VOLUME 1

E.2 VORTEX/VORTEX II LISTINGS

SUPPLEMENT

92L9905-013B

COMMON

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.

E.2 VORTEX LISTINGS
ALPHABETICAL ORDER INDEX

PROGRAM	PAGE	SYS
AC	459	
ALOG	460	
BTPTCH	490	V1
BTPTCH	694	V2
CA2R	264	
CR2A	261	
CCMATH	320	
CLOGCEXP	315	
CRMATH	305	
CSINCCOS	310	
CSQRT	300	
CTCT4A	257	
CTCT5A	258	
CTCT6A	259	
CTCT7A	260	
CTCD4A	253	
CTCD5A	254	
CTCD6A	255	
CTCD7A	256	
CTIMF	269	
CTLP2A	251	
CTLP3A	252	
CTSP0A	496	V1
CTSP0A	335	V2
CTSP1A	503	V1
CTSP1A	343	V2

E.2 VORTEX LISTINGS
ALPHABETICAL ORDER INDEX

PROGRAM	PAGE	SYS
CTSP2A	505	V1
CTSP2A	345	V2
CTSP3A	507	V1
CTSP3A	347	V2
CTSP4A	509	V1
CTSP4A	349	V2
CTSP5A	511	V1
CTSP5A	351	V2
CTSP6A	513	V1
CTSP6A	353	V2
CTSP7A	515	V1
CTSP7A	355	V2
DATAN	436	
DEXP	444	
DTADDSUB	334	
DTMULDIV	328	
DLOG	452	
DSINCOS	477	
EXP	468	
FPPWCS	489	
IOINT	487	
ISDA	162	V1
ISDA	183	V2
ISDB	165	V1
ISDB	187	V2
ISDC	170	V1

E.2 VORTEX LISTINGS
ALPHABETICAL ORDER INDEX

PROGRAM	PAGE	SYS
ISDC	192	V2
ISDD	174	V1
ISDD	196	V2
LDELAY	271	
MERGE	755	
MTCSIM	337	
MTUTTI	559	
MOVE	267	
PATCH	445	V1
PATCH	649	V2
SDE	292	
SD2	280	
SFC	277	
SGC	293	
STC	282	
STF	285	
S1C	295	
S1E	290	
SEE	272	
RPGRT	835	
SORT	790	
STUPAUS	242	
VECIPS	575	V1
VECIPS	423	V2
VEDASMH	282	V1
VEDASMH	484	V2

E.2 VORTEX LISTINGS

ALPHABETICAL ORDER INDEX

PROGRAM	PAGE	SYS
VSDEBUG	390	V1
VSDEBUG	593	V2
VSFMATH	644	
VSFORT	1	
VSFORTIO	226	
VSFORTDA	246	
VSFORO	77	
VSFOR1	94	
VSFOR2	132	
VSFOR3	196	
VSFOR4	213	
VSFUNC	203	V1
VSFUNC	242	V2
VSIOC	224	V1
VSIOC	272	V2
VSIOUTIL	716	
VSJCP	609	
VSLPD24	521	
VSOABORT	536	
VSOASSGN	524	
VSOTIME	547	
VSRFRF	794	V1
VSRFRF	872	V1
VSRFRF	850	V2
VSRFRF	922	V2
VSRFRS	632	V1

E.2 VORTEX LISTINGS
ALPHABETICAL ORDER INDEX

PROGRAM	PAGE	SYS
V7LPDY	596	V1
V7LPDX	447	V2
V7SPA	623	V1
V7SPA	475	V2
V1WPSETF	419	V1
V2WPSETF	623	V2
XDCOMP	476	

```
000001 A     1 VORTEX SET     1                                                                  06 00001
             3 *       N E W   F O R T R A N   ( B A S E )                                    * 06 00003
             4 *                                                                              06 00004
             5 *       VDM PART NO.   81L0405-012  RELEASED 12/17/74                        PD  06 00005
             6 *                                                                              06 00006
             7 *                 V$FORT                                                       06 00007
             8 *                                                                              06 00008
             9 *                                                                              06 00009
            10 COMPL   OPSY    COMP                                                          06 00010
            11 EJECT   OPSY    EJEC                                                          06 00011
            12 ENTRY   OPSY    ENTR                                                          06 00012
            13 MERGE   OPSY    MERG                                                          06 00013
            14 SPACE   OPSY    SPAC                                                          06 00014
            15         TITLE   V$FORT                                                       06 00015
            16 *                                                                             06 00016
            17 * THIS IS A COPYRIGHTED PROGRAM 1974 BY VARIAN DATA MACHINES                  PD  06 00017
            18 *                                                                             06 00018
            19 *    VERSION PD REFERS TO E3393                                               PD  06 00019
            21 ********************************************************************************* 06 00021
            22 *                                                                            * 06 00022
            23 *                                                                            * 06 00023
            24 *         V O R T E X   F O R T R A N   I V   C O M P I L E R                * 06 00024
            25 *                                                                            * 06 00025
            26 *                                                                            * 06 00026
            27 * THIS COMPILER IS A ONE-PASS FORTRAN IV COMPILER, COMPATIBLE WITH           * 06 00027
            28 * ANSI SPECIFICATION X3.9-1966.                                             * 06 00028
            29 *                                                                            * 06 00029
            30 * IT OPERATES UNDER CONTROL OF THE VDM 620/F REAL-TIME OPERATING            * 06 00030
            31 * SYSTEM(VORTEX). IT IS CALLED BY THE JCP DIRECTIVE:                        * 06 00031
            32 *                                                                            * 06 00032
            33 *       /FORT P1,P2,...                                                      * 06 00033
            34 *                                                                            * 06 00034
            35 *  . .  WHERE P1,P2,... IS A PARAMETER LIST WHICH MAY BE EMPTY OR            * 06 00035
            36 *       EACH PI MAY HAVE ONE OF THE SINGLE LETTER VALUES:                    * 06 00036
            37 *                                                                            * 06 00037
            38 *       B: SUPPRESS OBJECT OUTPUT ON BO FILE                                 * 06 00038
            39 *     . D: INTEGER AND LOGICAL VARIABLES AND ARRAYS ASSIGNED 2 WORDS         * 06 00039
            40 *       L: AFTER COMPILATION, LOAD AND EXECUTE FROM GO FILE                  * 06 00040
            41 *       M: SUPPRESS POST-COMPILATION MAP ON LO FILE                          * 06 00041
            42 *       N: SUPPRESS SOURCE LISTING ON LO FILE                                * 06 00042
            43 *       O: OUTPUT OCTAL LISTING OF OBJECT TEXT ON LO FILE                    * 06 00043
            44 *       X: COMPILE STATEMENTS WITH AN 'X' IN COLUMN 1                        * 06 00044
            45 *                                                                            * 06 00045
            46 ********************************************************************************* 06 00046
            47         EJEC                                                                  06 00047
            48 ********************************************************************************* 06 00048
            49 *                                                                             06 00049
            50 ***      JCP PROCESSOR LOW CORE EQUATES                                    ** 06 00050
            51 *                                                                             06 00051
            52 ********************************************************************************* 06 00052
000050 A    54 LCJP    EQU     050                                                           06 00054
000050 A    55 V$JNAM  EQU     LCJP          JCP NAME                                        06 00055
000054 A    56 V$LCNT  EQU     LCJP+4        LINE COUNT                                      06 00056
000055 A    57 V$JCFG  EQU     LCJP+5        JCP FLAGS                                       06 00057
            58 *                             BIT 2-0    = LOAD AND GO FLAGS                06 00058
            59 *                             BIT  3     = DUMP FLAG  1=DUMP, 0=NO DUMP     06 00059
            60 *                             BIT 9-4    = UNUSED                           06 00060
            61 *                             BIT 15-10  = NO EXTRA CORE BLOCKS TO ALLOC    06 00061
000056 A    63 V$JFCB  EQU     LCJP+6        JCP FILE CONTROL BLOCK                          06 00063
000070 A    64 V$DATE  EQU     LCJP+16       JCP DATA RECORD                                 06 00064
            65         EJEC                                                                  06 00065
            66 ********************************************************************************* 06 00066
            67 *                                                                             06 00067
            68 ****     LOW CORE DESCRIPTION                                              *** 06 00068
            69 *                                                                             06 00069
            70 ********************************************************************************* 06 00070
000300 A    72 LC      EQU     0300                                                          06 00072
000317 A    73 V$LLUP  EQU     LC+15         LOC. OF LAST UNPROTECTED WORD                   06 00073
000345 A    74 V$LUNT  EQU     LC+37         ADDR. OF LOGICAL UNIT NAME TABLE                06 00074
000355 A    75 V$DSTB  EQU     LC+45         BASE ADDR. FOR DST BLOCK                        06 00075
000357 A    76 V$TKSZ  EQU     LC+47         RMD TRACK SIZE                                  06 00076
000360 A    77 V$CTAB  EQU     LC+48         BASE ADDR. FOR CONTROLLER ADDR. TABLE           06 00077
000400 A    78 V$LUT1  EQU     LC+64         START LUN ADDR FOR JCP/UPCOM ASSIGNABLE         06 00078
000401 A    79 V$LUT2  EQU     LC+65         START LUN ADDR FOR UNASSIGNABLE                 06 00079
000402 A    80 V$LUT3  EQU     LC+66         START LUN ADDR FOR DACOM ASSIGNABLE             06 00080
000412 A    81 V$JCB   EQU     LC+74         ALL SYSTEM BACKGROUND PROGRAMS AND JCP USE      06 00081
            82 *                             THIS SYSTEM BUFFER TO READ DIRECTIVES AND      06 00082
            83 *                             SOURCE RECORDS IN.                             06 00083
000417 A    84 V$STSZ  EQU     LC+79         ACTURAL SECTOR SIZE                             06 00084
            85         EJEC                                                                  06 00085
            86 ********************************************************************************* 06 00086
            87 *                                                                             06 00087
            88 ****     MASK TABLE DESCRIPTION                                            *** 06 00089
            89 *                                                                             06 00089
            90 ********************************************************************************* 06 00090
000420 A    92 MT      SET     0430                                                          06 00092
000420 A    93 ZERO    EQU     MT            ZERO WORD                                       06 00093
000421 A    94 BS0     EQU     MT+1          BIT MASK CONTENTS  000001                       06 00094
000422 A    95 BS1     EQU     MT+2                             000002                       06 00095
000423 A    96 BS2     EQU     MT+3                             000004                       06 00096
000424 A    97 BS3     EQU     MT+4                             000010                       06 00097
```

```
000425 A    98 BS4     EQU     MT+5
000426 A    99 BS5     EQU     MT+6
000427 A   100 BS6     EQU     MT+7
000430 A   101 BS7     EQU     MT+8
000431 A   102 BS8     EQU     MT+9
000432 A   103 BS9     EQU     MT+10
000433 A   104 BS10    EQU     MT+11
000434 A   105 BS11    EQU     MT+12
000435 A   106 BS12    EQU     MT+13
000436 A   107 BS13    EQU     MT+14
000437 A   108 BS14    EQU     MT+15
000440 A   109 BS15    EQU     MT+16
000441 A   110 BR0     EQU     MT+17
000442 A   111 BR1     EQU     MT+18
000443 A   112 BR2     EQU     MT+19
000444 A   113 BR3     EQU     MT+20
000445 A   114 BR4     EQU     MT+21
000446 A   115 BR5     EQU     MT+22
000447 A   116 BR6     EQU     MT+23
000450 A   117 BR7     EQU     MT+24
000451 A   118 BR8     EQU     MT+25
000452 A   119 BR9     EQU     MT+26
000453 A   120 BR10    EQU     MT+27
000454 A   121 BR11    EQU     MT+28
000455 A   122 BR12    EQU     MT+29
000456 A   123 BR13    EQU     MT+30
000457 A   124 BR14    EQU     MT+31
000460 A   125 BR15    EQU     MT+32
000461 A   126 NEG     EQU     MT+33
000462 A   127 LHW     EQU     MT+34
000463 A   128 RHW     EQU     MT+35
000421 A   129 ONE     EQU     MT+1
000422 A   130 TWO     EQU     MT+2
000464 A   131 THREE   EQU     MT+36
000423 A   132 FOUR    EQU     MT+3
000465 A   133 FIVE    EQU     MT+37
000466 A   134 SIX     EQU     MT+38
000467 A   135 SEVEN   EQU     MT+39
000424 A   136 EIGHT   EQU     MT+4
000470 A   137 NINE    EQU     MT+40
000471 A   138 TEN     EQU     MT+41
000421 A   139 BM1     EQU     MT+1
000464 A   140 BM3     EQU     MT+36
000467 A   141 BM7     EQU     MT+39
000472 A   142 BM17    EQU     MT+42
000473 A   143 BM37    EQU     MT+43
000474 A   144 BM77    EQU     MT+44
000475 A   145 BM177   EQU     MT+45
000463 A   146 BM377   EQU     MT+35
000476 A   147 BM777   EQU     MT+46
000477 A   148 BM1777  EQU     MT+47
000500 A   149 MTE     EQU     BM1777+1
           150         EJECT
```

```
000020                                                    06 00098
000040                                                    06 00099
000100                                                    06 00100
000200                                                    06 00101
000400                                                    06 00102
001000                                                    06 00103
002000                                                    06 00104
004000                                                    06 00105
010000                                                    06 00106
020000                                                    06 00107
040000                                                    06 00108
0100000                                                   06 00109
BIT MASK CONTENTS  0177776                                06 00110
                   0177775                                06 00111
                   0177773                                06 00112
                   0177767                                06 00113
                   0177757                                06 00114
                   0177737                                06 00115
                   0177677                                06 00116
                   0177577                                06 00117
                   0177377                                06 00118
                   0176777                                06 00119
                   0175777                                06 00120
                   0173777                                06 00121
                   0167777                                06 00122
                   0157777                                06 00123
                   0137777                                06 00124
                   0077777                                06 00125
SET ALL BITS                                              06 00126
LEFT HALF WORD MASK 0177400                               06 00127
RIGHT HALF WORD MASK   0377                               06 00128
CONTAINS NUMBER  1                                        06 00129
CONTAINS NUMBER  2                                        06 00130
CONTAINS NUMBER  3                                        06 00131
CONTAINS NUMBER  4                                        06 00132
CONTAINS NUMBER  5                                        06 00133
CONTAINS NUMBER  6                                        06 00134
CONTAINS NUMBER  7                                        06 00135
CONTAINS NUMBER  8                                        06 00136
CONTAINS NUMBER  9                                        06 00137
CONTAINS NUMBER 10                                        06 00138
BIT MASK WORD 00001                                       06 00139
BIT MASK WORD  00003                                      06 00140
BIT MASK WORD  00007                                      06 00141
BIT MASK WORD  00017                                      06 00142
BIT MASK WORD  00037                                      06 00143
BIT MASK WORD  00077                                      06 00144
BIT MASK WORD  00177                                      06 00145
BIT MASK WORD  00377                                      06 00146
BIT MASK WORD  00777                                      06 00147
BIT MASK WORD  01777                                      06 00148
                                                      FF  06 00149
                                                          06 00150
```

```
151 ************************************************************  06 00151
152 *                                                          *  06 00152
153 *          C O M P I L E - T I M E   M E M O R Y   M A P   *  06 00153
154 *                                                          *  06 00154
155 ************************************************************  06 00155
156 *                                                          *  06 00156
157 *      ********************************                    *  06 00157
158 *      *                              *                    *  06 00158
159 *      *   BLD / AID / NUCLEUS / FOREGROUND                *  06 00159
160 *      *                              *                    *  06 00160
161 *      ********************************                    *  06 00161
162 *      *                              *  V$LLUP            *  06 00162
163 *      *          DD TABLE            *                    *  06 00163
164 *      *                              *  DT                *  06 00164
165 *      ********************************                    *  06 00165
166 *      *                              *                    *  06 00166
167 *      *       EXPRESSION TABLE       *                    *  06 00167
168 *      *                              *  KT                *  06 00168
169 *      ********************************                    *  06 00169
170 *      *                              *                    *  06 00170
171 *      *       AVAILABLE STORAGE      *                    *  06 00171
172 *      *                              *  JT                *  06 00172
173 ************************************************************  06 00173
174 *      *                              *                    *  06 00174
175 *      *          TRIAD TABLE         *                    *  06 00175
176 *      *                              *  IT                *  06 00176
177 *      ********************************                    *  06 00177
178 *      *                              *                    *  06 00178
179 *      *        ASSIGNMENT TABLE      *                    *  06 00179
180 *      *                              *                    *  06 00180
181 *      ********************************                    *  06 00181
182 *      *                              *                    *  06 00182
183 *      *       FORTRAN IV COMPILER    *                    *  06 00183
184 *      *                              *  01000             *  06 00184
185 *      ********************************                    *  06 00185
186 *      *                              *                    *  06 00186
187 *      *       VORTEX LOW CORE DATA   *                    *  06 00187
188 *      *                              *                    *  06 00188
```

```
                                                
```

```
280  * *                                S1                                          * 06 00280
281  * *                                                                            * 06 00280
282  * *        15 14      12 11       9 8     7 6       4 3            0*         * 06 00281
283  * **********************************************************************      * 06 00282
284  * *        *          *           *       *         *                *      * 06 00283
285  * *   NT=1 *   AT=2   *  ND       * IU=0 **********  EL=ND+2        * WD 2  * 06 00284
286  * *        *          *           *       *         *                *      * 06 00285
287  * **********************************************************************      * 06 00286
288  * *                                                                            * 06 00287
289  * *                              S2 - S7                                       * WD 3  * 06 00288
290  * *                                                                            *-WD ND+2 06 00289
291  * **********************************************************************      * 06 00290
292  *                                                                              * 06 00291
293  *                                                                              * 06 00292
294  * AF: ARRAY BASE ADDRESS                                                       * 06 00293
295  * ND: NUMBER OF DIMENSIONS                                                     * 06 00294
296  * S1: ASSIGNMENT TABLE ADDRESS OF 1ST DIMENSION                                * 06 00295
297  * S2: ASSIGNMENT TABLE ADDRESS OF 2ND DIMENSION(0 IF NONE)                     * 06 00296
298  * S3: ASSIGNMENT TABLE ADDRESS OF 3RD DIMENSION(0 IF NONE)                     * 06 00297
299  * S4: ASSIGNMENT TABLE ADDRESS OF 4TH DIMENSION(0 IF NONE)                     * 06 00298
300  * S5: ASSIGNMENT TABLE ADDRESS OF 5TH DIMENSION(0 IF NONE)                     * 06 00299
301  * S6: ASSIGNMENT TABLE ADDRESS OF 6TH DIMENSION(0 IF NONE)                     * 06 00300
302  * S7: ASSIGNMENT TABLE ADDRESS OF 7TH DIMENSION(0 IF NONE)                     * 06 00301
303        EJECT                                                                   06 00302
304  ********************************************************************************06 00303
305  *                                                                              * 06 00304
306  *                    D O   T A B L E   F O R M A T                             * 06 00305
307  *                                                                              * 06 00306
308  ********************************************************************************06 00307
309  *                                                                              * 06 00308
310  *                                                                              * 06 00309
311  * **************************************************************       *      * 06 00310
312  * *                                                            *       *      * 06 00311
313  * *  DS = POINTER TO TARGET STATEMENT NO IN TABLE               * WD 0  *      * 06 00312
314  * *                                                            *       *      * 06 00313
315  * **************************************************************       *      * 06 00314
316  * *                                                            *       *      * 06 00315
317  * *  DV = POINTER TO DO VARIABLE IN TABLE                      * WD 1  *      * 06 00316
318  * *                                                            *       *      * 06 00317
319  * **************************************************************       *      * 06 00318
320  * *                                                            *       *      * 06 00319
321  * *  DH = POINTER TO UPPER LIMIT IN TABLE                      * WD 2  *      * 06 00320
322  * *                                                            *       *      * 06 00321
323  * **************************************************************       *      * 06 00322
324  * *                                                            *       *      * 06 00323
325  * *  DI = POINTER TO DO INCREMENT IN TABLE                     * WD 3  *      * 06 00324
326  * *                                                            *       *      * 06 00325
327  * **************************************************************       *      * 06 00326
328  * *                                                            *       *      * 06 00327
329  * *  DR = (ROUTINE DOI SETS INITIALLY) PTR TO INITIAL VALUE    * WD 4  *      * 06 00328
330  * *       (DON THEN SETS) DO LOOP ENTRY ADDRESS                *       *      * 06 00329
331  * *                                                            *       *      * 06 00330
332  * **************************************************************       *      * 06 00331
333  *                                                                              * 06 00332
334  ********************************************************************************06 00333
335        EJECT                                                                   06 00334
336  ********************************************************************************06 00335
337  *                                                                              * 06 00336
338  *          E X P R E S S I O N   T A B L E   F O R M A T                       * 06 00337
339  *                                                                              * 06 00338
340  * THE EXPRESSION SCAN ROUTINE EXP SCANS FROM LEFT TO RIGHT, PICKING            * 06 00339
341  * UP OPERAND/OPERATOR PAIRS, AND STORING THEM IN THE EXPRESSION TABLE          * 06 00340
342  * IN THE FOLLOWING FORMAT:                                                     * 06 00341
343  *                                                                              * 06 00342
344  ********************************************************************************06 00343
345  *                                                                              * 06 00344
346  *                                                                              * 06 00345
347  * **************************************************************       *      * 06 00346
348  * *                                                            *       *      * 06 00347
349  * *                          I                                 * WD 0  *      * 06 00348
350  * *                                                            *       *      * 06 00349
351  * * 15                      7 6                           1   0 *       *      * 06 00350
352  * **************************************************************       *      * 06 00351
353  * *                        *                       *     *     *       *      * 06 00352
354  * *          EH            *          OP           * NF  *     * WD 1  *      * 06 00353
355  * *                        *                       *     *     *       *      * 06 00354
356  * **************************************************************       *      * 06 00355
357  *                                                                              * 06 00356
358  *                                                                              * 06 00357
359  *  I: ASSIGNMENT TABLE ADRESS OF OPERAND(0 IF NONE)                            * 06 00358
360  * EH: OPERATOR HIERARCHY LEVEL                                                 * 06 00359
361  * OP: OPERAND CODE                                                             * 06 00360
362  * NF: NEGATION FLAG                                                           * 06 00361
363        EJECT                                                                   06 00362
364  ********************************************************************************06 00363
365  *                                                                              * 06 00364
366  *                  T R I A D   T A B L E   F O R M A T                         * 06 00365
367  *                                                                              * 06 00366
368  * ROUTINE SCN SCANS THE EXPRESSION TABLE AND BUILDS TRIADS OF THE              * 06 00367
369  * FOLLOWING FORMAT:                                                            * 06 00368
370  ********************************************************************************* 06 00369
```

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                371 *                                                
```

