	950							
941	SB	932							
599	SBLA	554							
928	SC	937	940						
502	SOF	478							
640	T	1133	1138						
644	T1	640							
688	T2	694							
709	T3	715							
717	T4	701							
1132	TABL	511							
81	TB75	402	419						
82	TB75B	419							
83	TB75Z	419							
27	TBENTY	422							
36	TBKN1	393	411						
37	TBKN2	395	413						
38	TBKN3	397	415						
721	TEMP	543	566	585	688	691	709	712	
250	TEN	925							
243	THREE	1179							
722	TOBF	679	702						
720	TRPS	646	648	671	676				
242	TWO	922	1081						
131	V$CPL	1080							
130	V$CTL	387	410						
0	V$DEBU	12							
162	V$DSTB	1178							
1157	V$DVTP	443							
185	V$JCB	1088							
174	V$JOP	1083							
175	V$LUT1	381	452	1067	1160				
2	V75	331	399	417	425	463	619	664	696
723		780	834	849	855	1108	1127	1135	
850	V75FLG	404	420	428	477	666	700	936	
1	VORTEX	378	408	423	445	450	455	617	1060
1065		1070	1097	1158	1161	1170	1174	1180	1190
1196		1200							
366	W	441	521	695	716	804	886	915	949
1053		1074							
516	WHAT	583	598	795	820	993	1037		
518	WHAT2	510	514	1082	1084				
364	X	443	453	454	490	492	494	681	704
801		875	912	943	1049	1076	1091	1198	
853	XP	373	660	844					
789	XR	1133	1138						