```
105710 A   467 FSTD    EQU     FFPOP+0310    STORE DP                                  FF  06 00467
105600 A   468 FSTS    EQU     FFPOP+0200    STORE SP                                  FF  06 00468
105543 A   469 FSUBD   EQU     FFPOP+0143    SUBTRACT DP                               FF  06 00469
105450 A   470 FSUBS   EQU     FFPOP+050     SUBTRACT SP                               FF  06 00470
           471 *                                                                          06 00471
           472 *                                                                          06 00472
000422 A   473 K2      EQU     TWO                                                      06 00473
000441 A   474 MTWO    EQU     BR0                                                      06 00474
000423 A   475 K4      EQU     FOUR                                                     06 00475
000466 A   476 K6      EQU     SIX                                                      06 00476
000424 A   477 K10     EQU     BS3                                                      06 00477
000471 A   478 K12     EQU     TEN                                                      06 00478
000472 A   479 K17     EQU     BM17                                                     06 00479
000425 A   480 K20     EQU     BS4                                                      06 00480
000473 A   481 K37     EQU     BM37                                                     06 00481
000463 A   482 K77     EQU     BM377                                                    06 00482
000432 A   483 KJMP    EQU     3S9                                                      06 00483
           484         EJECT                                                          06 00484
           485 ********************************************************************** 06 00485
           486 *                                                                    *   06 00486
           487 *                    A S S I G N   I T E M ( A S I )                 *   06 00487
           488 *                                                                    *   06 00488
           489 * FUNCTION: TO LOCATE AN ITEM IN THE ASSIGNMENT TABLE, OR ENTER IT  *   06 00489
           490 *           IF IT IS NOT PRESENT.                                  *   06 00490
           491 *                                                                    *   06 00491
           492 * ENTRY: ID FIELD HOLDS ITEM IDENTIFICATION                        *   06 00492
           493 *        EL HAS ID SIZE                                                06 00493
           494 *        IU,IM HOLD FURTHER INFO                                 *   06 00494
           495 *        NT=0 FOR VARIABLE AND ARRAY NAMES,ETC.                  *   06 00495
           496 *        NT=1 FOR CONSTANTS, ETC.                                *   06 00496
           497 *        NTFL=1 IF ITEM NOT TO BE TAGGED BY ASI                  *   06 00497
           498 *                                                                    *   06 00498
           499 * EXIT : A=IM                                                      *   06 00499
           500 *        I POINTS TO ITEM                                        *   06 00500
           501 *        ITEM LOADED BY LAX                                      *   06 00501
           502 *        NTFL=0                                                  *   06 00502
           503 *        TRIAD TABLE MOVED UP                                    *   06 00503
           504 *        IF SPF'.NE.0,IU.OR.NTFL TESTED. IF.NE.0 NO-OP           *   06 00504
           505 *                                        .EQ.0 IF TC.NE.'(' IU=1 *   06 00505
           506 *                                              .EQ.'(' CALL TSB  *   06 00506
           507 *                                                                    *   06 00507
           508 * ERRORS: ER19 IF ILLEGAL DUPLICATION OF NAMES                     *   06 00508
           509 *         TER3 IF TABLE OVERFLOWS MEMORY                           *   06 00509
           510 *                                                                    *   06 00510
           511 ********************************************************************** 06 00511
000000 000000 A  513 ASI     ENTRY                                                    06 00513
000001 017000 I  514         LDA     DPB             INITIALIZE TABLE PTR I AT START OF TABLE  06 00514
           515 ***************************                                            06 00515
           516 * ENTRY TO TABLE SEARCH LOOP *                                         06 00516
           517 ***************************                                            06 00517
000002 057000 I  518 ASIL    STA     I               SAVE NEXT ITEM POINTER IN I       06 00518
000003 005014 A  519         TAX                      AND X                            06 00519
000004 147000 I  520         SUB     IT                                               06 00520
000005 001004 A  521         JAN     ASIC            TEST FOR END OF TABLE            06 00521
000006 000051 R
           522 ***************************                                            06 00522
           523 * NO FIND - MAKE NEW ENTRY *                                          06 00523
           524 ***************************                                            06 00524
000007 077000 I  525         STX     EL              CL=I: CHAIN ITEM TO ITSELF       06 00525
000010 057000 I  526         STA     AF              AF=0                             06 00526
000011 017000 I  527         LDA     EL                                               06 00527
000012 114035 A  528         ORA     ASTI            FORMAT STORE COMMAND             06 00528
000013 054025 A  529         STA     ASIM+1          STORE IN LINE                    06 00529
000014 010422 A  530         LDA     K2                                               06 00530
000015 057000 I  531         STA     RT              SET RT=2                         06 00531
000016 127000 I  532         ADD     JT                                               06 00532
000017 005012 A  533         TAB                     POINT B AT TOP OF TRIADS         06 00533
000020 127000 I  534         ADD     EL              TEST IF ROOM FOR NEW ENTRY       06 00534
000021 147000 I  535         SUB     KT                                               06 00535
000022 002002 A  536         JAPM    TOF             DATA POOL FULL                   06 00536
000023 006710 R
000024 017000 I  537         LDA     J                                                06 00537
000025 127000 I  538         ADD     EL              BUMP TRIAD POINTER J BY EL       06 00538
000026 057000 I  539         STA     J                                                06 00539
000027 017000 I  540         LDA     JT                                               06 00540
000030 127000 I  541         ADD     EL              BUMP TRIAD POINTER JT BY EL      06 00541
000031 057000 I  542         STA     JT                                               06 00542
000032 017000 I  543         LDA     IT                                               06 00543
000033 127000 I  544         ADD     EL              BUMP TABLE TOP POINTER IT        06 00544
000034 057000 I  545         STA     IT                                               06 00545
000035 147000 I  546         SUB     JT                                               06 00546
000036 001010 A  547         JAZ     ASI3            TEST IF TRIAD TABLE EMPTY        06 00547
000037 000170 R
           548 ********************************************************************** 06 00549
           549 * FLOATING TRIAD TABLE MUST BE MOVED UP EL WORDS *                     06 00549
           550 ********************************************************************** 06 00550
000040 016000 A  551 ASIM    LDA     0,B             GET TRIAD WORD                   06 00551
000041 056005 A  552         STA     0-B             MOVE UP EL                       06 00552
000042 005323 A  553         DECR    B23             DECREMENT POINTER B              06 00553
000043 147000 I  554         SUB     I                                                06 00554
000044 001002 A  555         JAP     ASIM            LOOP UNTIL DONE                  06 00555
```

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000045 000040 R
000046 001000 A   556          JMP      ASI3                                                    06 00556
000047 000170 R
000050 056000 A   557 ASII     STA      0,B          ASIM RESET INSTRUCTION                     06 00557
                  558 **************************                                               06 00558
                  559 * COMPARE TABLE ENTRY *                                                  06 00559
                  560 **************************                                               06 00560
000051 015002 A   561 ASIC     LDA      2,X                                                     06 00561
000052 150472 A   562          ANA      BM17         EL(I)                                      06 00562
000053 137000 I   563          ERA      EL                                                      06 00563
000054 001010 A   564          JAZ      ASI0                                                    06 00564
000055 000063 R
000056 015002 A   565 ASIX     LDA      2,X          BUMP TABLE POINTER                         06 00565
000057 150472 A   566          ANA      BM17         EL(I)                                      06 00566
000060 127000 I   567          IOD      I                                                       06 00567
000061 001008 A   568          JMP      ASIL         LOOP                                       06 00568
000062 000002 R
000063 020464 A   569 ASI0     LDB      THREE                                                   06 00569
000064 014060 A   570          LDA      =ASI1        'LDA  2,X'                                 06 00570
000065 054001 A   571          STA      ASI05        SET ID-PICKUP INSTRUCTION                  06 00571
000066 044000 A   572          INR      ASI05                                                   06 00572
000067 015002 A   573 ASI05    LDA      2,X          GET ID(X)                                  06 00573
000070 006136 A   574          ERAE     ID-3,B                                                  06 00574
000071 010234 R
000072 001016 A   575          JANZ     ASIX         NO MATCH                                   06 00575
000073 000056 R
000074 005123 A   576          INCR     023                                                     06 00576
000075 147000 I   577          SUB      EL                                                      06 00577
000076 001016 A   578          JANZ     ASI05-1      TEST REMAINING ID WORDS                    06 00578
000077 000066 R
                  579 ********************************                                         06 00579
                  580 * ID FIELDS MATCH - CHECK NT *                                          06 00580
                  581 ********************************                                         06 00581
000100 027000 I   582          LDB      NT                                                      06 00582
000101 015002 A   583          LDA      2,X                                                     06 00583
000102 001022 A   584          JIF      022,ASIY     EXIT IF NT FIELDS BOTH=0                   06 00584
000103 000123 R
000104 001020 A   585          JBZ      ASI1         GO TO ASI1 IF LOOKING FOR VARIABLE         06 00585
000105 000145 R
000106 001002 A   586          JAP      ASIY         CONTINUE SEARCH IF LOOKING FOR NT=1 ITEM   06 00586
000107 000056 R
                  587 ********************************                                         06 00587
                  588 * NT=1 MATCH. COMPARE IM,IU *                                          06 00588
                  589 ********************************                                         06 00589
000110 004551 A   590          ALSR     SPIT-7                                                  06 00590
000111 150467 A   591          ANA      S.VSN        GET IM                                     06 00591
000112 137000 I   592          ERA      IU                                                      06 00592
000113 001016 A   593          JANZ     ASIX                                                    06 00593
000114 000056 R
000115 004400 A   594          ALRL     8                                                       06 00594
000116 001010 A   595          JAZ      ASIX         IGNORE IF IU=0                             06 00595
000117 000056 R
000120 137000 I   596          ERA      IU                                                      06 00596
000121 001016 A   597          JANZ     ASIX         IU <> IU(I)                                06 00597
000122 000056 R
                  598 ********************************                                         06 00598
                  599 * ITEM FOUND/ASSIGNED *                                                 06 00599
                  600 ********************************                                         06 00600
000123 002000 A   601 ASIY     CALL     LOX          LOAD ITEM                                  06 00601
000124 003166 R
000125 017000 I   602          LDA      IU                                                      06 00602
000126 140422 A   603          SUB      K8                                                      06 00603
000127 001004 A   604          JAP      ASI2         EXIT ON LABELS, COMMON BLOCK NAMES         06 00604
000130 000140 R
000131 017000 I   605          LDA      SPIL                                                    06 00605
000132 001010 A   606          JAZ      ASIX         EXIT IF PROCESSING SPECIFICATIONS          06 00606
000133 000140 R
000134 017000 I   607          LDA      IU           EXIT IF ITEM ALREADY HAS USAGE             06 00607
000135 117000 I   608          SSM      NTFL         EXIT IF NO-TAG FLAG NTFL SET               06 00608
000136 001010 A   609          JAZ      ASIE         OTHERWISE ASSIGN USAGE                     06 00609
000137 000161 R
                  610 *********                                                                06 00610
                  611 * EXIT  *                                                                06 00611
                  612 *********                                                                06 00612
000140 005001 A   613 ASIZ     LDA      1                                                       06 00613
000141 057000 I   614          STA      NTFL         CLEAR NO-TAG FLAG                          06 00614
000142 017000 I   615          LDA      IM           LOAD A=IM                                  06 00615
000143 001000 A   616          JMP*     1,X                                                     06 00616
000144 100000 R
000145 015002 A   617 ASI1     LDA      2,X          PROCESS NO=1,NT(I)=0 AND ID=ID(I)          06 00617
000146 004354 A   618          LDBA     IC                                                      06 00618
000147 150464 A   619          ANA      =THREE       GET AT(I)                                  06 00619
000150 005011 A   620          SAR      11                                                      06 00620
000151 001016 A   621          JANZ     ASIX         NOT ENTRY TYPE                             06 00621
000152 000056 R
000153 017000 I   622          LDA      SPIL                                                    06 00622
000154 140464 A   623          SUB      =OPCE                                                   06 00623
000155 002004 A   624          JAEM     ER19         ILLEGAL NAME (ENTRY USED IN SPECIFICATION) 06 00624
000156 000331 R
000157 001006 A   625          JMP      ASIX                                                    06 00625
000160 000056 R
```

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000161 017000 I   626 ASI2   LDA     TC          ASSIGN USAGE                                  06 00626
000162 130000 L   627         ERA     ='('                                                      06 00627
000163 002010 A   628         JAZM    TSB         MAKE SUBPROGRAM IF TC = '('                   06 00628
000164 006733 R
000165 017000 I   629         LDA     IU                                                        06 00629
000166 003010 A   630         XAZ     ASI4        IF IU=0, SET IU=1 (VARIABLE)                  06 00630
000167 000174 R
000170 002000 A   631 ASI3    CALL    SAX                                                       06 00631
000171 005134 R
000172 001000 A   632         JMP     ASIY                                                      06 00632
000173 000123 R
000174 047000 I   633 ASI4    INR     IU                                                        06 00633
                  634         EJECT                                                             06 00634
                  635 ********************************************************************** 06 00635
                  636 *                                                                      * 06 00636
                  637 *                  A S S I G N   S P E C I A L ( A S S )               * 06 00637
                  638 *                                                                      * 06 00638
                  639 * FUNCTION: TO CALL ASI TO MAKE AN ENTRY INTO THE ASSIGNMENT TABLE    * 06 00639
                  640 *           WITH NT=1                                                  * 06 00640
                  641 *                                                                      * 06 00641
                  642 * ENTRY: SYMBOL/NUMBER IN ID FIELD                                     * 06 00642
                  643 *        A=IU                                                          * 06 00643
                  644 *        B=IM                                                          * 06 00644
                  645 *                                                                      * 06 00645
                  646 * EXIT : SYMBOL/NUMBER ENTERED INTO ASSIGNMENT TABLE WITH NT=1         * 06 00646
                  647 *                                                                      * 06 00647
                  648 ********************************************************************** 06 00648
000175 000000 A   650 ASS     ENTRY                                                           06 00650
000176 057000 I   651         STA     IU          SET IU TO A                                 06 00651
000177 067000 I   652         STB     IM          SET IM TO B                                 06 00652
000200 005101 A   653         INCR    1                                                       06 00653
000201 057000 I   654         STA     NT          SET NT TO 1                                 06 00654
000202 002000 A   655         CALL    ASI         MAKE ENTRY IN SYMBOL TABLE                  06 00655
000203 000000 R
000204 001000 A   656         JMP*    ASS         EXIT                                        06 00656
000205 100175 R
                  657         EJECT                                                           06 00657
                  658 ********************************************************************** 06 00658
                  659 *                                                                      * 06 00659
                  660 *      C O N V E R T   B I N A R Y   T O   A S C I I   ( C B A )       * 06 00660
                  661 *                                                                      * 06 00661
                  662 * FUNCTION: TO CONVERT A BINARY VALUE TO ASCII                         * 06 00662
                  663 *                                                                      * 06 00663
                  664 * ENTRANCE: (A) = BINARY VALUE (0-99)                                  * 06 00664
                  665 *                                                                      * 06 00665
                  666 * EXIT: (A) = ASCII VALUE (DECIMAL)                                    * 06 00666
                  667 *                                                                      * 06 00667
                  668 ********************************************************************** 06 00668
000206 000000 A   670 CBA     ENTRY                                                           06 00670
000207 005012 A   671         TAB                                                             06 00671
000210 005001 A   672         TZA                                                             06 00672
000211 170471 A   673         DIV     TEN                                                     06 00673
000212 004250 A   674         LRLA    8                                                       06 00674
000213 004470 A   675         LLRL    24          MAKE MOD-10                                 06 00675
000214 006120 A   676         ADDI    '00'.                                                   06 00676
000215 130260 A
000216 001000 A   677         JMP*    CBA                                                     06 00677
000217 100206 R
                  678         EJECT                                                           06 00678
                  679 ********************************************************************** 06 00679
                  680 *                                                                      * 06 00680
                  681 *        O U T P U T   A   C A L L   T O   N A M E ( C A N )           * 06 00681
                  682 *                                                                      * 06 00682
                  683 * FUNCTION: TO OUTPUT A CALL OF FORM: 'JMPM $AB'                       * 06 00683
                  684 *                                                                      * 06 00684
                  685 * ENTRY: A='AB'                                                        * 06 00685
                  686 *                                                                      * 06 00686
                  687 * EXIT : 'JMPM $AB' OUTPUT                                            * 06 00687
                  688 *        $AB IN ASSIGNMENT TABLE: IU=3,IM=0,NT=0                       * 06 00688
                  689 *        I SAVED                                                       * 06 00689
                  690 *                                                                      * 06 00690
                  691 ********************************************************************** 06 00691
000220 000000 A   693 CAN     ENTRY                                                           06 00693
000221 005012 A   694         TAB                                                             06 00694
000222 010465 A   695         LDA     FIVE                                                    06 00695
000223 057000 I   696         STA     EL                                                      06 00696
000224 010464 A   697         LDA     THREE                                                   06 00697
000225 057000 I   698         STA     IU          SET IU=3 FOR SUBPROGRAM                     06 00698
000226 006010 A   699         LDAI    '$'                                                     06 00699
000227 120244 A
000230 004450 A   700         LLRL    8                                                       06 00700
000231 057000 I   701         STA     ID                                                      06 00701
000232 067000 I   702         STB     ID+1                                                    06 00702
000233 005001 A   703         TZA                                                             06 00703
000234 057000 I   704         STA     IM          SET IM=0                                    06 00704
000235 057000 I   705         STA     NT          SET NT=0                                    06 00705
000236 017000 I   706         LDA     I                                                       06 00706
000237 054011 A   707         STA     CANT        SAVE I                                      06 00707
000240 002000 A   708         CALL    ASI         FIND/ASSIGN NAME                            06 00708
000241 000000 R
000242 014000 A   709         LDA     *+1                                                     06 00709
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000243 002000 A   710          CALL     DDB            OUTPUT 'JMPM $AB'                          06 00710
000244 000725 R
000245 014003 A   711          LDA      CANT                                                      06 00711
000246 057000 I   712          STA      I              RESTORE I                                  06 00712
000247 001000 A   713          JMP*     CAN            EXIT                                       06 00713
000250 100220 R
000251            714 CANT     BSS      1              SAVE I                                     06 00714
                  715          EJECT                                                             06 00715
                  716 ********************************************************************************06 00716
                  717 *                                                                          *06 00717
                  718 *                    C O M M A   T E S T ( C C R )                         *06 00719
                  719 *                                                                          *06 00719
                  720 * FUNCTION: CCR IS AN EXIT SWITCH FOR STATEMENTS WHICH ALLOW              *06 00720
                  721 *           MULTIPLE OPERANDS: E.G. 'EXTERNAL NAME1,NAME2,...'           *06 00721
                  722 *                                                                        *06 00722
                  723 * ENTRY: TC=TERMINATING CHARACTER                                        *06 00723
                  724 *        STSW=ADDRESS OF STATEMENT PROCESSOR                             *06 00724
                  725 *                                                                        *06 00725
                  726 * EXIT : THROUGH STSW IF TC=','                                          *06 00726
                  727 *        OTHERWISE TO STATEMENT COMPLETION ENTRY CRT                     *06 00727
                  728 *                                                                        *06 00728
                  729 ********************************************************************************06 00729
000252 010000 L   731 CCR      LDA      =','                                                     06 00731
000253 147000 I   732          SUB      TC             COMPARE WITH TERMINATING CHAR TC           06 00732
000254 001010 A   733          JAZ*     STSW           EXIT THROUGH STSW IF TC=','                06 00733
000255 110401 R
000256 001000 A   734          JMP      CRT            OTHERWISE STATEMENT COMPLETION             06 00734
000257 006162 R
                  735          EJECT                                                             06 00735
                  736 ********************************************************************************06 00736
                  737 *                                                                          *06 00737
                  738 *       C O M M A   T E S T ( C T S )                                      *06 00738
                  739 *                                                                          *06 00739
                  740 ********************************************************************************06 00740
000260 000000 A   742 CTS      ENTRY                                                             06 00742
000261 010000 L   743          LDA      =','                                                     06 00743
000262 002000 A   744          CALL     TST                                                      06 00744
000263 007465 R
000264 001000 A   745          JMP*     CTS                                                      06 00745
000265 100260 R
                  746          EJECT                                                             06 00746
                  747 ********************************************************************************06 00747
                  748 *                                                                          *06 00748
                  749 *                    D E C R E M E N T   K ( D E K )                       *06 00749
                  750 *                                                                          *06 00750
                  751 * FUNCTION: TO DECREMENT THE EXPRESSION TABLE POINTER K BY 2               *06 00751
                  752 *                                                                          *06 00752
                  753 * ENTRY: NO SPECIAL CONDITIONS                                           *06 00753
                  754 *                                                                          *06 00754
                  755 * EXIT : POINTER K DECREMENTED BY 2                                      *06 00755
                  756 *                                                                          *06 00756
                  757 ********************************************************************************06 00757
000266 000000 A   759 DEK      ENTRY                                                             06 00759
000267 017000 I   760          LDA      K              GET K                                     06 00760
000270 140422 R   761          SUB      =2             DECREMENT BY 2                            06 00761
000271 057000 I   762          STA      K              RESTORE                                   06 00762
000272 001000 A   763          JMP*     DEK            EXIT                                      06 00763
000273 100266 R
                  764          EJECT                                                             06 00764
                  765 ********************************************************************************06 00765
                  766 *                                                                          *06 00766
                  767 *              D E F I N E   A F   A N D   A T ( D F T )                   *06 00767
                  768 *                                                                          *06 00768
                  769 * FUNCTION: TO ENTER VALUES INTO THE AF AND AT FIELDS OF AN              *06 00769
                  770 *           ASSIGNMENT TABLE ENTRY                                       *06 00770
                  771 *                                                                        *06 00771
                  772 * ENTRY: I POINTS TO ASSIGNMENT TABLE ENTRY                              *06 00772
                  773 *        A=AF                                                            *06 00773
                  774 *        B=AT                                                            *06 00774
                  775 *                                                                        *06 00775
                  776 * EXIT : AF AND AT FIELDS OF TABLE ENTRY I REPLACED                     *06 00776
                  777 *                                                                          *06 00777
                  778 ********************************************************************************06 00778
000274 000000 A   780 DFT      ENTRY                                                             06 00780
000275 057000 I   781          STA      AF             SET AF TO A                               06 00781
000276 067000 I   782          STB      AT             SET AT TO B                               06 00782
000277 002000 A   783          CALL     SAM            STORE IN ASSIGNMENT TABLE                 06 00783
000300 005134 R
000301 001000 A   784          JMP*     DFT            EXIT                                      06 00784
000302 100274 R
                  785          EJECT                                                             06 00785
                  786 *        DSM      DEFINE STATEMENT MODE                                    06 00786
000303 047000 I   788 DSM1     INR      IM                                                       06 00788
000304 002000 A   789          JMPM     SAV                                                      06 00789
000305 005134 R
000306 001000 A   790          JMP                                                               06 00790
000307 000000 A
       000307 R   791 DSM      LDL      *-1                                                      06 00791
000310 017000 I   792          LDA      AT                                                       06 00792
000311 140422 R   793          SUB      =2                                                       06 00793
000312 001010 A   794          JAZ      DSM1           IS                                        06 00794
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000313 000303 R
000314 017000 I   795          LDA     IM              NOT, MUST BE FORMAT                                  06 00795
000315 005311 A   796          DAR                                                                          06 00796
000316 002016 A   797          JANZM   ER5             IMPROPER STATEMENT NO.                               06 00797
000317 000347 R
000320 001000 A   798          JMP*    DSM                                                                  06 00798
000321 100307 R
                  799          CJEC                                                                         06 00799
                  801 *        ERR     ERROR ROUTINE                                                        06 00801
000322 047000 I   803 ER26     INR     EC              THIS INSURES PROPER T ERROR MESSAGE                  06 00803
000323 047000 I   804 ER25     INR     EC               NOT PRESENTLY USED                                  06 00804
000324 047000 I   805 ER24     INR     EC               UNDEFINED STATEMENT NUMBER                          06 00805
000325 047000 I   806 ER23     INR     EC               EXPONENT OVER/UNDERFLOW                             06 00806
000326 047000 I   807 ER22     INR     EC               ARRAY NAME PREVIOUSLY DECLARED                      06 00807
000327 047000 I   808 ER21     INR     EC               NAME IS DUMMY                                       06 00808
000330 047000 I   809 ER20     INR     EC               DO INDEX NOT REFERENCED                             06 00809
000331 047000 I   810 ER19     INR     EC               ILLEGAL NAME                                        06 00810
000332 047000 I   811 ER18     INR     EC              NON-COMMON DATA                                  V   06 00811
000333 047000 I   812 ER17     INR     EC              MORE THAN 29 COMMON REGION                       V   06 00812
000334 047000 I   813 ER16     INR     EC              STATEMENT OUT OF ORDER                               06 00813
000335 047000 I   814 ER15     INR     EC              TRUNCATED VALUE                                      06 00814
000336 047000 I   815 ER14     INR     EC              FUN. NOT USED AS VAR.                                06 00815
000337 047000 I   816 ER13     INR     EC              FORMAT HAS NO STMT. NO.                              06 00816
000340 047000 I   817 ER12     INR     EC              SPELLING                                             06 00817
000341 047000 I   818 ER11     INR     EC              INVALID FORMAT                                       06 00818
000342 047000 I   819 ER10     INR     EC              DOUBLY DEFINED STMT. NO.                             06 00819
000343 047000 I   820 ER9      INR     EC              NO PATH TO THIS STMT.                                06 00820
000344 047000 I   821 ER8      INR     EC              NON-EXECUTEABLE STMT. REF.                           06 00821
000345 047000 I   822 ER7      INR     EC              ILLEGAL EQUIV. GROUP                                 06 00822
000346 047000 I   823 ER6      INR     EC              COMMON BASE LOWERED                                  06 00823
000347 047000 I   824 ER5      INR     EC              IMPROPER STMT. NO.                                   06 00824
000350 047000 I   825 ER4      INR     EC              ILLEGAL DO TERMINATION                               06 00825
000351 047000 I   826 ER3      INR     EC              MODE                                                 06 00826
000352 047000 I   827 ER2      INR     EC              USAGE                                                06 00827
000353 047000 I   828 ER1      INR     EC              CONSTRUCTION                                         06 00828
000354 047000 I   829 ER0      INR     EC              INPUT-OUTPUT                                         06 00829
       000323 R   830 TER26    EQU     ER25             SUBSCRIPT NOT INTEGER CONSTANT                      06 00830
       000324 R   831 TER25    EQU     ER24             NLT STATEMENT END                                   06 00831
       000325 R   832 TER24    EQU     ER23             ILLEGAL STATEMENT TERMINATOR                        06 00832
       000326 R   833 TER23    EQU     ER22             STATEMENT TERMINATOR NOT ','                        06 00833
       000327 R   834 TER22    EQU     ER21             NON NUMERIC EXPONENT                                06 00834
       000330 R   835 TER21    EQU     ER20             TOO MANY CHARACTERS                                 06 00835
       000331 R   836 TER20    EQU     ER19             OPERAND IS NOT A NAME                               06 00836
       000332 R   837 TER19    EQU     ER18             INVALID DIMENSIONS                                  06 00837
       000333 R   838 TER18    EQU     ER17             TARGET STATEMENT PRECEDES DO                        06 00838
       000334 R   839 TER17    EQU     ER16             FUNCTION STATEMENT HAS NO PARAMETERS                06 00839
       000335 R   840 TER16    EQU     ER15             ILLEGAL OPERATOR                                    06 00840
       000336 R   841 TER15    EQU     ER14             INVALID "="                                         06 00841
       000337 R   842 TER14    EQU     ER13             SUBSCRIPT VARIABLE NOT DUMMY                        06 00842
       000340 R   843 TER13    EQU     ER12             INVALID UNARY +,-                                   06 00843
       000341 R   844 TER12    EQU     ER11             ITEM NOT FUNCTION                                   06 00844
       000342 R   845 TER11    EQU     ER10             ITEM NOT OPERAND                                    06 00845
       000343 R   846 TER10    EQU     ER9              NOT FIRST STATEMENT                                 06 00846
       000344 R   847 TER9     EQU     ER8             IMPROPER DO NEST                                     06 00847
       000345 R   848 TER8     EQU     ER7              FIRST TWO CHARACTERS NOT 'DO'                       06 00848
       000346 R   849 TER7     EQU     ER6             MODE                                                 06 00849
       000347 R   850 TER6     EQU     ER5             IMPROPER STMNT. NUMBER                               06 00850
       000350 R   851 TER5     EQU     ER4             IMPROPER USE OF NAME                                 06 00851
       000351 R   852 TER4     EQU     ER3             ILLEGAL STMNT.                                       06 00852
       000352 R   853 TER3     EQU     ER2             DATA POOL FULL                                       06 00853
       000353 R   854 TER2     EQU     ER1              NOT IN SUBPROGRAM                                   06 00854
       000354 R   855 TER1     EQU     ER0             CONSTRUCTION                                         06 00855
000355 074044 A   856 TER0     STX     ERRR            INPUT-OUTPUT                                         06 00856
       000355 R   857 ABORT    EQU     TER0                                                                 06 00857
000356 006010 A   858          LDAI    ER0                                                                  06 00858
000357 000354 R
000360 147000 I   859          SUB     EC              SET RETURN ADDRESS (IF NOT T ERROR) FROM             06 00859
000361 005012 A   860          TAB                     ENTRY WORD... GO TO T ERROR PROCESSOR IF             06 00860
000362 016000 A   861          LDA     0,2             T ERROR.                                             06 00861
000363 054040 A   862          STA     ERR2                                                                 06 00862
000364 144003 A   863          SUB     ERR0                                                                 06 00863
000365 001010 A   864          JAZ     ERR3                                                                 06 00864
000366 000427 R
000367 006010 A   865          DATA    06010                                                                06 00865
000370 047000 I   866          INR     EC              RESTORE ENTRY WORD.                                  06 00866
000370            867 ERR0     BES     0                                                                    06 00867
000371 056000 A   868          STA     0,2                                                                  06 00868
000372 010003 L   869          LDA     =*   *                                                               06 00869
000373 006057 A   870 ERR4     STAE    ERBF-3                                                               06 00870
000374 007737 R
000375 017000 I   871          LDA     EC              CONVERT ERROR CODE TO ASCII AND ENTER IN             06 00871
000376 002000 A   872          CALL    C8A                                                                  06 00872
000377 000206 R
000400 006057 A   873          STAE    ERBF-2          ERROR CODE                                           06 00873
000401 007740 R
000402 006020 A   874          LDBI    ERBF-6          LIST ERROR BUFFER.                                   06 00874
000403 007734 R
000404 006030 A   875          LDXI    12                                                                   06 00875
000405 000014 A
000406 002000 A   876          JMPM    LIST                                                                 06 00876
000407 003406 R
```

```
000410 006030 A  877         LDXI    NERR        INCREMENT NO. OF ERRORS                          06 00877
000411 007751 R
000412 002000 A  878         JMPM    NADS                                                         06 00878
000413 003552 R
000414 010055 A  879         LDA     V$JCFG                                                       06 00879
000415 110423 A  880         ORA     FOUR        SET ERROR FLAG                                   06 00880
000416 050055 A  881         STA     V$JCFG                                                       06 00881
000417 005001 A  882         TZA                 RESET ERROR CODE.                                06 00882
000420 057000 I  883         STA     EC                                                           06 00883
000421 006030 A  884         LDXI    *                                                            06 00884
000422 000421 R
000422           885 ERRR    BES     0                                                            06 00885
000423 001000 A  886         JMP     *-*         RETURN (AR=0).                                   06 00886
000424 000423 R
000424           887 ERR2    BES     0                                                            06 00887
000425 001000 A  888         JMP     ERR4        OH BABY... YOU'RE EVEN TRICKIER                  06 00888
000426 000373 R
000427 017000 I  889 ERR3    LDA     EC          CONVERT (TERMINATING) ERROR CODE TO ASCII,       06 00889
000430 054046 A  890         STA     ERRS        SAVE ERROR COUNTER                               06 00890
000431 006010 A  891         LDAI    '  T'       ITS TERMINAL                                     06 00891
000432 120324 A
000433 002000 A  892         JMPM    ERR2                                                         06 00892
000434 000424 R
000435 014041 A  893         LDA     ERRS                                                         06 00893
000436 001010 A  894         JAZ     EXIT        ABORT COMPILATION ON TERO ERROR                  06 00894
000437 001371 R
000440 017000 I  895         LDA     $TSW                                                         06 00895
000441 001004 A  896         JAN*    $NDX        ERROR IN END STATEMENT                           06 00896
000442 110623 R
000443 002000 A  897         JMPM    RCH         SET REREAD CHARACTER SWITCH AND RESET            06 00897
000444 005110 R
000445 006010 A  898         LDAI    ICOO                                                         06 00898
000446 001261 R
000447 006057 A  899         STAE    ICO+2       SET INPUT COLUMN SWITCH                          06 00899
000450 001256 R
000451 006010 A  900         LDAI    =CRNL       SET TO READ NEXT CARD                            06 00900
000452 001277 R
000453 054611 A  901         STA     EOLSW                                                        06 00901
000454 006010 A  902         LDAI    >6000       ENTER TEXT ERROR CODE IN OBJECT BUFFER.          06 00902
000455 006000 A
000456 002000 A  903         JMPM    *OS                                                          06 00903
000457 004747 R
000460 047000 I  904         INR     TERF        SET TERMINATING ERROR FLAG.                      06 00904
000461 017000 I  905         LDA     J1                                                           06 00905
000462 057000 I  906         STA     J1          RESET TRIAD TABLE                                06 00906
000463 002000 R  907         JMPM    ICH         SCAN OFF INPUT LINE AND THEN GO TO               06 00907
000464 001211 R
000465 140463 A  908         SUB     =77         PROCESS NEXT LINE.                               06 00908
000466 001010 A  909         JAZ     ERRX                                                         06 00909
000467 006162 R
000470 001000 A  910         JMP     ICH+1                                                        06 00910
000471 001213 R
000472 010055 A  911 ERRX    LDA     V$JCFG                                                       06 00911
000473 110423 A  912         ORA     FOUR        SET ERROR FLAG                                   06 00912
000474 050055 A  913         STA     V$JCFG                                                       06 00913
000475 001080 A  914         JMP     EXIT        EXIT TO VORTEX RTE                               06 00914
000476 001371 R
000477           915 ERRS    BSS     1           SAVE ERROR NUMBER                                06 00915
                 916         SUBT
                 917 ********************************************************************************
                 918 *                                                                              *
                 919 *        E X A M I N E   N E X T   C H A R A C T E R ( T X A )                 *
                 920 *                                                                              *
                 921 * FUNCTION: TO LOOK ONE SOURCE CHARACTER AHEAD WITHOUT ADVANCING SCAN          *
                 922 *                                                                              *
                 923 * ENTRY: NO SPECIAL CONDITIONS                                                 *
                 924 *                                                                              *
                 925 * EXIT : TC=NEXT CHAR                                                          *
                 926 *        A<0 IF NEXT CHAR NUMERIC                                              *
                 927 *        OF SET FOR NEXT CHAR                                                  *
                 928 *                                                                              *
                 929 ********************************************************************************
000500 000000 A  930 EXA     ENTRY
000501 002000 A  931         CALL    IGI         INPUT DIGIT
000502 001533 R
000503 002000 A  932         CALL    RCH         SET SCAN PARAMETERS TO REREAD
000504 005110 R
000505 001000 A  933         JMP*    EXA         EXIT
000506 100500 R
                 934         SUBT
                 935 ********************************************************************************
                 936 *                                                                              *
                 937 *                  E X C H A N G E   L I N K ( T Y L )                         *
                 938 *                                                                              *
                 939 * FUNCTION: TO LINK TWO CHAINS TOGETHER THAT ARE INTERLACED THRU               *
                 940 *           THEIR CL FIELDS.                                                   *
                 941 *                                                                              *
                 942 * ENTRY: I POINTS TO AN ITEM ON ONE CHAIN. THIS ITEM LOADED BY LAX            *
                 943 *        J POINTS TO AN ITEM ON ANOTHER CHAIN                                  *
                 944 *                                                                              *
                 945 * EXIT : CL(I) SWAPPED WITH CL(J)                                              *
                 946 *
```

```
                    947 *         CL=CL(F)                                                          * 06 00947
                    948 *                                                                           * 06 00948
                    949 ********************************************************************************* 06 00949
000507 000000 A     951 EXL     ENTRY                                                                 06 00951
000510 037000 I     952         LDX     F                                                             06 00952
000511 015001 A     953         LDA     1,X           GET CL(F)                                       06 00953
000512 027000 I     954         LDB     CL                                                            06 00954
000513 065001 A     955         STB     1,X           STORE CL IN CL(F)                               06 00955
000514 037000 I     956         LDX     I                                                             06 00956
000515 057000 I     957         STA     CL            STORE CL(F) IN CL                               06 00957
000516 055001 A     958         STA     1,X            AND CL(I)                                      06 00958
000517 001000 A     959         JMP*    EXL                                                           06 00959
000520 100507 R
                    960         EJECT                                                                 06 00960
                    961 ********************************************************************************* 06 00961
                    962 *                                                                           * 06 00962
                    963 *                F I N I S H   O P E R A T O R ( F N O )                    * 06 00963
                    964 *                                                                           * 06 00964
                    965 * TO IDENTIFY AND PROCESS OPERATORS WHICH START AND END WITH A '.',         * 06 00965
                    966 * E.G. .EQ., .AND., . . .                                                   * 06 00966
                    967 *                                                                           * 06 00967
                    968 * ENTRY: TERMINATING CHAR IN TC                                             * 06 00968
                    969 *        CFPTSW .EQ. 0 TO TEST FOR FINAL '.'                                * 06 00969
                    970 *                                                                           * 06 00970
                    971 * EXIT : TC .NE. '.': IMMEDIATE RETURN                                      * 06 00971
                    972 *        TC .EQ. '.': IAC IS CALLED TO INPUT REST OF OPERATOR               * 06 00972
                    973 *         INTO PC+1,PC+2,PC+3.                                              * 06 00973
                    974 *        B=TC=PC+3                                                          * 06 00974
                    975 *                                                                           * 06 00975
                    976 * ERRORS: TER16 IF OPERATOR DOES NOT END WITH '.' AND CFPTSW=0             * 06 00976
                    977 *                                                                           * 06 00977
                    978 ********************************************************************************* 06 00978
000521 000000 A     980 FNO     ENTRY                                                                 06 00980
000522 017000 I     981         LDA     TC            GET TERMINATOR                                  06 00981
000523 140000 L     982         SUB     ='.'                                                          06 00982
000524 001016 A     983         JANZ*   FNO           NOT '.' RETURN                                  06 00983
000525 100521 R
000526 010466 A     984         LDA     K6            YES                                             06 00984
000527 002000 A     985         CALL    IAC           INPUT REST OF OPERATOR                          06 00985
000530 001163 R
000531 027000 I     986         LDB     TC                                                            06 00986
000532 057000 I     987         STA     TC            (TC)=LAST TWO CHARACTERS PACKED                 06 00987
000533 005021 A     988         TBA                                                                   06 00988
000534 140000 L     989         SUB     ='.'                                                          06 00989
000535 001010 A     990         JAZ*    FNO           YES, RETURN                                     06 00990
000536 100521 R
000537 017000 I     991         LDA     CFPTSW        NO, GET POINT SCAN SWITCH                       06 00991
000540 001016 A     992         JANZ*   FNO                                                           06 00992
000541 100521 R
000542 001000 A     993         JMP     TER16          ILLEGAL OPERATOR                               06 00993
000543 000335 R
                    994         EJECT                                                                 06 00994
                    995 *       FNS     FIRST NON-SPECIFICATION CHECK                                 06 00995
000544 017000 I     997 FNSB    LDA     AF                                                            06 00997
000545 005311 A     998         DAR                                                                   06 00998
000546 002000 A     999         JMPM    USR           OUTPUT STRING RL                                06 00999
000547 004257 R
000550 010423 A    1000 FNSA    LDA     K4                                                            06 01000
000551 144217 A    1001         SUB     T2FN          IF FMT. STMNT., THEN                          V 06 01001
000552 002004 A    1002         JANM    DSM           DEFINE STMT. MODE                               06 01002
000553 000307 R
000554 017000 I    1003         LDA     RL            (LOCPTION)                                      06 01003
000555 005102 A    1004         INCR    2                                                             06 01004
000556 002000 A    1005         JMPM    DFT           DEFINE AF,AT                                    06 01005
000557 000274 R
000560 017000 I    1006 FNS4    LDA     T8                                                            06 01006
000561 057000 I    1007         STA     I                                                             06 01007
000562 002000 A    1008         JMPM    LAX           LOAD ASSIGN                                     06 01008
000563 003166 R
000564 024205 A    1009         LDB     T2FN+1        ACTUAL SPEC                                     06 01009
000565 006016 A    1010         LDAE    T2FN+3,B                                                      06 01010
000566 000774 R
000567 002000 A    1011         CALL    OVER          GET CORRECT OVERLAY                             06 01011
000570 004653 R
000571 001000 A    1012         JMP     **                                                            06 01012
000572 100571 R
000572 R           1013 FNS     EQU     *-1                                                           06 01013
000573 005012 A    1014         TAB                                                                   06 01014
000574 054175 A    1015         STA     T2FN+1                                                        06 01015
000575 140424 A    1016         SUB     EIGHT                                                         06 01016
000576 003010 A    1017         XAZ     T2FN+2        (B)=4 FOR ENTRY                                 06 01017
000577 000773 R
000600 064170 A    1018         STB     T2FN                                                          06 01018
000601 005021 A    1019         TBA                                                                   06 01019
000602 027000 I    1020         LDB     I                                                             06 01020
000603 067000 I    1021         STB     T8            SAVE ASSMT. PNTR.                               06 01021
000604 140421 A    1022         SUB     ONE                                                           06 01022
000605 001010 A    1023         JAZ     FNS05                                                         06 01023
000606 000614 R
000607 140464 A    1024         SUB     THREE                                                         06 01024
000610 001004 A    1025         JAN     FNS0          NOT EXECUTEABLE                                 06 01025
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000611 000627 R
000612 001016 A 1026          JANZ    FNS07                                   06 01026
000613 000621 R
000614 010422 A 1027 FNS05    LDA     TWO                                     06 01027
000615 002000 A 1028          CALL    OVER                                    06 01028
000616 004653 R
000617 002000 A 1029          CALL    PTR     PURGE TRIADS FOR SPEC =1 OR =4  06 01029
000620 005013 R
000621 024147 A 1030 FNS07    LDB     T2FN                                    06 01030
000622 005021 A 1031          TBA                                             06 01031
000623 140467 A 1032          SUB     SEVEN                                   06 01032
000624 003010 A 1033          SAZ     T2FN+2  (B)=4 FOR SPEC=7                06 01033
000625 000773 R
000626 064142 A 1034          STB     T2FN                                    06 01034
000627 014141 A 1035 FNS0     LDA     T2FN                                    06 01035
000630 147000 I 1036          SUB     SPFL                                    06 01036
000631 001010 A 1037          JAZ     FNS2    NO CHANGE                       06 01037
000632 000665 R
000633 001004 A 1038          JAN     FNS9    SPFL GREATER, MUST BE END       06 01038
000634 000720 R
000635 017000 I 1039          LDA     SPFL                                    06 01039
000636 005011 A 1040          SAS                                             06 01040
000637 001002 A 1041          JAP     FNS1    NOT 1ST NON-SPEC.               06 01041
000640 000643 R
000641 010421 A 1042          LDA     ONE                                     06 01042
000642 002000 A 1043          CALL    OVER                                    06 01043
000643 004653 R
000644 001000 A 1044          JMP*    ASP                                     06 01044
000645 110622 R
000646 017000 I 1045 FNS1     LDA     SPFL                                    06 01045
000647 140423 A 1046          SUB     K4                                      06 01046
000650 001010 A 1047          JAZ     FNS6                                    06 01047
000651 000725 R
000652 014110 A 1048          LDB     T2FN    NOT EXEC. ALREADY           V   06 01048
000653 057000 I 1049          STB     SPFL                                    06 01049
000654 140423 A 1050          SUB     K4                                      06 01050
000655 001001 A 1051          JAN     FNS3                                    06 01051
000656 000701 R
000657 001010 A 1052          JAZ     FNS7                                    06 01052
000660 000742 R
000661 017000 I 1053          LDA     ENAB    FORMAT                          06 01053
000662 005211 A 1054          SSA                                             06 01054
000663 057000 I 1055          STA     JPFL                                    06 01055
000664 001000 A 1056          JMP     FNS8                                    06 01056
000665 000752 R
000666 017000 I 1057 FNS2     LDA     JPFL                                    06 01057
000667 001001 A 1058          JAN     FNS8    FORMAT END                      06 01058
000670 000763 R
000671 017000 I 1059          STA     STMB                                    06 01059
000672 017000 I 1060          STA     LIF                                 V   06 01060
000673 001015 A 1061          JANZ    FNS3                                    06 01061
000674 000711 R
000675 140423 A 1062          LDA     TYPN+1                                  06 01062
000676 140424 A 1063          SUB     EIGHT                                   06 01063
000677 100004 A 1064          JANZM   ERR     NO PAIR ERROR                   06 01064
000700 001000 R
000701 017000 I 1065 FNS3     LDA     SINB                                    06 01065
000702 057000 I 1066          STA     I                                       06 01066
000703 001010 A 1067          JAZ     FNS4    NO STMT. NMBR                   06 01067
000704 000560 R
000705 017000 I 1068          LDA     LIF                                 V   06 01063
000706 001010 A 1069          JANZ    FNS4    PROCESSING LOGICAL-IF           06 01069
000707 000560 R
000710 002000 A 1070          JPN     LAN     LOAD ASSIGN                     06 01070
000711 000316 R
000712 017000 I 1071          LDA     AT                                      06 01071
000713 140424 A 1072          SUB     THREE                                   06 01072
000714 001010 A 1073          JAZ     FNS8                                    06 01073
000715 000544 R
000716 001000 A 1074          JMP     FNS4                                    06 01074
000717 000557 R
000720 014050 A 1075 FNS5     LDA     TYPN                                    06 01075
000721 005011 A 1076          SAS                                             06 01076
000722 001010 A 1077          JAZ     FNS7                                    06 01077
000723 000760 R
000724 001000 A 1078          JMP     ILP1    ILLEGAL STMT.                   06 01078
000725 000351 F
000726 017000 I 1079 FNS6     LDA     JPFL                                    06 01079
000727 005011 A 1080          SAS                                             06 01080
000730 001004 A 1081          JAN     FNS8                                    06 01081
000731 000741 R
000732 010 002 A 1082         LDB     KJMP                                    06 01082
000733 047000 I 1083          STB     JPL                                     06 01083
000734 047000 I 1084          STB     JMI                                     06 01084
000735 027000 I 1085          STB     JPL                                     06 01085
000736 020000 A 1086          CALL    LNS                                     06 01086
000737 004733 R
000740 001000 A 1087          JMP     FNS3                                    06 01087
000741 000751 R
000742         1088 FNS7      NOP     *                                   V   06 01088
000742 147000 I 1089          SUB     ADF                                 V   06 01089
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000743 001004 A 1090          JAN     *+5                                                    V 06 01090
000744 000750 R
000745 017000 I 1091          LDA     EXAD                                                   V 06 01091
000746 002000 A 1092          JMPM    OSR     OUTPUT SRING RL                                  06 01092
000747 004257 R
000750 010463 A 1093          LDA     K77                                                      06 01093
000751 057000 I 1094          STA     XRPT    X POINTER SET OFF                                06 01094
000752 017000 I 1095 FNS8     LDA     RL                                                       06 01095
000753 057000 I 1096          STA     EXAD                                                     06 01096
000754 010423 A 1097          LDA     K4                                                       06 01097
000755 057000 I 1098          STA     SPFL                                                     06 01098
000756 001000 A 1099          JMP     FNS3                                                     06 01099
000757 000701 R
000760 017000 I 1100 FNSH     LDA     JPFL                                                     06 01100
000761 001002 A 1101          JAP     FNS3                                                     06 01101
000762 000701 R
000763 005211 A 1102 FNS9     CPA                                                              06 01102
000764 057000 I 1103          STA     JPFL                                                     06 01103
000765 002000 A 1104          JMPM    OSR     OUTPUT STRING RL                                 06 01104
000766 004257 R
000767 001000 A 1105          JMP     FNS3                                                     06 01105
000770 000701 R
000771         1106 T2FN      BSS     2       SPEC-LEVEL SAVE CELLS                            06 01106
000773 020423 A 1107          LDB     FOUR                                                     06 01107
000774 000001 A 1108          DATA    1,3,1,2,2,4,2,2,1                                        06 01108
000775 000003 A
000776 000001 A
000777 000002 A
001000 000002 A
001001 000004 A
001002 000002 A
001003 000002 A
001004 000001 A
               1109          EJECT                                                            06 01109
               1110 ********************************************************************** 06 01110
               1111 *                                                                      * 06 01111
               1112 *      F O R T R A N   E N T R A N C E   ( F O R T )                   * 06 01112
               1113 *                                                                      * 06 01113
               1114 ********************************************************************** 06 01114
001005 005001 A 1116 FORT     TZA                                                              06 01116
001006 002000 A 1117          CALL    OVER    GET INITIALIZE OVERLAY                           06 01117
001007 004653 R
001010 002000 A 1118          CALL*   START   INITIALIZE                                      06 01118
001011 110622 R
001012 010421 A 1119 FORT1    LDA     ONE                                                      06 01119
001013 002000 A 1120          CALL    OVER    GET SPECIFICATION OVERLAY                        06 01120
001014 004653 R
001015 001000 A 1121          JMP*    BGN                                                      06 01121
001016 110623 R
               1122          EJEC                                                             06 01122
               1123 ********************************************************************** 06 01123
               1124 *                                                                      * 06 01124
               1125 *      GENERATE SUBPROGRAM ENTRANCE (GSE)                              * 06 01125
               1126 *                                                                      * 06 01126
               1127 * ENTRANCE: (A)=0  FUNCTION/SUBPROGRAM                                * 06 01127
               1128 *           >0  D VALUE FOR ENTRY AND STATEMENT FUNCTION               * 06 01128
               1129 *                                                                      * 06 01129
               1130 ********************************************************************** 06 01130
001017 000000 A 1132 GSE      ENTRY           (A) IS PARAMETER FLAG                            06 01132
001020 057000 I 1133          STA     D                                                        06 01133
001021 005001 A 1134          TZA                                                              06 01134
001022 057000 I 1135          STA     T3                                                       06 01135
001023 057000 I 1136          STA     T4                                                       06 01136
001024 002000 A 1137          JMPM    PTS     PARENTHESIS TEST                                 06 01137
001025 005034 R
001026 002000 A 1138 GSE1     CALL    ICH                                                      06 01138
001027 001214 R
001030 140000 L 1139          SUB     ='*'                                                     06 01139
001031 001010 A 1140          JAZ     GSE5    SPECIAL RETURN                                   06 01140
001032 001147 R
001033 140465 A 1141          SUB     FIVE                                                     06 01141
001034 002016 A 1142          JANZM   RCH     DELETE LEADING '/'                               06 01142
001035 005110 R
001036 002000 A 1143          CALL    INA                                                      06 01143
001037 001657 R
001040 017000 I 1144 GSE15    LDA     D                                                        06 01144
001041 001010 A 1145          JAZ     GSE2    FUNCTION/SUBROUTINE                              06 01145
001042 001055 R
001043 140465 A 1146          SUB     FIVE                                                     06 01146
001044 057000 I 1147          STA     D                                                        06 01147
001045 017000 I 1148          LDA     I                                                        06 01148
001046 057000 I 1149          STA     DV                                                       06 01149
001047 017000 I 1150          LDA     CT                                                       06 01150
001050 057000 I 1151          STA     DR                                                       06 01151
001051 017000 I 1152          LDA     AF                                                       06 01152
001052 057000 I 1153          STA     DI                                                       06 01153
001053 002000 A 1154          JMPM    SDX     STORE DO ENTRIES                                 06 01154
001054 005216 R
001055 017000 I 1155 GSE2     LDA     RL                                                       06 01155
001056 027000 I 1156          LDB     $PCW                                                     06 01156
001057 006424 A 1157          BT      B24,*+3 GO IF FIRMWARE FLOATING SET                      06 01157
```

```
                                EXTRA CALL $SE WORD
                        THREE
                        T3
                        SEVEN   DUMMY
                        OPT
                        T3
                        T4
                        =',/'
                        ICH     PASS TRAILING '/'
                        T5
                        =',,'
                        GSE1
                RID     RIGHT INPUT OPR.
                T20
                OAB     OUTPUT ABSOLUTE
                $ROW
                94,GSE3 GO IF FIRMWARE FLOATING ON
                'SE'
                CAN     CALL NAME
                GSE4
GSE3            LBNI    =$SLI   $SF BCS INSTRUCTION
                OAR
                0
                T3      = OF PARAMETERS
                OAR     OUTPUT ABSOLUTE
                PL
                T3
                PL      NEL LOC. COUNTER
                ,AR
                KJMP
                OWS     OUTPUT WORD STORE
                T4
                GSE
                SPFL    -MAX NON-STANDARD-EXIT COUNT
                GSE
                T1
                SPFL    NEW -MAX
                GSE
GSE5            T20
                SBFL
                SPR1    SPECIAL RETURN IN FUNCTION
                TA
                ,+2
                ,+3
                ,+4
                ,+5
                ,+6
                ,+7
                ,+8
                ,+9
                ,+10
                ,+11
                ,+12
                ,+13
                ,+14
                ,+15
                ,+16
                ,+17
                ,+18
                ,+19
                ,+20
                ,+21
                ,+22
                ,+23
                ,+24
                ,+25
                ,+26
                ,+27
                ,+28
                ,+29
                ,+30
                ,+31
                ,+32
                ,+33
                ,+34
                ,+35
                ,+36
                ,+37
                ,+38
                ,+39
                ,+40
                ,+41
```

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001171 002000 A 1229 IAC1   CALL    ICH          GET CHARACTER                                  06 01229
001172 001214 R
001173 017000 I 1230        LDA     DF                                                          06 01230
001174 001002 A 1231        JAP     IAC2         DELIMITER                                      06 01231
001175 001203 R
001176 030000 L 1232        LDX     =PC+1        POINT X AT PACK BLOCK ADDR PC+1                06 01232
001177 002000 A 1233        CALL    PCK          PACK CHARACTER STRING                          06 01233
001200 004727 R
001201 001016 A 1234        JANZ    IAC1         MORE CHARACTERS                                06 01234
001202 001171 R
001203 017000 I 1235 IAC2   LDA     PC+3         (A)=LAST TWO CHARACTERS                        06 01235
001204 001000 A 1236        JMP*    IAC          EXIT                                           06 01236
001205 101163 R
                1237        EJECT                                                               06 01237
                1238 ********************************************************************** 06 01238
                1239 *                                                                    * 06 01239
                1240 *                  I N P U T   C H A R A C T E R ( I C H )           * 06 01240
                1241 *                                                                    * 06 01241
                1242 * FUNCTION: ICH CONTROLS SOURCE CHARACTER INPUT. IT HAS SWITCHES TO  * 06 01242
                1243 *           READ OR REREAD, AND TO SELECT THE CHARACTER FETCH        * 06 01243
                1244 *           ROUTINE. IT HAS LOGIC TO SLEW THROUGH BLANKS,PACK THE    * 06 01244
                1245 *           NEW CHARACTER INTO THE ERROR BUFFER ERBF,AND CLASSIFY THE * 06 01245
                1246 *           CHARACTER AS ALPHAMERIC OR NOT.                          * 06 01246
                1247 *                                                                    * 06 01247
                1248 * ENTRY: SWITCHES SET AS DESIRED                                     * 06 01248
                1249 *                                                                    * 06 01249
                1250 * EXIT:  A=TC=TC+1 = CHARACTER                                       * 06 01250
                1251 *         CHAR PACKED IN ERROR BUFFER ERBF                           * 06 01251
                1252 *         DF<0 IF CHARACTER ALPHAMERIC OR '$'(MOS ALLOWS '$' IN      * 06 01252
                1253 *          SYMBOLS).                                                 * 06 01253
                1254 *                                                                    * 06 01254
                1255 * SWITCHES: ICRR=ICRD READ NEXT CHARACTER                           * 06 01255
                1256 *                ICRE REREAD PREVIOUS CHARACTER                      * 06 01256
                1257 *                                                                    * 06 01257
                1258 *           ICSI=ICD  CALL ICD FOR NEXT CHAR FROM SOURCE BUFFER      * 06 01258
                1259 *               =ISC  CALL ISC FOR NEXT CHAR FROM COMMON/EQUIVALENCE * 06 01259
                1260 *                     STRING STORED IN HIGH CORE.                    * 06 01260
                1261 *                                                                    * 06 01261
                1262 ********************************************************************** 06 01262
                1264 ****************                                                      06 01264
                1265 * REREAD LOGIC *                                                     06 01265
                1266 ****************                                                      06 01266
001206 006010 A 1267 ICRE   LDAI    ICRD                                                    06 01267
001207 001217 R
001210 054005 A 1268        STA     ICRR         SET SWITCH TO READ                         06 01268
001211 017000 I 1269        LDA     TC+1                                                    06 01269
001212 057000 I 1270        STA     TC           LOAD TC WITH PREVIOUS CHARACTER            06 01270
                1271 ****************                                                      06 01271
                1272 * ENTRY/EXIT *                                                       06 01272
                1273 ****************                                                      06 01273
001213 001000 A 1274        JMP     0                                                       06 01274
001214 000000 A
001214          1275 ICH    BES     0                                                       06 01275
001215 001000 A 1276        JMP     0                                                       06 01276
001216 000000 A
001216          1277 ICRR   BES     0            READ/REREAD SWITCH                         06 01277
                1278 ****************                                                      06 01278
                1279 * READ LOGIC *                                                       06 01279
                1280 ****************                                                      06 01280
001217 002000 A 1281 ICRD   CALL    0            INPUT NEXT SOURCE CHARACTER                06 01281
001220 000000 A
001220          1282 ICSI   BES     0            FETCH SOURCE CHAR ROUTINE SWITCH           06 01282
001221 140000 L 1283        SUB     =' '                                                    06 01283
001222 001010 A 1284        JAZ     ICRR-1       LOOP BACK FOR NEXT CHAR ON BLANK           06 01284
001223 001215 R
001224 002000 A 1285        CALL    PEB          PACK NEW CHAR IN ERROR BUFFER ERBF         06 01285
001225 004770 R
001226 057000 I 1286        STA     TC+1         SAVE NEW CHAR IN TC+1 FOR REREAD           06 01286
                1287 ********************                                                  06 01287
                1288 * CLASSIFY CHARACTER *                                               06 01288
                1289 ********************                                                  06 01289
001227 140000 L 1290        SUB     ='$'                                                    06 01290
001230 001010 A 1291        JAZ     ICH1-1                                                  06 01291
001231 001247 R
001232 006140 A 1292        SUBI    '9'-'$'+1                                               06 01292
001233 000026 A
001234 001002 A 1293        JAP     ICH0         NOT DIGIT                                  06 01293
001235 001241 R
001236 120471 A 1294        ADD     TEN                                                     06 01294
001237 001000 A 1295        JMP     ICH1-1       MAKE NEG FOR DIGIT                         06 01295
001240 001247 R
001241 006140 A 1296 ICH0   SUBI    'Z'-'9'                                                 06 01296
001242 000041 A
001243 001002 A 1297        JAP     ICH1                                                    06 01297
001244 001250 R
001245 006120 A 1298        ADDI    032          TEST FOR 'A'                               06 01298
001246 000032 A
001247 005211 A 1299        CPA                                                             06 01299
001250 057000 I 1300 ICH1   STA     DF                                                      06 01300
001251 017000 I 1301        LDA     TC           LOAD A WITH CHAR                           06 01301
001252 001000 A 1302        JMP*    ICH          EXIT                                       06 01302
```

```
001253 101214 R
                    1302          EJECT
                    1303 ********************************************************************************
                    1304 *                                                                              *
                    1305 *                      I N P U T   C O L U M N ( I C O )                       *
                    1306 *                                                                              *
                    1307 *
                    1308 * FUNCTION: ICO IS THE BASIC SOURCE CHARACTER FETCH ROUTINE
                    1309 *
                    1310 * ENTRY: INBP HOLDS SOURCE BUFFER CHAR COUNT
                    1311 *
                    1312 * EXIT : TC=A=INPUT CHAR IN 6-BIT FORTRAN CODE IF NOT END OF LINE OR
                    1313 *          IF END OF LINE PROCESSOR READ A CONTINUATION LINE( A
                    1314 *          CONTINUATION LINE IS A LINE WITH COLS. 1-5 BLANK AND COL. 6
                    1315 *          ZERO OR BLANK)
                    1316 *
                    1317 *         TC=(A)=0377 FOR END-OF STATEMENT
                    1318 *
                    1319 *         TC=(A)=0376 WHEN COL.-6 READ (END-OF-LABEL
                    1320 *
                    1321 *         INBP=INBP-1 (NORMALLY)
                    1322 *              =7     (CONTINUATION LINE)
                    1323 *              =0     (NEW LINE)
                    1324 *
                    1325 * SWITCH: EOLSW IS AN END-OF-LINE SWITCH. IT POINTS TO AN END-OF-LINE
                    1326 *         PROCESSING ROUTINE. NORMALLY IT POINTS TO ICORNL, WHICH
                    1327 *         READS THE NEXT SOURCE LINE. THE STATEMENT SCAN ROUTINE STS,
                    1328 *         HOWEVER,POINTS IT ELSEWHERE UPON PROCESSING AN INITIAL LINE
                    1329 *
                    1330 * ERRORS: ERR IF INVALID ASCII CHAR INPUT
                    1331 *
                    1332 ********************************************************************************
001254 000000 A     1333 ICO     ENTRY
001255 002000 A     1334         CALL    ICO0            CHANGED BY DATA IN ADP
001256 001261 R
001257 001000 A     1335         INF*    ICO
001260 101251 R
001261 000000 A     1336 ICO0    ENTRY
001262 017000 1     1337         LDA     INBP            GET SOURCE LINE CHARACTER COUNT
001263 006140 0     1338         ADDI    2
001264 000110 A
001265 001004 A     1339         JAP     ICOP0           CHECK FOR END OF LINE
001266 001500 R
                    1340 ********************************************
                    1341 * SOURCE SCAN HAS REACHED END OF LINE *
                    1342 ********************************************
001267 001000 A     1343         JMP     *               EXIT TO END-OF-LINE PROCESSOR
001270 000000 A
001271 001270 D     1344 EOLSW   DEC     *-.             END OF LINE SWITCH(NORMALLY=ICORNL)
                    1345 ********************************************
                    1346 * LOOP TO READ THROUGH BLANK AND COMMENT LINES TO NEXT LINE *
                    1347 ********************************************
001272 002003 A     1348 ICOLP1  CALL    LIST            LIST BLANK AND CC LINES
001273 006140 2
                    1349 ********************************************
                    1350 * BLANK OUT PREVIOUS INPUT BUFFER BYTE *
                    1351 ********************************************
001274 024234 A     1352 ICORNL  LDI     =ICOLP1+1       SET
001275 010000 1     1353 ICOLP2  LDA     *               GET BLANK WORD
001276 055003 0     1354         STA     0,3             STORE IN BUFF
001277 005123 0     1355         AOS     INBP            BUMP BUFFER POINTER
001300 144125 R     1356         JMP     ICOLP4          YES, GO
001301 001004 A     1357         JAP     ICOLP2          NO, IF UNTIL DIVISIBLE
001302
                    1358 ********************************************
                    1359 * READ IN NEXT SOURCE LINE *
                    1360 ********************************************
001302 017000 1     1361 ICOLP4  LDA     PIBLFL
001303 001411 A     1362         JAZ     ICOLP1          ANY SOURCE RECORDS BLOCKED ?
001304 001315 A     1363         JMP     ICOLP3          NO
001305 017000 1     1364 ICO2    LDA     PITLOV          YES
001306 001015 A     1365         JAZ     TPRO            READ IF BLOCK COUNT=0
001307 001001 R
                    1366 ICORDPI READ    PLFCB,4,0,1     READ/PI/ICOR ETC
001310 006507 0
001311 000411 A
001312 100000 1
001313 010000 1
001314 010130 0
001315 000000 A
001316 000000 0
                    1367         CALL    ICORDPI,ABORT,ICO4,SECRT,ASCPT
001317 006505 0
001320 000307 0
001321 001000 0
001322 000000 0
001323 001000 A
001324 000000 A
001325 000000 R
001326 017000 1     1368         LDA     PIBLFL
001327 001411 A     1369         JAZ     ICOLP1          ANY SOURCE RECORDS BLOCKED ?
001330 001500 R
```

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001331 006037 A 1370 ICMV   LDXE    ICRDPI+4                                                06 01370
001332 001314 R
001333 015001 A 1371        LDA     1,X         YES. GET BLOCKING BUFFER ADDRESS            06 01371
001334 027000 I 1372        LDB     PIBLCN                                                  06 01372
001335 164173 A 1373        MUL     ICOLS+2     40                                          06 01373
001336 017000 I 1374        LDA     PIBLCN                                                  06 01374
001337 005111 A 1375        IAR                 BUMP BLOCK COUNT                            06 01375
001340 005014 A 1376        TAX                                                             06 01376
001341 140464 A 1377        SUB     THREE                                                   06 01377
001342 001004 A 1378        JAN     *+3         MOD 3                                       06 01378
001343 001345 R
001344 005004 A 1379        TZX                                                             06 01379
001345 077000 I 1380        STX     PIBLCN                                                  06 01380
001346 034163 A 1381        LDX     ICOLS+3     $BUF+3                                      06 01381
001347 014161 A 1382        LDA     ICOLS+2     40                                          06 01382
001350 002000 A 1383        CALL    MOVE        MOVE RECORD FROM BLOCKING BUFFER TO $BUF    06 01383
001351 003606 R
                    1384 **********************                                          06 01384
                    1385 * TEST FOR '/' RECORD *                                        06 01385
                    1386 **********************                                          06 01386
001352 017000 I 1387 ICO4   LDA     $BUF+3                                                  06 01387
001353 004350 A 1388        LSRA    8           GET 1ST CHAR                                06 01388
001354 140000 L 1389        SUB     ='/'                                                    06 01389
001355 001016 A 1390        JANZ    ICO5        IS IT '/' ?                                 06 01390
001356 001420 R
001357 030412 A 1391 ICO6   LDX     V$JCB       YES                                         06 01391
001360 024151 A 1392        LDB     ICOLS+3     $BUF+3                                      06 01392
001361 014147 A 1393        LDA     ICOLS+2     40                                          06 01393
001362 002000 A 1394        CALL    MOVE        MOVE '/' RECORD TO JCP BUFFER               06 01394
001363 003606 R
001364 017000 I 1395        LDA     DTFL                                                    06 01395
001365 005311 A 1396        DAR                                                             06 01396
001366 117000 I 1397        ORA     T2                                                      06 01397
001367 001016 A 1398        JANZ    ABORT       ABORT IF NOT 1ST RECORD OF PROGRAM UNIT     06 01398
001370 000355 R
001371 017000 I 1399 EXIT   LDA     BOBLFL                                                  06 01399
001372 001016 A 1400        JANZ    EXCLGO      IS BO RMD ?                                 06 01400
001373 001403 R
                    1401        CLOSE   BLFCB,7,0,1 YES. CLOSE/BO/WAIT/UPDATE               06 01401
001374 006505 A
001375 000404 A
001376 100000 A
001377 013407 A
001400 010072 R
001401 000000 A
001402 000000 A
001403 017000 I 1402 EXCLGO LDA     GOBLFL                                                  06 01402
001404 001016 A 1403        JANZ    EXCLLO      IS GO RMD ?                                 06 01403
001405 001415 R
                    1404        CLOSE   BLFCB,9,0,1 YES. CLOSE/GO/WAIT/UPDATE               06 01404
001406 006505 A
001407 000404 A
001410 100000 A
001411 013411 A
001412 010104 R
001413 000000 A
001414 000000 A
                    1405 EXCLLO EXIT                EXIT TO VORTEX                          06 01405
001415 006505 A
001416 000406 A
001417 000200 A
                    1406 ***************************************************             06 01406
                    1407 * BUMP ASCII LINE NUMBER ON SOURCE LINE LIST *                   06 01407
                    1408 ***************************************************             06 01408
001420 034107 A 1409 ICO5   LDX     /COLS+1     $BUF                                        06 01409
001421 002000 A 1410        CALL    MADS                                                    06 01410
001422 003552 R
                    1411 ************************                                        06 01411
                    1412 * CHECK FOR BLANK CARD *                                       06 01412
                    1413 ************************                                        06 01413
001423 024104 A 1414        LDB     ICOLS+1     $BUF                                        06 01414
001424 005123 A 1415 ICOLP3 INCR    023         BUMP POINTER                                06 01415
001425 006140 A 1416        SUBI    $BUF+40     CHECK FOR END-OF-LINE (EOL)                 06 01416
001426 021043 R
       001426 R 1417 ICOLP4 EQU     *-1                                                     06 01417
001427 001010 A 1418        JAZ     ICOLP1      IF EOL, LIST LINE AND READ NEXT LINE        06 01418
001430 001271 R
001431 010000 L 1419        LDA     ='  '       GET BLANK WORD                              06 01419
001432 136002 A 1420        ERA     2,B         CHECK BUFFER WORD                           06 01420
001433 001010 A 1421        JAZ     ICOLP3      CONTINUE SCAN ON BLANK                      06 01421
001434 001424 R
                    1422 ***************************************                         06 01422
                    1423 * CHECK FIRST CHAR FOR '*','C',OR 'X' *                         06 01423
                    1424 ***************************************                         06 01424
001435 015003 A 1425        LDA     3,X                                                     06 01425
001436 004350 A 1426        LSRA    8           GET FIRST SOURCE CHARACTER                  06 01426
001437 130000 L 1427        ERA     ='*'                                                    06 01427
001440 001010 A 1428        JAZ     /COLP1      IF '*', LIST LINE AND READ NEXT LINE        06 01428
001441 001271 R
001442 006134 A 1429        ERAI    0151        CHECK FOR 'C'                               06 01429
001443 000151 A
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001444 001010 A 1430          JAZ     ICCLP1          IF 'C', LIST LINE AND READ NEXT LINE        06 01430
001445 001271 R
001446 006130 A 1431          SRAI    033                                                         06 01431
001447 000033 A
001450 005011 A 1432          RAR                     CHECK FOR 'X'                               06 01432
001451 001002 A 1433          JAP     ICC10                                                       06 01433
001452 001462 R
                1434 ************************************                                          06 01434
                1435 * A LINE WITH COL 1 = 'X' WAS READ *                                         06 01435
                1436 ************************************                                          06 01436
001453 017000 I 1437          LDA     =PCW            GET PROCESSOR CONTROL WORD $PCW             06 01437
001454 006406 A 1438          BT      6,ICCRNL        IGNORE IF 'X' FLAG OFF                      06 01438
001455 001273 R
001456 015003 A 1439          LDA     3,X                                                         06 01439
001457 006130 A 1440          ERAI    074000          IF SO, CLEAR 'X' TO BLANK                   06 01440
001460 074000 A
001461 055003 A 1441          STA     3,X              AND COMPILE LINE                           06 01441
                1442 ****************                                                              06 01442
                1443 * NEW SOURCE LINE *                                                         06 01443
                1444 ****************                                                              06 01444
001462 005001 A 1445 ICC10    TZA                                                                 06 01445
001463 057000 I 1446          STA     INBP            INITIALIZE SOURCE BUFFER POINTER            06 01446
001464 015005 A 1447          LDA     5,X                                                         06 01447
001465 150463 A 1448          ANA     =M377           COL.-6                                      06 01448
001466 130000 L 1449          EPA     ='  '                                                       06 01449
001467 001010 A 1450          JAZ     ICC30           EXIT WITH TC=077 IF COL. 6 BLANK            06 01450
001470 001521 R
001471 130425 A 1451          EPA     K20                                                         06 01451
001472 001010 A 1452          JAZ     ICC30           EXIT WITH TC=077 IF COL. 6 ZERO             06 01452
001473 001521 R
                1453 ********************                                                          06 01453
                1454 * CONTINUATION CARD *                                                       06 01454
                1455 ********************                                                          06 01455
001474 002000 A 1456          CALL    CLST            LIST CONTINUATION CARD                      06 01456
001475 006140 R
001476 010466 A 1457          LDA     =6                                                          06 01457
001477 057000 I 1458          STA     INBP            SET SOURCE BUFFER POINTER TO COL. 7         06 01458
                1459 ************************************                                          06 01459
                1460 * FETCH A SOURCE CHARACTER *                                                06 01460
                1461 ************************************                                          06 01461
001500 017000 I 1462 ICC20    LDA     INBP            GET SOURCE BUFFER POINTER                   06 01462
001501 047000 I 1463          INP     INBP            BUMP IT                                     06 01463
001502 140465 A 1464          SUP     FIVE                                                        06 01464
001503 001010 A 1465          JAZ     ICC30+1         EXIT WITH TC=076 IF COL. 6 IS REFERENCED    06 01465
001504 001522 R
001505 006120 A 1466          ANDI    0FF                                                         06 01466
001506 000013 A
001507 005002 A 1467          TZB                     CLEAR B                                     06 01467
001510 004541 A 1468          LLSP    1               CONVERT TO $BUF WORD COUNT(HI/LO SW TO B)    06 01468
001511 124016 A 1469          STX     ICCLS+1         $BUF                                        06 01469
001512 005014 A 1470          TXY                     POINT X AT SOURCE BYTE                      06 01470
001513 015000 A 1471 ICCLDA   LDA     0,X             GET SOURCE BYTE                             06 01471
001514 003020 A 1472          XPX     ICCLS           'LDRA 0' IF X=0(HIGH BYTE)                  06 01472
001515 001527 R
001516 150463 A 1473          ANA     =M377           MASK OFF LOW BYTE                           06 01473
001517 001000 A 1474          JMP     *+1                                                         06 01474
001520 001524 R
001521 005101 A 1475 ICC30    INCR    1                                                           06 01475
001522 006120 A 1476          ANDI    0376                                                        06 01476
001523 000376 A
001524 057000 I 1477          STA     TC              EXIT WITH TERMINATOR IN A AND TC            06 01477
001525 001003 A 1478          JMP*    ICC             RETURN                                      06 01478
001526 101254 R
001527 004350 A 1479 ICCLS    LDRA    0               SHIFT INSTRUCTION                           06 01479
001530 020773 R 1480          STA     $BUF            $BUF                                        06 01480
001531 000050 A 1481          LDQ     40              40                                          06 01481
001532 020776 R 1482          LDA     $BUF+3          $BUF+3                                      06 01482
                1483          ENDOT                                                               06 01483
                1484 ********** ********************************** ********** ********************** 06 01484
                1485 *                                                                           * 06 01485
                1486 *                    I N P U T   D I G I T ( I D I )                        * 06 01486
                1487 *                                                                           * 06 01487
                1488 * FUNCTION: TO INPUT A CHARACTER AND TEST FOR NUMERIC                        * 06 01488
                1489 *                                                                           * 06 01489
                1490 * ENTRY: NO SPECIAL CONDITIONS                                              * 06 01490
                1491 *                                                                           * 06 01491
                1492 * EXIT : TC=CHAR                                                            * 06 01492
                1493 *          A<0 IF CHAR NUMERIC                                              * 06 01493
                1494 *                                                                           * 06 01494
                1495 ********** ********************************** ********** ********************** 06 01495
001533 000000 R 1497 IDI      ENTRY                                                               06 01497
001534 002000 A 1498          CALL    ICH             GET NEXT CHAR                               06 01498
001535 001214 R
001536 006140 A 1499          SUBI    0260            '9'+1                                       06 01499
001537 000272 A
001540 001000 A 1500          JAP*    IDI             EXIT, NOT DIGIT                             06 01500
001541 101533 R
001542 120471 A 1501          ADD     TEN                                                         06 01501
001543 005211 A 1502          LDA                     MAKE (A) NEG. FOR DIGIT                     06 01502
001544 001000 A 1503          JMP*    IDI             EXIT                                        06 01503
001545 101533 R
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                    1504          EJEC                                                                  06 01504
                    1505 *        IHW     INPUT HOLLERITH WORD                                          V 06 01505
001546 000000 A     1507 IHW      ENTR                                                                  V 06 01507
001547 002000 A     1508          JMPM    IHW1            GET CHAR                                      V 06 01508
001550 001561 R
001551 004250 A     1509          LRLA    8                                                               06 01509
001552 054003 A     1510          STA     *+4             SAVE CHAR                                     V 06 01510
001553 002000 A     1511          JMPM    IHW1            GET CHAR                                      V 06 01511
001554 001561 R
001555 006120 A     1512          ADDI    0-0             PACK CHAR(S)                                  V 06 01512
001556 000000 A
001557 001000 A     1513          JMP*    IHW             RETURN                                        V 06 01513
001560 101546 R
001561 000000 A     1514 IHW1     ENTR                                                                  V 06 01514
001562 027000 I     1515          LDB     HCC                                                             06 01515
001563 010000 L     1516          LDA     =' '                                                            06 01516
001564 001020 A     1517          JBZ*    IHW1            EXIT WITH FORCED BLANK CHARACTER                06 01517
001565 101561 R
001566 005322 A     1518          DBR                                                                     06 01518
001567 067000 I     1519          STB     HCC                                                             06 01519
001570 002000 A     1520          CALL    ICO                                                             06 01520
001571 001254 R
001572 002000 A     1521          CALL    PEB                                                             06 01521
001573 004770 R
001574 140463 A     1522          SUB     BM377                                                           06 01522
001575 001010 A     1523          JAZ     TER1            PREMATURE END OF STATEMENT                      06 01523
001576 000354 R
001577 017000 I     1524          LDA     HCC                                                             06 01524
001600 001002 A     1525          JAP     IHW2            H - FIELD                                       06 01525
001601 001622 R
001602 017000 I     1526          LDA     TC              ' - FIELD                                       06 01526
001603 140000 L     1527          SUB     =0247                                                           06 01527
001604 001016 A     1528          JANZ    IHW2            NOT '                                           06 01528
001605 001622 R
001606 002000 A     1529          CALL    EXA                                                             06 01529
001607 000500 R
001610 017000 I     1530          LDA     TC                                                              06 01530
001611 140000 L     1531          SUB     =0247                                                           06 01531
001612 001010 A     1532          JAZ     IHW2-2          '' GIVES SINGLE DATA QUOTE                      06 01532
001613 001620 R
001614 005001 A     1533          TZA                                                                     06 01533
001615 057000 I     1534          STA     HCC             TERMINATING ' PROCESSED                         06 01534
001616 001000 A     1535          JMP     IHW1+1                                                          06 01535
001617 001562 R
001620 002000 A     1536          CALL    ICH                                                             06 01536
001621 001214 R
001622 017000 I     1537 IHW2     LDA     TC                                                              06 01537
001623 001000 A     1538          JMP*    IHW1            EXIT WITH NEXT CHARACTER                        06 01538
001624 101561 R
                    1539          EJECT                                                                   06 01539
                    1540 *        IIV     INPUT INTEGER VALUE                                             06 01540
001625 000000 A     1542 IIV      ENTR                                                                    06 01542
001626 002000 A     1543          JMP*    INN             INPUT ITEM                                      06 01543
001627 001700 R
001630 027000 I     1544          LDB     ID                                                              06 01544
001631 001020 A     1545          JBZ*    IIV             EXIT WITH (B)=0 IF NO OPERAND                   06 01545
001632 101623 R
001633 004241 A     1546          LRLA    1                                                               06 01546
001634 127000 I     1547          ADD     NT                                                              06 01547
001635 140465 A     1548          SUB     FIVE.                                                           06 01548
001636 001010 A     1549          JAZ*    IIV             RETURN WITH BR=VALUE IF INTEGER CONST.          06 01549
001637 101623 R
001640 001000 A     1550          JMP     TER7            OTHERWISE, ERROR.                               06 01550
001641 000346 R
                    1551          EJECT                                                                   06 01551
                    1552 ********************************************************************************* 06 01552
                    1553 *                                                                               * 06 01553
                    1554 *      I N I T I A L I Z E   L I S T   B U F F E R   ( I L B )                  * 06 01554
                    1555 *                                                                               * 06 01555
                    1556 * FUNCTION: TO INITIALIZE THE SPECIAL LIST BUFFER AND PO'NTER                   * 06 01556
                    1557 *                                                                               * 06 01557
                    1558 ********************************************************************************* 06 01558
001642 000000 A     1560 ILB      ENTRY                                                                   06 01560
001643 010000 L     1561          LDA     ='  '                                                           06 01561
001644 006020 A     1562          LDBI    20                                                              06 01562
001645 000024 A
001646 006056 A     1563 ILB1     STAE    SLOT-1,B        BLANK 'SLOT'                                    06 01563
001647 010001 R
001650 005322 A     1564          DBR                                                                     06 01564
001651 001026 A     1565          JBNZ    ILB1                                                            06 01565
001652 001646 R
001653 010465 A     1566          LDA     FIVE                                                            06 01566
001654 057000 I     1567          STA     CLOP            . POINT TO CHARACTER-6                          06 01567
001655 001000 A     1568          JMP*    ILB                                                             06 01568
001656 101642 R
                    1569          EJECT                                                                   06 01569
                    1570 ********************************************************************************* 06 01570
                    1571 *                                                                               * 06 01571
                    1572 *                    I N P U T   N A M E ( I N A )                              * 06 01572
                    1573 *                                                                               * 06 01573
                    1574 * FUNCTION: TO INPUT A NAME AND FIND/STORE IT IN THE ASSIGNMENT TABLE          * 06 01574
```

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                       1575 *                                                                   * 06 01575
                       1576 * ENTRY: NO SPECIAL CONDITIONS                                      * 06 01576
                       1577 *                                                                   * 06 01577
                       1578 * EXIT : A=IM                                                       * 06 01578
                       1579 *                                                                   * 06 01579
                       1580 * ERRORS: TER20 IF OPERAND INPUT IS NOT A NAME                    *  06 01580
                       1581 *                                                                   * 06 01581
                       1582 ******************************************************************** 06 01582
001657 000000 A 1584 INA     ENTRY                                                          06 01584
001660 002000 A 1585         CALL     INO             INPUT OPERAND                         06 01585
001661 002776 R
001662 017000 1 1586         LDA      NT                                                    06 01586
001663 001010 A 1587         JAZ*     INA             EXIT IF OPERAND IS A NAME             06 01587
001664 101657 R
001665 001000 A 1588         JMP      TER20            OPERAND IS NOT A NAME                06 01588
001666 000331 R
                1589         EJECT                                                          06 01589
                1590 ******************************************************************** 06 01590
                1591 *                                                                   * 06 01591
                1592 *                   I N P U T   I T E M ( I N I )                  * 06 01592
                1593 *                                                                   * 06 01593
                1594 * FUNCTION: TO INPUT A SYNTACTICAL ITEM AND CALL ASI TO FIND/STORE IT * 06 01594
                1595 *                IN THE ASSIGNMENT TABLE IF IT IS AN OPERAND.       * 06 01595
                1596 *                                                                   * 06 01596
                1597 * ENTRY: NO SPECIAL CONDITIONS                                      * 06 01597
                1598 *                                                                   * 06 01598
                1599 * EXIT : A=IM                                                       * 06 01599
                1600 *         ASI CALLED TO FIND/STORE OPERAND ITEMS                    * 06 01600
                1601 *                                                                   * 06 01601
                1602 ******************************************************************** 06 01602
001667 000000 A 1604 INI     ENTRY                                                          06 01604
001670 002000 A 1605         CALL     INN             INPUT SYNTACTICAL ITEM                06 01605
001671 001700 R
001672 001010 A 1606         JAZ*     INI             EXIT IF ITEM IS NOT AN OPERAND        06 01606
001673 101667 R
001674 002000 A 1607         CALL     ASI             FIND/STORE OPERAND IN ASSIGNMENT TABLE  06 01607
001675 000000 R
001676 001000 A 1608         JMP*     INI             EXIT                                  06 01608
001677 101667 R
                1609         EJECT                                                          06 01609
                1610 ******************************************************************** 06 01610
                1611 *                                                                   * 06 01611
                1612 *           I N P U T / D O   N O T   A S S I G N ( I N N )       * 06 01612
                1613 *                                                                   * 06 01613
                1614 * FUNCTION: TO INPUT AN OPERAND AND ITS FOLLOWING OPERATOR.  INN   * 06 01614
                1615 *           INPUTS AND DECODES SYMBOLS, BUT MAKES NO ENTRY IN SYMBOL * 06 01615
                1616 *           TABLES.                                                 * 06 01616
                1617 *                                                                   * 06 01617
                1618 * ENTRY: SXF=1 IF COMPLEX CONSTANT OKAYED BY EXP AFTER '(' INPUT)  * 06 01618
                1619 *                                                                   * 06 01619
                1620 * EXIT : SXF=0                                                      * 06 01620
                1621 *         A=IM=OPERAND MODE(0 IF UNARY OP)                          * 06 01621
                1622 *         IO=OPERATOR                                               * 06 01622
                1623 *                                                                   * 06 01623
                1624 *        NAME: PACKED LEFT NORMALIZED IN ID,ID+1,ID+2               * 06 01624
                1625 *              IM SET BY 1ST CHARACTER OF NAME AND MD'B VALUE       * 06 01625
                1626 *                                                                   * 06 01626
                1627 *        CONSTANT: IU=NT=1                                          * 06 01627
                1628 *                                                                   * 06 01628
                1629 *        INTEGER: VALUE IN ID                                       * 06 01629
                1630 *                 IM=2, EL=4                                        * 06 01630
                1631 *                                                                   * 06 01631
                1632 *        LOGICAL: VALUE IN ID (0=.FALSE., -1=.TRUE)                 * 06 01632
                1633 *                 IM=2, EL=4                                        * 06 01633
                1634 *                                                                   * 06 01634
                1635 *        REAL: VALUE IN ID,ID+1                                     * 06 01635
                1636 *              IM=3, EL=5                                           * 06 01636
                1637 *                                                                   * 06 01637
                1638 *        DOUBLE PRECISION: VALUE IN ID,ID+1,ID+2,ID+3               * 06 01638
                1639 *                          IM=4, EL=7                               * 06 01639
                1640 *                                                                   * 06 01640
                1641 *        COMPLEX: REAL PART IN ID,ID+1                              * 06 01641
                1642 *                 IMAGINARY PART IN ID+2,ID+3                       * 06 01642
                1643 *                 IM=5, EL=7                                        * 06 01643
                1644 *                                                                   * 06 01644
                1645 *        DOUBLE PRECISION INTEGER  VALUE IN ID,ID+1                 * 06 01645
                1646 *                                  IMAG. FLAG                       * 06 01646
                1647 *                                                                   * 06 01647
                1648 *         UNARY OPS:                                                * 06 01648
                1649 *                -    -N IS INPUT AND CONVERTED AS A SINGLE ITEM IF N * 06 01649
                1650 *                       IS A NON-COMPLEX CONSTANT.                  * 06 01650
                1651 *               NN   ID=IM=0                                       * 06 01651
                1652 *                    ID+1=N                                        * 06 01652
                1653 *               ON   SAME AS NN                                    * 06 01653
                1654 *                                                                   * 06 01654
                1655 * ERRORS: ERROR EP15 IF CONSTANT RANGE ERROR                        * 06 01655
                1656 *                                                                   * 06 01656
                1657 ******************************************************************** 06 01657
001700 000000 A 1659 INN     ENTRY                                                          06 01659
001701 005001 A 1660         TZA                                                            06 01660
001702 054675 A 1661         STA      IMFLG            RESET IMAGINARY FLAG                 06 01661
```

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                    1662 ********************************************************************                    06 01662
                    1663 * LOOP ENTRY TO INPUT IMAGINARY PART OF COMPLEX CONSTANT *                    06 01663
                    1664 ********************************************************************                    06 01664
                    1666 ********************************                                                    06 01666
                    1667 * CLEAR FLAGS AND VARIABLES *                                                    06 01667
                    1668 ********************************                                                    06 01668
001703 005001 A     1669 INNL1   TZA                                                                        06 01669
001704 054677 A     1670         STA     INNSF          CLEAR MANTISSA SIGN FLAG                            06 01670
001705 054672 A     1671         STA     INNESF         CLEAR EXPONENT SIGN FLAG                            06 01671
001706 057000 I     1672         STA     IM             CLEAR PARAMETER BLOCK                               06 01672
001707 057000 I     1673         STA     NT                                                                 06 01673
001710 057000 I     1674         STA     IU                                                                 06 01674
001711 057000 I     1675         STA     ID                                                                 06 01675
001712 057000 I     1676         STA     ID+1                                                               06 01676
001713 057000 I     1677         STA     ID+2                                                               06 01677
001714 057000 I     1678         STA     ID+3                                                               06 01678
001715 054734 A     1679         STA     INNPF          CLEAR '.' FLAG                                      06 01679
001716 054732 A     1680         STA     INNDEX         CLEAR IMPLICIT DECIMAL EXPONENT                     06 01680
001717 054654 A     1681         STA     INNDE          CLEAR EXPLICIT DECIMAL EXPONENT FIELD               06 01681
001720 054654 A     1682         STA     INNDE+1                                                            06 01682
001721 054654 A     1683         STA     INNDE+2                                                            06 01683
001722 054654 A     1684         STA     INNDE+3                                                            06 01684
001723 006010 A     1685         LDAI    0274                                                               06 01685
001724 000274 A
001725 057000 I     1686         STA     INNBE          LOAD BINARY EXPONENT WITH MANTISSA LENGTH           06 01686
                    1687 ********************************************************************                06 01687
                    1688 * LOOP ENTRY TO INPUT/TEST LEADING CHAR OF ITEM *                                  06 01688
                    1689 ********************************************************************                06 01689
001726 002000 A     1690 INNL2   CALL    IDI            INPUT/TEST CHAR                                     06 01690
001727 001533 R
001730 001004 A     1691         JAN     INN16          NUMERIC ?                                           06 01691
001731 002073 R
001732 017000 I     1692         LDA     DF             NO                                                  06 01692
001733 001004 A     1693         JAN     INN10          TEST FOR ALPHAMERIC(OR '$')                         06 01693
001734 002035 R
                    1694 ********************************                                                    06 01694
                    1695 * LEADING CHAR NOT ALPHAMERIC *                                                    06 01695
                    1696 ********************************                                                    06 01696
001735 017000 I     1697         LDA     TC                                                                 06 01697
001736 140000 L     1698         SUB     ='.'                                                               06 01698
001737 001016 A     1699         JANZ    INN4           TEST FOR '.'                                        06 01699
001740 002004 R
                    1700 ************************                                                            06 01700
                    1701 * LEADING CHAR IS '.' *                                                           06 01701
                    1702 ************************                                                            06 01702
001741 002000 A     1703         CALL    EXA            EXAMINE NEXT CHAR                                   06 01703
001742 000500 R
001743 020000 L     1704         LDB     ='.'                                                               06 01704
001744 067000 I     1705         STB     TC             RESTORE '.' AS TERMINATOR                           06 01705
001745 001004 A     1706         JAN     INN20          TEST IF NUMERIC FOLLOWS '.'                         06 01706
001746 002105 R
                    1707 ************************                                                            06 01707
                    1708 * PROCESS .TRUE./.FALSE. *                                                        06 01708
                    1709 ************************                                                            06 01709
001747 002000 A     1710         CALL    FND            INPUT ALPHAMERIC STRING FOLLOWING '.'               06 01710
001750 000521 R
001751 017000 I     1711         LDA     TC                                                                 06 01711
001752 006140 A     1712         SUBI    'SE'                                                               06 01712
001753 151705 A
001754 001010 A     1713         JAZ     INN2           LOW WORD OF DF = 'SE.' ?                            06 01713
001755 001765 R
001756 140432 A     1714         SUB     BSS                                                                06 01714
001757 001016 A     1715         JANZ    INNX           'UE.' ?                                             06 01715
001760 002562 R
001761 005301 A     1716         DECR    1              YES                                                 06 01716
001762 057000 I     1717         STA     ID+3           SET .TRUE. (-1)                                     06 01717
001763 006010 A     1718         LDAI    0166440                                                            06 01718
001764 166440 A
001765 127000 I     1719 INN2    ADD     PC+1           TEST HIGH WORD                                      06 01719
001766 006140 A     1720         SUBI    061222                                                             06 01720
001767 061222 A
001770 127000 I     1721         ADD     PC+2                                                               06 01721
001771 001016 A     1722         JANZ    INNX           EXIT IF NOT .TRUE. OR .FALSE.                       06 01722
001772 002562 R
001773 002000 A     1723         CALL    ICH            SCAN BEYOND .TRUE./.FALSE.                          06 01723
001774 001214 R
001775 002000 A     1724         CALL    FND            INPUT FOLLOWING OPERATOR                            06 01724
001776 000521 R
001777 017000 I     1725         LDA     DF             TERMINATOR SHOULD BE NON-ALPHAMERIC                 06 01725
002000 001002 A     1726         JAP     INN20          DEFINE .TRUE./.FALSE. AS INTEGER CONSTANT           06 01726
002001 002105 R
002002 001000 A     1727         JMP     INNX           EXIT ON ALPHAMERIC TERMINATOR                       06 01727
002003 002562 R
                    1728 ********************************************                                        06 01728
                    1729 * LEADING CHAR NOT ALPHAMERIC OR '.' *                                           06 01729
                    1730 ********************************************                                        06 01730
002004 014577 A     1731 INN4    LDA     INNSF                                                              06 01731
002005 001010 A     1732         JAZ     INN6           HAS A SIGN BEEN PREVIOUSLY INPUT ?                  06 01732
002006 002014 R
002007 057000 I     1733         STA     TC             SET TERMINATOR TO PREVIOUS SIGN                     06 01733
002010 002000 A     1734         CALL    RCH            BACK UP SCAN                                        06 01734
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002011 005110 R
002012 001000 A 1735          JMP     INNX            AND EXIT                                    06 01735
002013 002562 R
                1736 ********************
                1737 * PROCESS SIGN *
002014 017000 I 1738 INN5     LDA     TC
002015 054566 A 1739          STA     INNSF           SET SIGN FLAG
002016 140000 L 1740          SUB     =C'+'
002017 001010 A 1741          JAZ     INNL2
002020 001726 R
002021 140420 A 1742          SUB     TWO
002022 001010 A 1743          JAZ     INNL2           '-'
002023 001726 R
002024 120466 A 1744          ADD     SIX
002025 001016 A 1745          JANZ    INNX
002026 002562 R
002027 005311 A 1746          DCP                     ...
002030 057000 I 1747          STA     HOLD            FORCE QUOTE ALPHA FIELD                     06 01747
002031 010420 A 1748          LDA     FOUR                                                        06 01748
002032 057000 I 1749          STA     SL                                                          06 01749
002033 001000 A 1750          JMP     INNX                                                        06 01750
002034 002562 R
                1751 ********************************                                            06 01751
                1752 * LEADING CHAR ALPHAMERIC *                                                 06 01752
                1753 ********************************                                            06 01753
002035 014546 A 1754 INN10    LDA     INNSF           YES                                         06 01754
002036 140000 L 1755          SUB     =C'-'                                                       06 01755
002037 001010 A 1756          JAZ     INN4            UNARY '-'                                   06 01756
002040 002004 R
                1757 ********************************                                            06 01757
                1758 * ASSIGN IMPLICIT MODE TO NAME *                                            06 01758
                1759 ********************************                                            06 01759
002041 017000 I 1760          LDA     TC                                                  PD      06 01760
002042 005012 A 1761          EXR                                                                 06 01761
002043 140000 L 1762          SUB     =C'$'                                                       06 01762
002044 003010 A 1763          MAI     INN16-1         (B)=0333                                    06 01763
002045 002072 R
002046 006000 A 1764          LDBE    TOT$-0201,B     GET IMPLICIT MODE                           06 01764
002047 010004 R
002050 067000 I 1765          STA     ,1                                                          06 01765
                1766 ********************************                                            06 01766
                1767 * INPUT/PACK NAME IN ID FIELD *                                             06 01767
                1768 ********************************                                            06 01768
002051 017000 I 1769          LDA     TC              MOVE 1ST CHAR TO ID FIELD                   06 01769
002052 057000 I 1770          STA     1,2                                                         06 01770
002053 010365 A 1771          LDA     FIVE            INPUT 5 CHARS MORE MAX                      06 01771
002054 057000 I 1772          STA     0,2                                                         06 01772
002055 002000 A 1773 INN13    JSLL    INPUT           INPUT NEXT CHAR                             06 01773
002056 001010 A 1774          JAZ     INN14                                                       06 01774
002057 017000 I 1775          LDA     TC                                                          06 01775
002060 001010 A 1776          JAZ     INN14-2         3 CHARACTERS INPUT                          06 01776
002061 002566 R
002062 017000 I 1777          LDA     TC                                                          06 01777
002063 001000 A 1778          JMP     INN14-2         NON-ALPHA CHARACTER                         06 01778
002064 002566 R
002065 031000 I 1779          LDX     =10                                                         06 01779
002066 002010 A 1780          CALL    PACK            PACK NAME CHARS IN ID                       06 01780
002067 004720 R
002070 001000 A 1781          JMP     INN13                                                       06 01781
002071 002055 R
002072 020000 I 1782 INN14    LDA     =0333           (B)=0333 IF TC=='$'                         06 01782
                1783 ********************************                                            06 01783
                1784 * INPUT NUMBER *                                                            06 01784
                1785 ********************************                                            06 01785
002073 030000 I 1786 INN15    LDX     =15                                                         06 01786
002074 002000 A 1787          CALL    INPDB           INPUT DECIMAL STRING/CONVERT TO BINARY      06 01787
002075 002610 R
002076 017000 I 1788          LDA     TC                                                          06 01788
002077 001010 A 1789          JAZ     INN20           IMMEDIATE POST ?                            06 01789
002100 002103 R
002101 017000 I 1790          LDA     TC              NO, FRACTIONAL                              06 01790
002102 054566 A 1791          STA     INNT            $ OR TERMINATOR                             06 01791
002103 001000 A 1792          JMP     INN28                                                       06 01792
002104 002[.. R
                1793 ********************************                                            06 01793
                1794 * ASSIGN MODE TO NUMBER *                                                   06 01794
                1795 ********************************                                            06 01795
002105 005101 A 1796 INN20    INCR    1               IU=SINGLE ITEM                              06 01796
002106 057000 I 1797          STA     NT              NT=CONSTANT                                 06 01797
002107 057000 I 1798          STA     FORCE                                                       06 01798
002110 010464 R 1799          LDA     =0              IM=REAL                                     06 01799
002111 057000 I 1800          STA     IM                                                          06 01800
002112 010[.. R 1801          LDA     =C'.'                                                       06 01801
002113 057000 I 1802          STA     1,2                                                         06 01802
002114 017000 I 1803          LDA     TC                                                          06 01803
002115 005000 A 1804          EXR     0,2                                                         06 01804
002116 140000 L 1805          SUB     =C'.'                                                       06 01805
002117 001010 A 1806          JAZ     INN30           IS TERMINATOR A '.'                         06 01806
002120 002[.. R
002121 006140 A 1807          SUBI    000             NO                                          06 01807
002122 000000 A
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002123 001016 A 1807          JANZ    INN21                                          06 01807
002124 002132 R
002125 017000 I 1808          LDA     ID+3          'H'                              06 01808
002126 057000 I 1809          STA     HCC           SET HOLLERITH COUNT              06 01809
002127 005001 A 1810          TZA                                                    06 01810
002130 001000 A 1811          JMP     INN24         FORCE IM=0                       06 01811
002131 002152 R
002132 140425 A 1812 INN21    SUB     K20                                            06 01812
002133 001010 A 1813          JAZ     INN24         'X' ?  (IM=0 FOR X)              06 01813
002134 002152 R
002135 017000 I 1814          LDA     DF            NO                               06 01814
002136 001004 A 1815          JAN     INN34         TEST IF ALPHAMERIC               06 01815
002137 002227 R
                1816 ****************************                                   06 01816
                1817 * DEFINE INTEGER CONSTANT *                                   06 01817
                1818 ****************************                                   06 01818
002140 020423 A 1819 INN22    LDB     FOUR                                           06 01819
002141 067000 I 1820          STB     EL                                             06 01820
002142 020422 A 1821          LDB     TWO                                            06 01821
002143 017000 I 1822          LDA     ID+2                                           06 01822
002144 001010 A 1823          JAZ     INN24                                          06 01823
002145 002152 R
002146 020466 A 1824          LDB     SIX           FORCE DOUBLE PRECISION INTEGER   06 01824
002147 005211 A 1825          CPA                                                    06 01825
002150 005111 A 1826          IAR                   MAKE -(ID+1)                     06 01826
002151 047000 I 1827          INR     EL                                             06 01827
002152 067000 I 1828 INN24    STB     IM                                             06 01828
002153 127000 I 1829          ADD     ID+2                                           06 01829
002154 117000 I 1830          ORA     ID                                             06 01830
002155 117000 I 1831          ORA     ID+1                                           06 01831
002156 027000 I 1832          LDB     CFPTSW                                         06 01832
002157 001010 A 1833          JAZ     *+4                                            06 01833
002160 002163 R
002161 002020 A 1834          JBZM    ER15          INTEGER TO LARGE                 06 01834
002162 000335 R
002163 014420 A 1835          LDA     INNSF                                          06 01835
002164 027000 I 1836          LDB     ID+3                                           06 01836
002165 037000 I 1837          LDX     ID+2                                           06 01837
002166 006442 A 1838          BT      0&2,INN25     SIGN IS ABSENT OR '+'            06 01838
002167 002176 R
002170 005244 A 1839          CPX                                                    06 01839
002171 005222 A 1840          CPB                                                    06 01840
002172 005122 A 1841          IBR                   MAKE TWO'S COMPLIMENT            06 01841
002173 006437 A 1842          BT      037,INN25                                      06 01842
002174 002176 R
002175 005144 A 1843          IXR                   CONTINUE RIPPLE                  06 01843
002176 067000 I 1844 INN25    STB     ID                                             06 01844
002177 017000 I 1845          LDA     EL                                             06 01845
002200 140423 A 1846          SUB     FOUR                                           06 01846
002201 001010 A 1847          JAZ     INNX'         NORMAL INTEGER/LOGICAL           06 01847
002202 002562 R
002203 077000 I 1848          STX     ID            DP INTEGER                       06 01848
002204 005021 A 1849          TBA                                                    06 01849
002205 150460 A 1850          ANA     BR15          CLEAR SIGN-BIT OF SECOND WORD    06 01850
002206 057000 I 1851          STA     ID+1                                           06 01851
002207 001000 A 1852          JMP     INNX          EXIT                             06 01852
002210 002562 R
                1853 ****************************                                   06 01853
                1854 * PROCESS '.' AFTER INTEGER *                                   06 01854
                1855 ****************************                                   06 01855
002211 017000 I 1856 INN30    LDA     TC                                             06 01856
002212 054372 A 1857          STA     INNT          SAVE '.'                         06 01857
002213 044436 A 1858          INR     INNPF         SET '.' FLAG                     06 01858
002214 002000 A 1859          CALL    IDI           INPUT/TEST NEXT CHAR             06 01859
002215 001533 R
002216 001004 A 1860          JAN     INN16         NUMERIC ?                        06 01860
002217 002073 R
002220 014364 A 1861          LDA     INNT          NO                               06 01861
002221 004250 A 1862          LRLA    8                                              06 01862
002222 117000 I 1863          ORA     TC,           PACK LAST 2 CHARS IN INNT        06 01863
002223 054361 A 1864          STA     INNT                                           06 01864
002224 017000 I 1865 INN32    LDA     DF                                             06 01865
002225 001002 A 1866          JAP     INN60         IS TERMINATOR ALPHA(OR '$') ?    06 01866
002226 002315 R
002227 017000 I 1867 INN34    LDA     TC            YES                              06 01867
002230 006140 A 1868          SUBI    'E'                                            06 01868
002231 000305 A
002232 001010 A 1869          JAZ     INN42         'E' ?                            06 01869
002233 002252 R
002234 005111 A 1870          IAR                   NO                               06 01870
002235 001010 A 1871          JAZ     INN40         'D' ?                            06 01871
002236 002247 R
002237 002000 A 1872          CALL    RCH           NO. BACK UP SCAN                 06 01872
002240 005110 R
002241 014343 A 1873          LDA     INNT                                           06 01873
002242 004350 A 1874          LSRA    8                                              06 01874
002243 150463 A 1875          ANA     BM377                                          06 01875
002244 057000 I 1876          STA     TC            RECOVER PREVIOUS CHAR            06 01876
002245 001000 A 1877          JMP     INN22                                          06 01877
002246 002140 R
                1878 ****************************                                   06 01878
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                    1879 * PROCESS '.E' OR '.D' *                                                    06 01879
                    1880 ***************************                                                 06 01880
002247  047000  I  1881 INN40   INR     IM              SET IM=4 TO FLAG DOUBLE PRECISION           06 01881
002250  010467  A  1882         LDA     SEVEN                                                       06 01882
002251  057000  I  1883         STA     EL                                                          06 01883
002252  002000  A  1884 INN42   CALL    IDI             INPUT/TEST NEXT CHAR                        06 01884
002253  001533  R
002254  001004  A  1885         JAN     INN54           GO TO PROCESS EXPONENT IF NUMERIC           06 01885
002255  002307  R
002256  017000  I  1886         LDA     TC                                                          06 01886
002257  140000  L  1887         SUB     ='+'                                                        06 01887
002260  001010  A  1888         JAZ     INN52           '+' ?                                       06 01888
002261  002303  R
002262  140422  A  1889         SUB     TWO                                                         06 01889
002263  001010  A  1890         JAZ     INN50           TEST '-'                                    06 01890
002264  002302  R
                    1891 ***************************************                                     06 01891
                    1892 * PROCESS LIKE RELATIONAL OP('.EQ.') *                                     06 01892
                    1893 ***************************************                                     06 01893
002265  014317  A  1894         LDA     INNT            SET '.E'(OR '.D')                           06 01894
002266  004210  A  1895         ASLA    3                                                           06 01895
002267  117000  I  1896         ORA     TC                                                          06 01896
002270  057000  I  1897         STA     PC+3            SAVE TERMINATOR                             06 01897
002271  002000  A  1898         CALL    ICH             GET '.' (HOPEFULLY)                         06 01898
002272  001214  R
002273  010000  L  1899         LDA     =' '                                                        06 01899
002274  057000  I  1900         STA     PC+1                                                        06 01900
002275  057000  I  1901         STA     PC+2            SET UP PC AND B LINE IAC HAD INPUT '.EQ.'   06 01901
002276  027000  I  1902         LDB     PC+3                                                        06 01902
002277  067000  I  1903         XIS     TC                                                          06 01903
002300  001000  A  1904         JMP     INN22                                                       06 01904
002301  002140  R
                    1905 ********************                                                        06 01905
                    1906 * PROCESS EXPONENT *                                                      06 01906
                    1907 ********************                                                        06 01907
002302  044275  A  1908 INN50   INR     INNESF          SET EXPONENT SIGN FLAG                      06 01908
002303  002000  A  1909 INN52   CALL    IDI             INPUT/TEST NEXT CHAR                        06 01909
002304  001533  R
002305  001002  A  1910         JAP     TEP22            NON NUMERIC EXPONENT                       06 01910
002306  000327  R
002307  005001  A  1911 INN54   TZA                                                                 06 01911
002310  054341  A  1912         STA     INNPF           CLEAR '.' FLAG                              06 01912
002311  006030  A  1913         LDXI    INNDE                                                       06 01913
002312  002574  R
002313  002000  A  1914         CALL    INIDB           INPUT/CONVERT DECIMAL EXPONENT              06 01914
002314  002606  R
                    1915 ***************************************************************************06 01915
                    1916 * CONVERT FROM BINARY INTEGER/DECIMAL EXP TO BINARY FLOATING POINT *       06 01916
                    1917 ***************************************************************************06 01917
002315  017000  I  1918 INN60   LDA     TD                                                          06 01918
002316  117000  I  1919         ORA     TD+1                                                        06 01919
002317  117000  I  1920         ORA     TD+2                                                        06 01920
002320  117000  I  1921         ORA     TD+3                                                        06 01921
002321  001010  A  1922         JAZ     INN70           EXIT IF MANTISSA = 0                        06 01922
002322  002425  R
002323  024325  A  1923         LDB     INNDEX          GET IMPLICIT DECIMAL EXPONENT               06 01923
002324  004110  A  1924         ASRB    8                                                           06 01924
002325  001020  A  1925         JPZ     *+3                                                         06 01925
002326  002330  R
002327  005220  A  1926         CPB                     GET HIGH BYTE                               06 01926
002330  014246  A  1927         ADD     INNDE+3         GET EXPLICIT DECIMAL EXPONENT               06 01927
002331  004310  A  1928         SSBA    0                                                           06 01928
002332  001002  A  1929         JPZ     *+3                                                         06 01929
002333  002335  R
002334  005211  A  1930         CPA     0                                                           06 01930
002335  005031  A  1931         MESSGE  (3)                                                         06 01931
002336  114235  A  1932         STA     INNDE                                                       06 01932
002337  114235  A  1933         STA     INNDE+1                                                     06 01933
002340  114235  A  1934         STA     INNDE+2                                                     06 01934
002341  001016  A  1935         JNZ     *ERR80          ERROR/EXPONENT OVERFLOW/                    06 01935
002342  002421  R
002343  014233  A  1936         LDA     INNDE+3                                                     06 01936
002344  034230  A  1937         LDX     INVPSF                                                      06 01937
002345  001040  A  1938         JXZ     *+3             IS EXPONENT SIGN '-' ?                      06 01938
002346  002351  R
002347  005211  A  1939         CPA     0               YES                                         06 01939
002350  005111  A  1940         NEGA                    NEGATE                                      06 01940
002351  124227  A  1941         ADD     INNDEX          GET TOTAL DECIMAL EXPONENT                  06 01941
002352  054226  A  1942         STA     INNDEX                                                      06 01942
                    1943 ***************************************************************          06 01943
                    1944 * LOOP TO REDUCE DECIMAL EXPONENT TO ZERO *                              06 01944
                    1945 ***************************************************************          06 01945
002353  030000  L  1946 INNL4   LDX     =10                                                         06 01946
002354  002000  A  1947         CALL    INORM           NORMALIZE FP FIELD                          06 01947
002355  002713  R
002356  014222  A  1948         LDA     INDEX                                                       06 01948
002357  001010  A  1949         JAZ     INN70           EXIT IF DECIMAL EXPONENT = 0                06 01949
002360  002423  R
002361  001004  A  1950         JAN     INN62                                                       06 01950
002362  002413  R
                    1951 ***************************************************************          06 01951
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                    1952 * DECIMAL EXPONENT +  MULTIPLY BY 10 *                                    06 01952
                    1953 ************************************                                      06 01953
002363 014265 A     1954          LDA     INNDEX                                                   06 01954
002364 005311 A     1955          DAR                     DROP DECIMAL EXPONENT                    06 01955
002365 054263 A     1956          STA     INNDEX                                                   06 01956
002366 017000 I     1957          LDA     ID+2                                                     06 01957
002367 027000 I     1958          LDB     ID+3            SHIFT ID RIGHT 4                         06 01958
002370 004504 A     1959          LASR    4                                                        06 01959
002371 067000 I     1960          STB     ID+3            WORD 3                                   06 01960
002372 017000 I     1961          LDA     ID+1                                                     06 01961
002373 027000 I     1962          LDB     ID+2                                                     06 01962
002374 004504 A     1963          LASR    4                                                        06 01963
002375 067000 I     1964          STB     ID+2            WORD 2                                   06 01964
002376 017000 I     1965          LDA     ID                                                       06 01965
002377 027000 I     1966          LDB     ID+1                                                     06 01966
002400 004504 A     1967          LASR    4                                                        06 01967
002401 067000 I     1968          STB     ID+1            WORD 1                                   06 01968
002402 057000 I     1969          STA     ID              WORD 0                                   06 01969
002403 014371 A     1970          LDA     INNBE                                                    06 01970
002404 120423 A     1971          ADD     FOUR            BUMP BINARY EXPONENT BY 4                06 01971
002405 054367 A     1972          STA     INNBE                                                    06 01972
002406 030000 L     1973          LDX     =ID                                                      06 01973
002407 002000 A     1974          CALL    INNM10          MULTIPLY ID BY 10                        06 01974
002410 002653 R
002411 001000 A     1975          JMP     INNL4           CONTINUE LOOP                            06 01975
002412 002353 R
                    1976 ************************************                                      06 01976
                    1977 * DECIMAL EXPONENT -  DIVIDE BY 10 *                                    06 01977
                    1978 ************************************                                      06 01978
002413 044235 A     1979 INN62    INR     INNDEX          BUMP DECIMAL EXPONENT                    06 01979
002414 030000 L     1980          LDX     =ID                                                      06 01980
002415 002000 A     1981          CALL    INND10          DIVIDE ID BY 10                          06 01981
002416 002673 R
002417 001000 A     1982          JMP     INNL4           CONTINUE LOOP                            06 01982
002420 002353 R
                    1983 ******************************                                          06 01983
                    1984 * EXPONENT OVER/UNDER/FLOW *                                           06 01984
                    1985 ******************************                                          06 01985
002421 002000 A     1986 INNEO    CALL    ER23             EXPONENT OVER/UNDER/FLOW               06 01986
002422 000325 R
002423 010430 A     1987          LDA     BS7                                                      06 01987
002424 054350 A     1988          STA     INNBE           SET BINARY EXPONENT TO 0                 06 01988
                    1989 ******************************                                          06 01989
                    1990 * FORMAT REAL OR DP CONSTANT *                                          06 01990
                    1991 ******************************                                          06 01991
002425 017000 I     1992 INN70    LDA     IM                                                       06 01992
002426 140464 A     1993          SUB     THREE                                                    06 01993
002427 027000 I     1994          LDB     ID                                                       06 01994
002430 001010 A     1995          JAZ     INN72           TEST REAL OR DP                          06 01995
002431 002464 R
                    1996 ************************                                                06 01996
                    1997 * FORMAT DP CONSTANT *                                                 06 01997
                    1998 ************************                                                06 01998
002432 001020 A     1999          JBZ     INNX            EXIT IF MANTISSA = 0                     06 01999
002433 002562 R
002434 017000 I     2000          LDA     ID+3                                                     06 02000
002435 004241 A     2001          LRLA    1                                                        06 02001
002436 057000 I     2002          STA     ID+3                                                     06 02002
002437 030000 L     2003          LDX     =ID                                                      06 02003
002440 002000 A     2004          CALL    INNCA           PROPAGATE OVERFLOWS                      06 02004
002441 002742 R
002442 014332 A     2005          LDA     INNBE                                                    06 02005
002443 004310 A     2006          ASRA    8                                                        06 02006
002444 001016 A     2007          JANZ    INNEO           ERROR/EXPONENT OVER/UNDER/FLOW/          06 02007
002445 002421 R
002446 017000 I     2008          LDA     ID+2                                                     06 02008
002447 057000 I     2009          STA     ID+3            TAKE HIGH-ORDER 3 WORDS                  06 02009
002450 017000 I     2010          LDA     ID+1                                                     06 02010
002451 057000 I     2011          STA     ID+2                                                     06 02011
002452 037000 I     2012          LDX     ID                                                       06 02012
002453 014130 A     2013          LDA     INNSF                                                    06 02013
002454 006442 A     2014          BT      $42,*+3         SIGN IS ABSENT OR '+'                    06 02014
002455 002457 R
002456 005244 A     2015          CPX                                                              06 02015
002457 077000 I     2016          STX     ID+1                                                     06 02016
002460 014314 A     2017          LDA     INNBE                                                    06 02017
002461 057000 I     2018          STA     ID              STORE EXPONENT                           06 02018
002462 001000 A     2019          JMP     INNX            EXIT                                     06 02019
002463 002562 R
                    2020 ************************                                                06 02020
                    2021 * FORMAT REAL CONSTANT *                                               06 02021
                    2022 ************************                                                06 02022
002464 001020 A     2023 INN72    JBZ     INN75           EXIT IF MANTISSA = 0                     06 02023
002465 002517 R
002466 017000 I     2024          LDA     ID+1                                                     06 02024
002467 120430 A     2025          ADD     BS7                                                      06 02025
002470 057000 I     2026          STA     ID+1                                                     06 02026
002471 030000 L     2027          LDX     =ID                                                      06 02027
002472 002000 A     2028          CALL    INNCA           PROPAGATE OVERFLOWS                      06 02028
002473 002742 R
002474 014300 A     2029          LDA     INNBE                                                    06 02029
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002475 004310 A 2030          ASRA    8                                                    06 02030
002476 001016 A 2031          JANZ    INNE0       ERROR/EXPONENT OVER/UNDER/FLOW/          06 02031
002477 002421 R
002500 014274 A 2032          LDA     INNBE                                                06 02032
002501 027000 I 2033          LDB     ID                                                   06 02033
002502 004407 A 2034          LASL    $BIT-9      FORMAT HIGH-ORDER WORD                   06 02034
002503 057000 I 2035          STA     ID                                                   06 02035
002504 014077 A 2036          LDA     INNSF                                                06 02036
002505 006440 A 2037          BT      $42,INN73   SIGN IS ABSENT OR '+'                    06 02037
002506 002512 R
002507 017000 I 2038          LDA     ID                                                   06 02038
002510 005211 A 2039          CPA     '-'                                                  06 02039
002511 057000 I 2040          STA     ID                                                   06 02040
002512 005001 A 2041  INN73   TZA                                                          06 02041
002513 004410 A 2042          LASL    8                                                    06 02042
002514 027000 I 2043          LDB     ID+1                                                 06 02043
002515 004407 A 2044          LASL    $BIT-9      FORMAT LOW-ORDER WORD                    06 02044
002516 057000 I 2045          STA     ID+1                                                 06 02045
002517 014061 A 2046  INN75   LDA     INNIF                                                06 02046
002520 001010 A 2047          JAZ     INN77       IS IMAGINARY FLAG SET ?                  06 02047
002521 002542 R
002522 017001 I 2048          LDA     ID+1        YES                                      06 02048
002523 057003 I 2049          STA     ID+3        MOVE IMAGINARY PART TO WORDS 2,3         06 02049
002524 017000 I 2050          LDA     ID                                                   06 02050
002525 057002 I 2051          STA     ID+2                                                 06 02051
002526 014053 A 2052          LDA     INNRP                                                06 02052
002527 057000 I 2053          STA     ID          MOVE REAL PART TO WORDS 0,1              06 02053
002530 014052 A 2054          LDA     INNRP+1                                              06 02054
002531 057001 I 2055          STA     ID+1                                                 06 02055
002532 010465 A 2056          LDA     FIVE                                                 06 02056
002533 057003 I 2057          STA     IM          IM=5 FOR COMPLEX                         06 02057
002534 010467 A 2058          LDA     SEVEN                                                06 02058
002535 057000 I 2059          STA     EL          EL = 4                                   06 02059
002536 002000 A 2060          CALL    R/O         SCAN THRU ')'                            06 02060
002537 005116 R
002540 001000 A 2061          JMP     INNY        EXIT                                     06 02061
002541 002565 R
002542 017000 I 2062  INN77   LDA     SXF                                                  06 02062
002543 001010 A 2063          JAZ     INNX        EXIT IF COMPLEX FLAG RESET               06 02063
002544 002562 R
002545 017000 I 2064          LDA     TC                                                   06 02064
002546 140000 L 2065          SUB     =',',R      EXIT IF TERMINATOR NOT ','               06 02065
002547 001016 A 2066          JANZ    INNX                                                 06 02066
002550 002562 R
002551 044027 A 2067          INR     INNIF       SET IMAGINARY FLAG                       06 02067
002552 017000 I 2068          LDA     ID                                                   06 02068
002553 054026 A 2069          STA     INNRP       SAVE REAL PART                           06 02069
002554 017000 I 2070          LDA     ID+1                                                 06 02070
002555 054025 A 2071          STA     INNRP+1                                              06 02071
002556 001000 A 2072          JMP     INNL1       LOOP BACK FOR IMAGINARY PART             06 02072
002557 001703 R
                      2073  ********                                                       06 02073
                      2074  * EXIT *                                                       06 02074
                      2075  ********                                                       06 02075
002560 002000 A 2076          CALL    NRM                                                  06 02076
002561 003650 R
002562 014016 A 2077  INNX    LDA     INNIF                                                06 02077
002563 001016 A 2078          JANZ*   IER1        NO IMAGINARY PART                        06 02078
002564 100354 R
002565 005001 A 2079  INNY    TZA
002566 057000 I 2080          STA     SXF         CLEAR COMPLEX FLAG                       06 02080
002567 002000 A 2081          CALL    FNO         FINISH OP                                06 02081
002570 000321 R
002571 017003 I 2082          LDA     IM          A=IM AT EXIT                             06 02082
002572 001000 A 2083          JMP*    INN                                                  06 02083
002573 101700 R
002574                2084  INNDE   BSS     4           EXPLICIT DECIMAL EXPONENT        06 02084
002600                2085  INNESF  BSS     1           EXPONENT SIGN FLAG               06 02085
002601                2086  INNIF   BSS     1           IMAGINARY PART FLAG              06 02086
002602                2087  INNRP   BSS     2           REAL PART OF COMPLEX             06 02087
002604                2088  INNSF   BSS     1           SIGN FLAG                        06 02088
002605                2089  INNT    BSS     1           TEMP                             06 02089
                      2090  ********************************************************     06 02090
                      2091  * SUBROUTINE TO INPUT A DECIMAL STRING AND CONVERT TO BINARY *  06 02091
                      2092  ********************************************************     06 02092
002606 000000 A 2093  INNDB   BSS     1           SAVE X                                   06 02093
002607 074040 A 2094          STX     INNDBT      SAVE X                                   06 02094
002610 015000 A 2095  INNDBL  LDQ     0,X                                                  06 02095
002611 144035 A 2096          SUB     INNDBM                                               06 02096
002612 001004 A 2097          TQN     INNDB1      WILL FIELD*10 + 9 OVERFLOW ?             06 02097
002613 002622 R
002614 014035 A 2098          LDA     INNSF       YES                                      06 02098
002615 001016 A 2099          JANZ    INNDBX      ARE WE IN FRACTIONAL PART ?              06 02099
002616 002640 R
002617 044031 A 2100          INR     INNDEX      NO, BUMP DECIMAL EXPONENT                06 02100
002620 001000 A 2101          JMP     INNDBX      AND GOBBLE FIELD                         06 02101
002621 002640 R
002622 002000 A 2102  INNDB1  CALL    INNM10      MULTIPLY FIELD BY 10                     06 02102
002623 002653 R
002624 017000 I 2103          LDA     TC                                                   06 02103
002625 140000 L 2104          SUB     ='0'                                                 06 02104
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002626 125003 A 2105          ADD     3,X          ADD IN NEW CHAR                          06 02105
002627 055003 A 2106          STA     3,X                                                   06 02106
002630 002000 A 2107          CALL    INNCA        PROPAGATE OVERFLOWS                      06 02107
002631 002742 R
002632 014017 A 2108          LDA     INNPF                                                 06 02108
002633 001010 A 2109          JAZ     INNDBX       ARE WE IN FRACTIONAL PART ?              06 02109
002634 002640 R
002635 014013 A 2110          LDA     INNDEX       YES                                      06 02110
002636 005311 A 2111          DAR                  DROP DECIMAL EXPONENT                    06 02111
002637 054011 A 2112          STA     INNDEX                                                06 02112
002640 002000 A 2113 INNDBX   CALL    IDI          INPUT NEXT CHAR                          06 02113
002641 001533 R
002642 034005 A 2114          LDX     INNDBT       RESTORE X                                06 02114
002643 001004 A 2115          JAN     INNDBL       LOOP TO NON-NUMERIC                      06 02115
002644 002610 R
002645 001000 A 2116          JMP*    INNDB                                                 06 02116
002646 102606 R
002647 006313 A 2117 INNDBM   DATA    3275         LIMIT                                    06 02117
002650         2118 INNDBT    BSS     1            SAVE X                                   06 02118
002651         2119 INNDEX    BSS     1            IMPLICIT DECIMAL EXPONENT                06 02119
002652         2120 INNPF     BSS     1            '.' FLAG                                 06 02120
               2121 ************************************                                    06 02121
               2122 * SUBROUTINE TO MULTIPLY (X) BY 10 *                                    06 02122
               2123 ************************************                                    06 02123
002653 000000 A 2124 INNM10   ENTR                                                         06 02124
002654 005001 A 2125          TZA                                                           06 02125
002655 025003 A 2126          LDB     3,X                                                   06 02126
002656 160471 A 2127          MUL     TEN                                                   06 02127
002657 065003 A 2128          STB     3,X                                                   06 02128
002660 025002 A 2129          LDB     2,X                                                   06 02129
002661 160471 A 2130          MUL     TEN                                                   06 02130
002662 065002 A 2131          STB     2,X                                                   06 02131
002663 025001 A 2132          LDB     1,X                                                   06 02132
002664 160471 A 2133          MUL     TEN                                                   06 02133
002665 065001 A 2134          STB     1,X                                                   06 02134
002666 025000 A 2135          LDB     0,X                                                   06 02135
002667 160471 A 2136          MUL     TEN                                                   06 02136
002670 065000 A 2137          STB     0,X                                                   06 02137
002671 001000 A 2138          JMP*    INNM10       EXIT                                     06 02138
002672 102653 R
               2139 ************************************                                    06 02139
               2140 * SUBROUTINE TO DIVIDE (X) BY 10 *                                    06 02140
               2141 ************************************                                    06 02141
002673 000000 A 2142 INND10   ENTR                                                         06 02142
002674 005001 A 2143          TZA                                                           06 02143
002675 025000 A 2144          LDB     0,X                                                   06 02144
002676 170471 A 2145          DIV     TEN          WORD 0                                   06 02145
002677 065000 A 2146          STB     0,X                                                   06 02146
002700 025001 A 2147          LDB     1,X                                                   06 02147
002701 170471 A 2148          DIV     TEN          WORD 1                                   06 02148
002702 065001 A 2149          STB     1,X                                                   06 02149
002703 025002 A 2150          LDB     2,X                                                   06 02150
002704 170471 A 2151          DIV     TEN          WORD 2                                   06 02151
002705 065002 A 2152          STB     2,X                                                   06 02152
002706 025003 A 2153          LDB     3,X                                                   06 02153
002707 170471 A 2154          DIV     TEN          WORD 3                                   06 02154
002710 065003 A 2155          STB     3,X                                                   06 02155
002711 001000 A 2156          JMP*    INND10       EXIT                                     06 02156
002712 102673 R
               2157 ************************************                                    06 02157
               2158 * SUBROUTINE TO NORMALIZE (X) *                                        06 02158
               2159 ************************************                                    06 02159
002713 000000 A 2160 INNRM    ENTR                                                         06 02160
002714 015000 A 2161 INNRM1   LDA     0,X                                                   06 02161
002715 004241 A 2162          LRLA    1                                                     06 02162
002716 001004 A 2163          JAN*    INNRM        EXIT WHEN NORMALIZATION COMPLETE         06 02163
002717 102713 R
002720 014054 A 2164          LDA     INNBE                                                 06 02164
002721 005311 A 2165          DAR                  DECREMENT BINARY EXPONENT                06 02165
002722 054052 A 2166          STA     INNBE                                                 06 02166
002723 015000 A 2167          LDA     0,X                                                   06 02167
002724 025001 A 2168          LDB     1,X                                                   06 02168
002725 004401 A 2169          LASL    1            SHIFT WORD 0                             06 02169
002726 055000 A 2170          STA     0,X                                                   06 02170
002727 015001 A 2171          LDA     1,X                                                   06 02171
002730 025002 A 2172          LDB     2,X                                                   06 02172
002731 004401 A 2173          LASL    1            SHIFT WORD 1                             06 02173
002732 055001 A 2174          STA     1,X                                                   06 02174
002733 015002 A 2175          LDA     2,X                                                   06 02175
002734 025003 A 2176          LDB     3,X                                                   06 02176
002735 004401 A 2177          LASL    1            SHIFT WORDS 2,3                          06 02177
002736 055002 A 2178          STA     2,X                                                   06 02178
002737 065003 A 2179          STB     3,X                                                   06 02179
002740 001000 A 2180          JMP     INNRM1       LOOP TILL DONE                           06 02180
002741 002714 R
               2181 ************************************                                    06 02181
               2182 * SUBROUTINE TO PROPAGATE (X) CARRIES *                               06 02182
               2183 ************************************                                    06 02183
002742 000000 A 2184 INNCA    ENTR                                                         06 02184
002743 015003 A 2185          LDA     3,X                                                   06 02185
002744 001002 A 2186          JAP     *+3          WORD 3 OVERFLOW ?                        06 02186
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002745 002751 R
002746 045002 A 2187          INR     2,X         YES. PROPAGATE TO WORD 2                    06 02187
002747 150460 A 2188          ANA     =XR15       CLEAR SIGN BIT                              06 02188
002750 055003 A 2189          STA     3,X                                                     06 02189
002751 015002 A 2190          LDA     2,X                                                     06 02190
002752 001002 A 2191          JAP     *+5         WORD 2 OVERFLOW ?                           06 02191
002753 002757 R
002754 045001 A 2192          INR     1,X         YES. PROPAGATE TO WORD 1                    06 02192
002755 150460 A 2193          ANA     =XR15       CLEAR SIGN BIT                              06 02193
002756 055002 A 2194          STA     2,X                                                     06 02194
002757 015001 A 2195          LDA     1,X                                                     06 02195
002760 001002 A 2196          JAP     *+5         WORD 1 OVERFLOW ?                           06 02196
002761 002765 R
002762 045000 A 2197          INR     0,X         YES. PROPAGATE TO WORD 0                    06 02197
002763 150460 A 2198          ANA     =XR15       CLEAR SIGN BIT                              06 02198
002764 055001 A 2199          STA     1,X                                                     06 02199
002765 015000 A 2200          LDA     0,X                                                     06 02200
002766 001002 A 2201          JAP*    INNCA       EXIT IF NO WORD 0 OVERFLOW                  06 02201
002767 102742 R
002770 010437 A 2202          LDA     =XS14                                                   06 02202
002771 055000 A 2203          STA     0,X         LOAD WORD 0                                 06 02203
002772 044002 A 2204          INR     INNBE       BUMP BINARY EXPONENT                        06 02204
002773 001000 A 2205          JMP*    INNCA       EXIT                                        06 02205
002774 102742 R
002775                2206 INNBE  BSS     1           BINARY EXPONENT                         06 02206
                      2207        EJECT                                                       06 02207
                      2208 ********************************************************************** 06 02208
                      2209 *                                                                    * 06 02209
                      2210 *                    I N P U T   O P E R A N D ( I N O )             * 06 02210
                      2211 *                                                                    * 06 02211
                      2212 * FUNCTION: TO INPUT A CONSTANT OR NAME AND FIND/STORE IT IN        * 06 02212
                      2213 *           THE ASSIGNMENT TABLE                                     * 06 02213
                      2214 *                                                                    * 06 02214
                      2215 * ENTRY: NO SPECIAL CONDITIONS                                      * 06 02215
                      2216 *                                                                    * 06 02216
                      2217 * EXIT : A=IM                                                       * 06 02217
                      2218 *                                                                    * 06 02218
                      2219 * ERRORS: TER11 IF SYNTACTICAL ITEM INPUT IS NOT A CONSTANT OR NAME * 06 02219
                      2220 *                                                                    * 06 02220
                      2221 ********************************************************************** 06 02221
002776 000000 A 2223  INO     ENTRY                                                           06 02223
002777 002000 A 2224          CALL    INI         INPUT ITEM; FIND/STORE IN ASSIGNMENT TABLE  06 02224
003000 001667 R
003001 001010 A 2225          JAZ     TER11        ITEM NOT AN OPERAND                        06 02225
003002 000342 R
003003 001000 A 2226          JMP*    INO         EXIT                                        06 02226
003004 102770 R
                      2227        EJECT                                                       06 02227
                      2228 ********************************************************************** 06 02228
                      2229 *                                                                    * 06 02229
                      2230 *  I N P U T   E X E C U T A B L E   S T A T E M E N T   N U M B E R  * 06 02230
                      2231 *                                                                    * 06 02231
                      2232 *                          ( I N S )                                 * 06 02232
                      2233 *                                                                    * 06 02233
                      2234 * FUNCTION: TO INPUT AN EXECUTABLE STATEMENT NUMBER                 * 06 02234
                      2235 *                                                                    * 06 02235
                      2236 * ENTRY: NO SPECIAL CONDITIONS                                      * 06 02236
                      2237 *                                                                    * 06 02237
                      2238 * EXIT : ISN CALLED TO FIND/STORE STATEMENT NUMBER IN ASSIGNMENT TBL * 06 02238
                      2239 *        (A) = POINTER OF STATEMENT NUMBER                           * 06 02239
                      2240 *                                                                    * 06 02240
                      2241 * ERRORS: ER5 IF STATEMENT NUMBER IS LABEL OF A FORMAT STATEMENT    * 06 02241
                      2242 *                                                                    * 06 02242
                      2243 ********************************************************************** 06 02243
003005 000000 A 2245  INS     ENTRY                                                           06 02245
003006 002000 A 2246          CALL    ISN         INPUT STATEMENT NUMBER                      06 02246
003007 003026 R
003010 017000 I 2247          LDA     IM                                                      06 02247
003011 005311 A 2248          SAR                 IM=1 FOR FORMAT STATEMENT                   06 02248
003012 002002 A 2249          JAPM    ER5         ERROR ER5/NON-EXECUTABLE STATEMENT/         06 02249
003013 000347 R
003014 017000 I 2250          LDA     I                                                       06 02250
003015 001000 A 2251          JMP*    INO                                                     06 02251
003016 103000 R
                      2252        EJECT                                                       06 02252
                      2253 ********************************************************************** 06 02253
                      2254 *                                                                    * 06 02254
                      2255 *                      I N T E G E R   T E S T ( I N T )             * 06 02255
                      2256 *                                                                    * 06 02256
                      2257 * FUNCTION: TO TEST IF MODE OF AN ITEM IS INTEGER                   * 06 02257
                      2258 *                                                                    * 06 02258
                      2259 * ENTRY: ITEM MODE IN IM                                           * 06 02259
                      2260 *                                                                    * 06 02260
                      2261 * EXIT : A DESTROYED                                               * 06 02261
                      2262 *                                                                    * 06 02262
                      2263 * ERRORS: ER3 IF IM .NE. 2                                         * 06 02263
                      2264 *                                                                    * 06 02264
                      2265 ********************************************************************** 06 02265
003017 000000 A 2267  INT     ENTRY                                                           06 02267
003020 017000 I 2268          LDA     IM          GET ITEM MODE                               06 02268
003021 140422 A 2269          SUB     KC                                                      06 02269
```

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003022 002016 A 2270          JANZM   ER3             MODE ERROR                                  06 02270
003023 000351 R
003024 001000 A 2271          JMP*    INT             EXIT                                        06 02271
003025 103017 R
                2272          EJECT                                                               06 02272
                2273 *        ISN     INPUT STATEMENT NUMBER                                      06 02273
003026 000000 A 2274 ISN      ENTRY                                                               06 02274
003027 005001 A 2275          TZA                                                                 06 02275
003030 057000 I 2276          STA     IM                                                          06 02276
003031 057000 I 2277          STA     IU                                                          06 02277
003032 057000 I 2278          STA     NT                                                          06 02278
003033 010465 A 2279          LDA     FIVE                                                        06 02279
003034 057000 I 2280          STA     PC                                                          06 02280
003035 010000 L 2281          LDA     =' '                                                        06 02281
003036 057000 I 2282          STA     ID                                                          06 02282
003037 057000 I 2283          STA     ID+1                                                        06 02283
003040 006010 A 2284 ISN1     LDAI    '0'                                                         06 02284
003041 120251 A
003042 057000 I 2285          STA     ID+2            SET LEADING CHARACTER                       06 02285
003043 002000 A 2286 ISN2     CALL    IDI             INPUT NUMERIC STATEMENT NUMBER              06 02286
003044 001533 R
003045 001002 A 2287          JAP     ISN3            DONE                                        06 02287
003046 003064 R
003047 017000 I 2288          LDA     PC                                                          06 02288
003050 001010 A 2289          JAZ     TER21           MORE THAN FIVE DIGITS                       06 02289
003051 000330 R
003052 030000 L 2290          LDX     =ID                                                         06 02290
003053 002000 A 2291          CALL    PCK                                                         06 02291
003054 004727 R
003055 017000 I 2292          LDA     ID+2                                                        06 02292
003056 006130 A 2293          ERA     '00'                                                        06 02293
003057 124660 A
003060 001010 A 2294          JAZ     ISN1            DELETE LEADING ZEROES                       06 02294
003061 003040 R
003062 001000 A 2295          JMP     ISN2                                                        06 02295
003063 003043 R
003064 002000 A 2296 ISN3     CALL    NRM                                                         06 02296
003065 003653 R
003066 002000 A 2297          JMPM    ASI             ASSIGN ITEM                                 06 02297
003067 000000 R
003070 017000 I 2298          LDA     AF                                                          06 02298
003071 147000 I 2299          SUB     EXAD            EXECUTION START                             06 02299
003072 001002 A 2300          JAP*    ISN                                                         06 02300
003073 103026 R
003074 017000 I 2301          LDA     AT                                                          06 02301
003075 140422 A 2302          SUB     K2                                                          06 02302
003076 001010 A 2303          JAZ*    ISN             IS                                          06 02303
003077 103026 R
003100 002000 A 2304          JMPM    ERS             REFRENCE TO NON-EXECUTEABLE STMT.           06 02304
003101 000344 R
003102 001000 A 2305          JMP*    ISN                                                         06 02305
003103 103026 R
                2306          EJEC                                                                06 02306
                2307 *        IVA     INPUT INTEGER VARIABLE                                      06 02307
003104 000000 A 2309 IVA      ENTRY                                                               06 02309
003105 002000 A 2310          JMPM    IVC             INPUT INT. VAR./CON.                        06 02310
003106 003115 R
003107 017000 I 2311          LDA     NT                                                          06 02311
003110 005311 A 2312          DAR                                                                 06 02312
003111 002002 A 2313          JAPM    ER2             USAGE ERROR                                 06 02313
003112 000352 R
003113 001000 A 2314          JMP*    IVA                                                         06 02314
003114 103104 R
                2315          EJEC                                                                06 02315
                2316 *        IVC     INPUT INTEGER VARIABLE/CONSTANT                             06 02316
003115 000000 A 2317 IVC      ENTRY                                                               06 02317
003116 002000 A 2319          JMPM    IND             INPUT OPERAND                               06 02319
003117 002776 R
003120 002000 A 2320          JMPM    INT             INTEGER TEST                                06 02320
003121 003017 R
003122 002000 A 2321          JMPM    TVR             TAG VARIABLE                                06 02321
003123 007473 R
003124 001000 A 2322          JMP*    IVC                                                         06 02322
003125 103115 R
                2323          EJECT                                                               06 02323
                2324 ********************************************************************************06 02324
                2325 *                                                                              06 02325
                2326 *              C O M P U T E   I T E M   S I Z E ( I W I )                     06 02326
                2327 *                                                                              06 02327
                2328 * FUNCTION: TO COMPUTE THE RUN-TIME SIZE OF AN ITEM                            06 02328
                2329 *                                                                              06 02329
                2330 * ENTRY: IS=SIZE OF A SINGLE ELEMENT,IN WORDS(SEE LAX)                        06 02330
                2331 *        IS+1=1ST DIMENSION VALUE                                              06 02331
                2332 *        IS+2=2ND DIMENSION VALUE                                              06 02332
                2333 *        IS+3=3RD DIMENSION VALUE                                              06 02333
                2334 *                                                                              06 02334
                2335 * EXIT : IS=RUN-TIME SIZE OF ITEM                                             06 02335
                2336 *                                                                              06 02336
                2337 ********************************************************************************06 02337
                2339 ********************                                                           06 02339
                2340 * ITEM IS AN ARRAY *                                                          06 02340
```

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                      2341 ********************                                                    06 02341
003126 027000 I 2342 IWI1    LDB     IS+7                                                          06 02342
003127 005001 A 2343         TZA                                                                   06 02343
003130 167000 I 2344         MUL     IS+6                                                          06 02344
003131 001016 A 2345         JANZ    TER19         ARRAY SIZE OVERFLOW                             06 02345
003132 000332 R
003133 167000 I 2346         MUL     IS+5                                                          06 02346
003134 001016 A 2347         JANZ    TER19         ARRAY SIZE OVERFLOW                             06 02347
003135 000332 R
003136 167000 I 2348         MUL     IS+4                                                          06 02348
003137 001016 A 2349         JANZ    TER19         ARRAY SIZE OVERFLOW                             06 02349
003140 000332 R
003141 167000 I 2350         MUL     IS+3                                                          06 02350
003142 001016 A 2351         JANZ    TER19         ARRAY SIZE OVERFLOW                             06 02351
003143 000332 R
003144 167000 I 2352         MUL     IS+2          2ND*3RD TO B                                    06 02352
003145 001016 A 2353         JANZ    TER19         ARRAY SIZE OVERFLOW                             06 02353
003146 000332 R
003147 167000 I 2354         MUL     IS+1          1ST*2ND*3RD TO B                                06 02354
003150 001016 A 2355         JANZ    TER19         ARRAY SIZE OVERFLOW                             06 02355
003151 000332 R
003152 167000 I 2356         MUL     IS            1ST*2ND*3RD*ELEMENT SIZE TO B                   06 02356
003153 001016 A 2357         JANZ    TER19         ARRAY SIZE OVERFLOW                             06 02357
003154 000332 R
003155 067000 I 2358         STB     IS            IS = PRODUCT OF ALL                             06 02358
003156 001000 A 2359         JMP     0             ENTRY                                           06 02359
003157 000000 A
003157          2360 IWI     BES     0             EXIT                                            06 02360
003160 017000 I 2361         LDA     IU                                                            06 02361
003161 140422 A 2362         SUB     K2                                                            06 02362
003162 001010 A 2363         JAZ     IWI1          IS ITEM AN ARRAY ?                              06 02363
003163 003126 R
003164 001000 A 2364         JMP*    IWI           NO, EXIT                                        06 02364
003165 103157 R
                2365         EJECT                                                                 06 02365
                2366 *********************************************************************** 06 02366
                2367 *                                                                     * 06 02367
                2368 *          L O A D   A S S I G N M E N T   E N T R Y ( L A X )        * 06 02368
                2369 *                                                                     * 06 02369
                2370 * FUNCTION: TO UNPACK THE SUBFIELDS OF AN ASSIGNMENT TABLE ENTRY.     * 06 02370
                2371 *                                                                     * 06 02371
                2372 * ENTRY: I POINTS TO ASSIGNMENT TABLE ENTRY                           * 06 02372
                2373 *                                                                     * 06 02373
                2374 * EXIT : SUBFIELDS BROKEN OUT AND STORED: AF,CL,NT,AT,IM,IU,ID-1,ID,  * 06 02374
                2375 *        ID+1,ID+2,ID+3.                                              * 06 02375
                2376 *                                                                     * 06 02376
                2377 *          IS=4 FOR COMPLEX AND DP ITEMS                              * 06 02377
                2378 *          IM=2 FOR REAL AND DP-INTEGER ITEMS                         * 06 02378
                2379 *          IS=1 FOR INTEGER AND LOGICAL CONSTANTS                     * 06 02379
                2380 *          IS=1 FOR OTHER INTEGER AND LOGICAL ITEMS IF 'D' PARAMETER  * 06 02380
                2381 *               NOT PRESENT IN PARAMETER LIST OF '/FORTRAN' DIRECTIVE * 06 02381
                2382 *          IS=2 FOR OTHER INTEGER AND LOGICAL ITEMS IF 'D' PARAMETER  * 06 02382
                2383 *               PRESENT IN '/FORTRAN' LIST                            * 06 02383
                2384 *                                                                     * 06 02384
                2385 *                                                                     * 06 02385
                2386 *          IF ITEM IS AN ARRAY NAME, THE FOLLOWING ARE ALSO LOADED:   * 06 02386
                2387 *                                                                     * 06 02387
                2388 *                 LP: POINTER TO ARRAY HEADER                         * 06 02388
                2389 *                 ND: NUMBER OF DIMENSIONS                            * 06 02389
                2390 *                 IP. POINTS TO IS ENTRY(1,2, OR 4) IN TABLE          * 06 02390
                2391 *                 IS+1 - IS+ND: DIMENSION VALUES (0 FOR DUMMY)        * 06 02391
                2392 *                 IP+1 - IP+ND: POINTER TO IS VALUE (0 IF NO DIMENSION) * 06 02392
                2393 *                                                                     * 06 02393
                2394 *********************************************************************** 06 02394
003166 000000 A 2396 LAX     ENTRY                                                         06 02396
003167 037000 I 2397         LDX     I             USE X AS TABLE POINTER                  06 02397
003170 015000 A 2398         LDA     0,X                                                   06 02398
003171 057000 I 2399         STA     AF            WORD 0 TO AF                            06 02399
003172 015001 A 2400         LDA     1,X                                                   06 02400
003173 057000 I 2401         STA     CL            WORD 1 TO CL                            06 02401
003174 005001 A 2402         TZA                                                           06 02402
003175 025002 A 2403         LDB     2,X           BREAK OUT PACKED DATA FIELDS            06 02403
003176 004441 A 2404         LLRL    1                                                     06 02404
003177 057000 I 2405         STA     NT                                                    06 02405
003200 005001 A 2406         TZA                                                           06 02406
003201 004443 A 2407         LLRL    3                                                     06 02407
003202 057000 I 2408         STA     AT                                                    06 02408
003203 005001 A 2409         TZA                                                           06 02409
003204 004443 A 2410         LLRL    3                                                     06 02410
003205 057000 I 2411         STA     IM                                                    06 02411
003206 005001 A 2412         TZA                                                           06 02412
003207 004442 A 2413         LLRL    2                                                     06 02413
003210 057000 I 2414         STA     IU                                                    06 02414
003211 005001 A 2415         TZA                                                           06 02415
003212 004447 A 2416         LLRL    7                                                     06 02416
003213 057000 I 2417         STA     CL                                                    06 02417
003214 140423 A 2418         SUB     FOUR                                                  06 02418
003215 025003 A 2419         LDB     3,X           TRANSFER ID FIELD                       06 02419
003216 067000 I 2420         STB     ID                                                    06 02420
003217 005311 A 2421         DAR                                                           06 02421
003220 025004 A 2422         LDB     4,X                                                   06 02422
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003221 003004 A 2423          XAN     LAX6        FORCE TRAILING BLANKS                    06 02423
003222 003347 R
003223 067000 I 2424          STB     ID+1                                                 06 02424
003224 005311 A 2425          DAR                                                          06 02425
003225 025005 A 2426          LDB     5,X                                                  06 02426
003226 003004 A 2427          XAN     LAX6                                                 06 02427
003227 003347 R
003230 067000 I 2428          STB     ID+2                                                 06 02428
003231 025006 A 2429          LDB     6,X                                                  06 02429
003232 067000 I 2430          STB     ID+3                                                 06 02430
               2431 **************************                                            06 02431
               2432 * GET ITEM SIZE IN IS *                                               06 02432
               2433 **************************                                            06 02433
003233 017000 I 2434          LDA     IM                                                   06 02434
003234 140466 A 2435          SUB     SIX                                                  06 02435
003235 001010 A 2436          JAZ     LAXA        DP-INTEGER                               06 02436
003236 003260 R
003237 005111 A 2437          IAR                                                          06 02437
003240 001010 A 2438          JAZ     LAXC        COMPLEX                                  06 02438
003241 003262 R
003242 005111 A 2439          IAR                                                          06 02439
003243 001010 A 2440          JAZ     LAXC                                                 06 02440
003244 003262 R
003245 005111 A 2441          IAR                                                          06 02441
003246 001010 A 2442          JAZ     LAXA        IS IT REAL ?                             06 02442
003247 003260 R
003250 017000 I 2443          LDA     NT          NO                                       06 02443
003251 005311 A 2444          DAR                                                          06 02444
003252 001010 A 2445          JAZ     LAXB        IS IT A CONSTANT?                        06 02445
003253 003261 R
003254 005001 A 2446          TZA                                                          06 02446
003255 027000 I 2447          LDB     SPCW                                                 06 02447
003256 006470 A 2448          BT      070,LAXB                                             06 02448
003257 003261 R
003260 005101 A 2449 LAXA     INCR    1           NO, SET SIZE TO 2                        06 02449
003261 140464 A 2450 LAXB     SUB     THREE       SIZE IS 1 FOR ONE-WORD INTEGER           06 02450
003262 120423 A 2451 LAXC     ADD     K4          SIZE IS 4 FOR COMPLEX AND DOUBLE-PRECISION 06 02451
003263 057000 I 2452          STA     IS                                                   06 02452
003264 017000 I 2453          LDA     IU                                                   06 02453
003265 140422 A 2454          SUB     TWO                                                  06 02454
003266 001016 A 2455          JANZ*   LAX                                                  06 02455
003267 103166 R
               2456 ****************************                                          06 02456
               2457 * ITEM IS AN ARRAY NAME *                                            06 02457
               2458 ****************************                                          06 02458
003270 037000 I 2459          LDX     AF          POINT X AT ARRAY HEADER                  06 02459
003271 077000 I 2460          STX     LF          STORE POINTER IN LF                      06 02460
003272 015000 A 2461          LDA     0,X                                                  06 02461
003273 057000 I 2462          STA     AF          GET AF                                   06 02462
003274 015002 A 2463          LDA     2,X                                                  06 02463
003275 004351 A 2464          LSRA    9                                                    06 02464
003276 150467 A 2465          ANA     SEVEN       GET NUMBER OF DIMENSIONS                 06 02465
003277 057000 I 2466          STA     ND          STORE IN ND                              06 02466
003300 027000 I 2467          LDB     IS                                                   06 02467
003301 006016 A 2468          LDAE    DPCA-1,B                                             06 02468
003302 010200 R
003303 057000 I 2469          STA     IP          POINTER TO IS                            06 02469
003304 005001 A 2470          TZA                                                          06 02470
003305 054042 A 2471          STA     LAX7        POINT TO 1ST DIMENSION                   06 02471
003306 005144 A 2472          IXR                                                          06 02472
003307 014040 A 2473 LAX2     LDA     LAX7        PROCESS SEVEN DIMENSIONS                 06 02473
003310 147000 I 2474          SUB     ND                                                   06 02474
003311 001004 A 2475          JAN     LAX3                                                 06 02475
003312 003317 R
003313 005002 A 2476          TZB                 SET NO-DIMENSION                         06 02476
003314 010421 A 2477          LDA     ONE                                                  06 02477
003315 001000 A 2478          JMP     LAX4                                                 06 02478
003316 003327 R
003317 025000 A 2479 LAX3     LDB     0,X                                                  06 02479
003320 016002 A 2480          LDA     2,B                                                  06 02480
003321 154001 A 2481          ANA     *+2         GET AT(IP)                               06 02481
003322 006130 A 2482          ERAI    070000                                               06 02482
003323 070000 A
003324 001010 A 2483          JAZ     LAX4                                                 06 02483
003325 003327 R
003326 016003 A 2484          LDA     3,B         GET IS                                   06 02484
003327 034020 A 2485 LAX4     LDX     LAX7                                                 06 02485
003330 006055 A 2486          STAE    IS+1,X                                               06 02486
003331 010260 R
003332 006065 A 2487          STBE    IP+1,X      POINTER                                  06 02487
003333 010247 R
003334 044013 A 2488          INR     LAX7                                                 06 02488
003335 014012 A 2489          LDA     LAX7                                                 06 02489
003336 140467 A 2490          SUB     SEVEN                                                06 02490
003337 001010 A 2491          JAZ*    LAX         FINISHED                                 06 02491
003340 103166 R
003341 014006 A 2492          LDA     LAX7                                                 06 02492
003342 120422 A 2493          ADD     TWO         FORCE AROUND WORD-3                      06 02493
003343 127000 I 2494 LAX5     ADD     LF                                                   06 02494
003344 005014 A 2495          TAX                                                          06 02495
003345 001000 A 2496          JMP     LAX2                                                 06 02496
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 003346 003307 R
 003347 020000 L 2497 LAX6   LDB     ='  '                                        06 02497
 003350 000000 R 2498 LAX7   DATA    0                                           06 02498
                 2499        EJECT                                               06 02499
                 2501 *      LDX     LOAD DO ENTRIES                             06 02501
 003351 000000 A 2503 LDX    ENTRY                                               06 02503
 003352 027000 I 2504        LDB     D                                           06 02504
 003353 016000 A 2505        LDA     0,2                                         06 02505
 003354 057000 I 2506        STA     DS          TERMINATING STMT. PNTR.         06 02506
 003355 016001 A 2507        LDA     1,2                                         06 02507
 003356 057000 I 2508        STA     DV          VARIABLE PNTR.                  06 02508
 003357 016002 A 2509        LDA     2,2                                         06 02509
 003360 057000 I 2510        STA     DH          HIGH VALUE PNTR.                06 02510
 003361 016003 A 2511        LDA     3,2                                         06 02511
 003362 057000 I 2512        STA     DI          INCREMENT PNTR.                 06 02512
 003363 016004 A 2513        LDA     4,2                                         06 02513
 003364 057000 I 2514        STA     DR          RETURN ADDRESS                  06 02514
 003365 001000 A 2515        JMP*    LDX                                         06 02515
 003366 103351 R
                 2516        EJECT                                               06 02516
                 2517 ********************************************************** 06 02517
                 2518 *                                                        * 06 02518
                 2519 *          L O A D   E X P R E S S I O N   E N T R Y ( L E X ) * 06 02519
                 2520 *                                                        * 06 02520
                 2521 * FUNCTION: TO LOAD AN ENTRY FROM THE EXPRESSION TABLE    * 06 02521
                 2522 *                                                        * 06 02522
                 2523 * ENTRY: K POINTS TO ENTRY                               * 06 02523
                 2524 *                                                        * 06 02524
                 2525 * EXIT : I=(K)                                           * 06 02525
                 2526 *         EH=(K+1) BITS 7-15                             * 06 02526
                 2527 *         OP=(K+1) BITS 1-6                              * 06 02527
                 2528 *         NF=(K+1) BIT  0                                * 06 02528
                 2529 *                                                        * 06 02529
                 2530 ********************************************************** 06 02530
 003367 000000 A 2532 LEX    ENTRY                                               06 02532
 003370 027000 I 2533        LDB     K           POINT B AT ENTRY                06 02533
 003371 016000 A 2534        LDA     0,B                                         06 02534
 003372 057000 I 2535        STA     I           WORD 0 TO I                     06 02535
 003373 016001 A 2536        LDA     1,B         GET WORD 1                      06 02536
 003374 005002 A 2537        TZB                 CLEAR B                         06 02537
 003375 004451 A 2538        LLRL    8BIT-7      ROTATE EH TO B                  06 02538
 003376 067000 I 2539        STB     EH          STORE IN EH                     06 02539
 003377 005002 A 2540        TZB                 CLEAR B                         06 02540
 003400 004446 A 2541        LLRL    6           ROTATE OP TO B                  06 02541
 003401 067000 I 2542        STB     OP          STORE IN OP                     06 02542
 003402 004357 A 2543        LDRA    8BIT-1      GET NF                          06 02543
 003403 057000 I 2544        STA     NF          STORE IN NF                     06 02544
 003404 001000 A 2545        JMP*    LEX                                         06 02545
 003405 103367 R
                 2546        EJECT                                               06 02546
                 2547 ********************************************************** 06 02547
                 2548 *                                                        * 06 02548
                 2549 *                L I S T   R O U T I N E ( L I S T )     * 06 02549
                 2550 *                                                        * 06 02550
                 2551 * FUNCTION: TO WRITE A LINE ON THE LO DEVICE              * 06 02551
                 2552 *                                                        * 06 02552
                 2553 * ENTRY: LLOP HOLDS COUNT OF LINES REMAINING ON PAGE     * 06 02553
                 2554 *         B POINTS TO START OF OUTPUT BUFFER             * 06 02554
                 2555 *         X HOLDS OUTPUT WORD COUNT                      * 06 02555
                 2556 *                                                        * 06 02556
                 2557 * EXIT : IF LLOP=0 : PAGE EJECTED, HEADER WRITTEN, ONE LINE SPACED, * 06 02557
                 2558 *                    AND LLOP SET TO VSLCNT-2            * 06 02558
                 2559 *                                                        * 06 02559
                 2560 *         LLOP DECREMENTED                               * 06 02560
                 2561 *                                                        * 06 02561
                 2562 ********************************************************** 06 02562
 003406 000000 A 2564 LIST   ENTRY                                               06 02564
 003407 074064 A 2565        STX     LISTCT+1    STORE OUTPUT WORD COUNT         06 02565
 003410 064064 A 2566        STB     LISTCT+2    STORE BUFFER ADDRESS            06 02566
 003411 017000 I 2567        LDA     LLOP        GET REMAINING LINE COUNT        06 02567
 003412 005311 A 2568        DAR                                                 06 02568
 003413 001002 A 2569        JAP     LIS10       CHECK IF LINE COUNT BACKED OFF TO ZERO 06 02569
 003414 003431 R
                 2570 ****************
                 2571 * END OF PAGE *                                           06 02570
                 2572 ****************                                          06 02571
 003415 006030 A 2573        LDX1    TITP                                        06 02572
 003416 010001 R
 003417 002000 R 2574        CALL    MADS        BUMP ASCII PAGE NUMBER IN PAGE HEADER 06 02574
 003420 003552 R
 003421 024054 A 2575        LDB     LISTHD                                      06 02575
 003422 002000 A 2576        CALL    LISTOT      OUTPUT VORTEX HEADER            06 02576
 003423 003437 R
 003424 024054 A 2577        LDB     LISTLF                                      06 02577
 003425 002000 A 2578        CALL    LISTOT      SPACE 1 LINE                    06 02578
 003426 003437 R
                 2579 ********************
                 2580 * RESET LINE COUNT *                                       06 02580
                 2581 ********************                                      06 02581
 003427 010054 A 2582        LDX     VSLCNT      GET VORTEX LINE COUNT/PAGE      06 02582
 003430 140464 A 2585        SPB     THREE       KNOCK OFF 3 FOR HEADER          06 02583
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003431 057000 I 2584 LIS10   STA     LLOP        LOAD REMAINING LINE COUNT                    06 02584
                2585 ********************                                                     06 02585
                2586 * OUTPUT DATA LINE *                                                     06 02586
                2587 ********************                                                     06 02587
003432 024040 A 2588         LDB     LISTCT                                                  06 02588
003433 002000 A 2589         CALL    LISTOT                                                  06 02589
003434 003437 R
003435 001000 A 2590         JMP*    LIST        EXIT                                        06 02590
003436 103406 R
                2591 ***************************                                          06 02591
                2592 * LO OUTPUT SUBROUTINE *                                              06 02592
                2593 ***************************                                          06 02593
003437 000000 A 2594 LISTOT  ENTR                                                            06 02594
003440 034015 A 2595         LDX     WRDLO+5     SET X=FCB                             D.1 06 02595
003441 016000 A 2596         LDA     0,B                                               D.1 06 02596
003442 055000 A 2597         STA     0,X         FCB(0) = WORD COUNT                   D.1 06 02597
003443 016001 A 2598         LDA     1,B                                               D.1 06 02598
003444 055001 A 2599         STA     1,X         FCB(1) = BUFFER ADDRESS               D.1 06 02599
003445 002000 A 2600         CALL    WRDLO       OUTPUT TO LO                          D.1 06 02600
003446 003451 R
003447 001000 A 2601         JMP*    LISTOT                                                  06 02601
003450 103437 R
                2602 ************                                                             06 02602
                2603 * I/O CALL *                                                            06 02603
                2604 ************                                                             06 02604
003451 000000 A 2605 WRDLO   ENTR                                                            06 02605
                2606         WRITE   LLFCB,5,0,1 WRITE/LO/COMPLETE/ASCII                      06 02606
003452 006505 A
003453 000404 A
003454 100000 R
003455 010405 A
003456 010116 R
003457 000000 A
003460 000000 A
                2607         STAT    WRDLO+1,ERRX,ERRX,ERRX,ERRX                              06 02607
003461 006505 A
003462 000373 A
003463 003452 R
003464 000472 R
003465 000472 R
003466 000472 R
003467 000472 R
003470 001000 A 2608         JMP*    WRDLO                                                   06 02608
003471 103451 R
003472 000170 A 2609 LIST12  DATA    120                                                     06 02609
003473 003474 R 2610 LISTCT  PZE     *+1         I/O BLOCK                                   06 02610
003474          2611         BSS     2                                                       06 02611
003476 003477 R 2612 LISTHD  PZE     *+1         ADDRESS OF HEADER BLOCK                     06 02612
003477 000044 A 2613         DATA    TITQ-TITL   PAGE HEADER WORD COUNT                 D.1 06 02613
003500 010026 R 2614         PZE     TITL        ADDRESS OF VORTEX HEADER                    06 02614
003501 003502 R 2615 LISTLF  PZE     *+1         ADDRESS OF LINE FEED BLOCK                  06 02615
003502 000001 A 2616         DATA    1           1 BLANK WORD                                06 02616
003503 003504 R 2617         PZE     *+1                                                     06 02617
003504 120240 A 2618         DATA    '  '                                                    06 02618
003505          2619 LISTT   BSS     1           BLOCKING BUFFER ADDRESS                     06 02619
                2620         EJECT                                                           06 02620
                2621 ********************************************************************** 06 02621
                2622 *                                                                    * 06 02622
                2623 *              L I S T   O C T A L   V A L U E ( L O C T )            * 06 02623
                2624 *                                                                    * 06 02624
                2625 * FUNCTION: TO CONVERT A BINARY INTEGER TO AN OCTAL ASCII STRING     * 06 02625
                2626 *                                                                    * 06 02626
                2627 * ENTRY: BINARY INTEGER IN A                                         * 06 02627
                2628 *                                                                    * 06 02628
                2629 * EXIT : OCTAL ASCII STRING IN BUFFER SLOT                          * 06 02629
                2630 *                                                                    * 06 02630
                2631 ********************************************************************** 06 02631
003506 000000 A 2633 LOCT    ENTRY                                                           06 02633
003507 005012 A 2634         TAB                                                             06 02634
003510 010000 L 2635         LDA     =' '                                                    06 02635
003511 002000 A 2636         CALL    SLOP        OUTPUT A LEADING BLANK                      06 02636
003512 006117 R
003513 010440 A 2637         LDA     BS15        LOAD FINISH FLAG                            06 02637
003514 004441 A 2638         LLRL    3BIT-15     GET FIRST OCTAL DIGIT IN A                  06 02638
                2639 ********************************                                     06 02639
                2640 * BINARY TO OCTAL CONVERSION LOOP *                                   06 02640
                2641 ********************************                                     06 02641
003515 120000 L 2642 LOCL    ADD     ='0'                                                    06 02642
003516 002000 A 2643         CALL    SLOP        OUTPUT ASCII OCTAL DIGIT TO BUFFER SLOT     06 02643
003517 006117 R
003520 005001 A 2644         TZA                 CLEAR A                                     06 02644
003521 004443 A 2645         LLRL    3           GET NEXT OCTAL DIGIT                        06 02645
003522 001020 A 2646         JRZ*    LOCT        EXIT ON FINISH                              06 02646
003523 103506 R
003524 001000 A 2647         JMP     LOCL        LOOP TILL DONE                              06 02647
003525 003515 R
                2648         EJECT                                                           06 02648
                2649 ********************************************************************** 06 02649
                2650 *                                                                    * 06 02650
                2651 *              L O A D   T R I A D   E N T R Y ( L T X )              * 06 02651
                2652 *                                                                    * 06 02652
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                    2653 * FUNCTION: TO LOAD AN ENTRY FROM THE TRIAD TABLE                                  * 06 02653
                    2654 *                                                                                    06 02654
                    2655 * ENTRY: J POINTS TO TRIAD                                                          06 02655
                    2656 *                                                                                    06 02656
                    2657 * EXIT : D1=(J)                                                                     06 02657
                    2658 *         D2=(J+1)                                                                  06 02658
                    2659 *         SF=(J+2) BIT 0                                                            06 02659
                    2660 *         OP=(J+2) BITS 1-6                                                         06 02660
                    2661 *         TM=(J+2) BITS 7-9                                                         06 02661
                    2662 *         TU=(J+2) BIT 10                                                           06 02662
                    2663 *                                                                                    06 02663
                    2664 ************************************************************'*****************'*8'*' MM 06 02664
003526 000000 A     2666 LTX    ENTRY                                                                         06 02666
003527 027000 I     2667        LDB     J               POINT B AT TRIAD ENTRY                                06 02667
003530 016000 A     2668        LDA     0,B                                                                   06 02668
003531 057000 I     2669        STA     D1              WORD 0 TO D1                                          06 02669
003532 016001 A     2670        LDA     1,B                                                                   06 02670
003533 057000 I     2671        STA     D2              WORD 1 TO D2                                          06 02671
003534 016002 A     2672        LDA     2,B             GET WORD 3                                            06 02672
003535 004552 A     2673        LLSR    10                                                                    06 02673
003536 057000 I     2674        STA     TU              TRIAD USE                                             06 02674
003537 005001 A     2675        TZA                                                                           06 02675
003540 004443 A     2676        LLRL    3                                                                     06 02676
003541 057000 I     2677        STA     TM              TRIAD MODE                                            06 02677
003542 005001 A     2678        TZA                                                                           06 02678
003543 004446 A     2679        LLRL    6                                                                     06 02679
003544 057000 I     2680        STA     OP              OPERATOR                                              06 02680
003545 005001 A     2681        TZA                                                                           06 02681
003546 004441 A     2682        LLRL    1                                                                     06 02682
003547 057000 I     2683        STA     SF              STORAGE FLAG                                          06 02683
003550 001000 A     2684        JMP*    LTX             EXIT                                                  06 02684
003551 103526 R
                    2685        EJECT                                                                         06 02685
                    2686 ************************************************************************************ 06 02686
                    2687 *                                                                                    06 02687
                    2688 *    M O D I F Y   A S C I I   D I G I T   S T R I N G ( M A D S )    *             06 02688
                    2689 *                                                                                    06 02689
                    2690 * FUNCTION: TO INCREMENT A 4-CHARACTER ASCII DECIMAL DIGIT FIELD      *             06 02690
                    2691 *           WITH LEADING BLANKS.                                                    06 02691
                    2692 *                                                                    *             06 02692
                    2693 * ENTRY: X POINTS TO START OF ASCII DECIMAL STRING                                  06 02693
                    2694 *                                                                                    06 02694
                    2695 * EXIT : ASCII DECIMAL STRING INCREMENTED                                          06 02695
                    2696 *                                                                                    06 02696
                    2697 ************************************************************************************ 06 02697
003552 000000 A     2699 MADS   ENTRY                                                                         06 02699
003553 025000 A     2700        LDB     0,X             CHARS 1-2 TO B                                        06 02700
003554 015001 A     2701        LDA     1,X             CHARS 3-4 TO A                                        06 02701
003555 005111 A     2702        IAR                     INCREMENT CHAR 4                                      06 02702
003556 002000 A     2703        CALL    MAD             7R67-7++ + H A-  6  9   6  6  8 9                   06 02703
003557 003572 R
003560 004470 A     2704        LLRL    $BIT+8          CHARS 2-3 TO A                                        06 02704
003561 002000 A     2705        CALL    MAD             PROPAGATE CHAR 3 OVERFLOW TO CHAR 2                   06 02705
003562 003572 R
003563 004470 A     2706        LLRL    $BIT+$BIT-8     CHARS 1-2 TO A                                        06 02706
003564 002000 A     2707        CALL    MAD             PROPAGATE CHAR 2 OVERFLOWS TO CHAR 1                  06 02707
003565 003572 R
003566 055000 A     2708        STA     0,X             RESTORE CHARS 1-2                                     06 02708
003567 065001 A     2709        STB     1,X             RESTORE CHARS 3-4                                     06 02709
003570 001000 A     2710        JMP*    MADS            EXIT                                                  06 02710
003571 103552 R
                    2711 ************************************************                                     06 02711
                    2712 * SERVICE SUBROUTINE TO PROPAGATE OVERFLOWS '                                      06 02712
                    2713 ************************************************                                     06 02713
003572 000000 A     2714 MAD    ENTRY                   IF OVERFLOW, LOW BYTE OF A=0272                       06 02714
003573 124007 A     2715        ADD     MAD1            0106  (RAISES HIGH-BYTE, LOW TO 0)                  06 02715
003574 004250 A     2716        LRLA    $BIT-8          SWAP BYTES                                            06 02716
003575 001004 A     2717        JAN     *+4                                                                   06 02717
003576 003601 R
003577 006110 A     2718        BRAI    0173260                                                               06 02718
003600 173260 A
003601 004250 A     2719        LRLA    8               RESTORE BYTES                                         06 02719
003602 006140 A     2720        SUBI    0106            RESTORE LOW-BYTE TO '0'                               06 02720
003603 000106 A
       003603 R     2721 MAD1   EQU     *-1                                                                   06 02721
003604 001000 A     2722        JMP*    MAD                                                                   06 02722
003605 103572 R
                    2723        EJEC                                                                          06 02723
                    2724 ************************************************************************************ 06 02724
                    2725 *                                                                                  * 06 02725
                    2726 *                    M O V E   B L O C K ( M O V E )                               * 06 02726
                    2727 *                                                                                  * 06 02727
                    2728 * FUNCTION: TO MOVE A BLOCK OF DATA IN CORE                                        * 06 02728
                    2729 *                                                                                  * 06 02729
                    2730 * ENTRY: A=WORD COUNT                                                              * 06 02730
                    2731 *        B=FROM ADDRESS                                                            * 06 02731
                    2732 *        X=TO ADDRESS                                                              * 06 02732
                    2733 *                                                                                  * 06 02733
                    2734 * EXIT : NO SPECIAL CONDITIONS                                                    * 06 02734
                    2735 *                                                                                  * 06 02735
                    2736 ************************************************************************************ 06 02736
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003606 000000 A 2738 MOVE   ENTR                                                    06 02738
003607 054013 A 2739        STA     MOVET       SAVE COUNT                          06 02739
003610 016000 A 2740 MOVEL  LDA     0,B         MOVE WORD                           06 02740
003611 055000 A 2741        STA     0,X                                             06 02741
003612 005122 A 2742        IBR                 BUMP POINTERS                       06 02742
003613 005144 A 2743        IXR                                                     06 02743
003614 014006 A 2744        LDA     MOVET                                           06 02744
003615 005311 A 2745        DAR                 DROP COUNT                          06 02745
003616 054004 A 2746        STA     MOVET                                           06 02746
003617 001016 A 2747        JANZ    MOVEL       LOOP TILL DONE                      06 02747
003620 003610 R
003621 001000 A 2748        JMP*    MOVE        EXIT                                06 02748
003622 103606 R
003623          2749 MOVET  BSS     1           MOVE COUNT                          06 02749
                2750        EJECT                                                   06 02750
                2751 ********************************************************************** 06 02751
                2752 *                                                                    * 06 02752
                2753 *      M A K E   E X I T   L A B E L   ( M X L )                     * 06 02753
                2754 *                                                                    * 06 02754
                2755 * ENTRANCE: (A)=LABEL NUMBER                                         * 06 02755
                2756 *                                                                    * 06 02756
                2757 ********************************************************************** 06 02757
003624 000000 A 2759 MXL    ENTRY                                                   06 02759
003625 002000 A 2760        CALL    CBA                                             06 02760
003626 000206 R
003627 057000 I 2761        STA     ID+1                                            06 02761
003630 006010 A 2762        LDAI    '>X'                                            06 02762
003631 124730 A
003632 057000 I 2763        STA     ID                                              06 02763
003633 010465 A 2764        LDA     FIVE                                            06 02764
003634 057000 I 2765        STA     EL                                              06 02765
003635 010421 A 2766        LDA     ONE                                             06 02766
003636 057000 I 2767        STA     IU                                              06 02767
003637 057000 I 2768        STA     IM                                              06 02768
003640 005001 A 2769        TZA                                                     06 02769
003641 057000 I 2770        STA     NT                                              06 02770
003642 002000 A 2771        CALL    ASI                                             06 02771
003643 000000 R
003644 001000 A 2772        JMP*    MXL                                             06 02772
003645 103624 R
                2773        EJECT                                                   06 02773
                2774 ********************************************************************** 06 02774
                2775 *                                                                    * 06 02775
                2776 *      N O R M A L I Z E   I D   ( N R M )                           * 06 02776
                2777 *                                                                    * 06 02777
                2778 * FUNCTION: TO LEFT NORMALIZE THE NAME IN ID,ID+1,ID+2               * 06 02778
                2779 *                                                                    * 06 02779
                2780 * EXIT:  ID,ID+1,ID+2 LEFT NORMALIZED WITH TRAILING BLANKS          * 06 02780
                2781 *        EL SET TO 4,5, OR 6                                       * 06 02781
                2782 *                                                                    * 06 02782
                2783 ********************************************************************** 06 02783
003646 017000 I 2785 NRM3   LDA     EL                                              06 02785
003647 004341 A 2786        LSRA    1                                               06 02786
003650 120464 A 2787        ADD     THREE                                           06 02787
003651 057000 I 2788        STA     EL              ACTUAL ENTRY SIZE               06 02788
003652 001000 A 2789        JMP     0                                               06 02789
003653 000000 A
        003653 R 2790 NRM   EQU     *-1                                             06 02790
003654 010467 A 2791        LDA     SEVEN                                           06 02791
003655 057000 I 2792        STA     EL                                              06 02792
003656 017000 I 2793 NRM1   LDA     ID+1                                            06 02793
003657 027000 I 2794        LDB     ID                                              06 02794
003660 004430 A 2795        LLRL    8                                               06 02795
003661 150463 A 2796        ANA     =M377                                           06 02796
003662 001010 A 2797        JAZ     NRM2                                            06 02797
003663 003667 R
003664 140000 L 2798        SUB     =' '                                            06 02798
003665 001016 A 2799        JANZ    NRM3            NORMALIZED                      06 02799
003666 003646 R
003667 017000 I 2800 NRM2   LDA     EL                                              06 02800
003670 005311 A 2801        DAR                                                     06 02801
003671 001010 A 2802        JAZ     NRM3            ALL SIX BLANKS                  06 02802
003672 003646 R
003673 057000 I 2803        STA     EL                                              06 02803
003674 067000 I 2804        STB     ID                                              06 02804
003675 027000 I 2805        LDB     ID+1                                            06 02805
003676 017000 I 2806        LDA     ID+2                                            06 02806
003677 004450 A 2807        LLRL    8                                               06 02807
003700 067000 I 2808        STB     ID+1                                            06 02808
003701 006150 A 2809        ANAI    0177400                                         06 02809
003702 177400 A
003703 120000 L 2810        ADD     =' '            APPEND TRAILING BLANK           06 02810
003704 057000 I 2811        STA     ID+2                                            06 02811
003705 001000 A 2812        JMP     NRM1                                            06 02812
003706 003656 R
                2813        EJECT                                                   06 02813
                2814 ********************************************************************** 06 02814
                2815 *                                                                    * 06 02815
                2816 *                N O   U S A G E   T E S T ( N U T )                 * 06 02816
                2817 *                                                                    * 06 02817
                2818 * FUNCTION: TO CHECK THAT AN ITEM HAS NOT BEEN ASSIGNED A USAGE      * 06 02818
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                    2819 *                                                                                  * 06 02819
                    2820 * ENTRY: IU=ITEM USAGE                                                             * 06 02820
                    2821 *                                                                                  * 06 02821
                    2822 * EXIT : NO SPECIAL CONDITIONS                                                      * 06 02822
                    2823 *                                                                                  * 06 02823
                    2824 * ERRORS: ER2 IF IU.NE.ZERO                                                        * 06 02824
                    2825 *                                                                                  * 06 02825
                    2826 ************************************************************************************* 06 02826
003707 000000 A     2828 NUT    ENTRY                                                                         06 02828
003710 017000 I     2829        LDA     IU                                                                    06 02829
003711 002016 A     2830        JANZM   ER2                                                                   06 02830
003712 000352 R
003713 005001 A     2831        TZA                                                                           06 02831
003714 001000 A     2832        JMP*    NUT                                                                   06 02832
003715 103707 R
                    2833        EJECT                                                                         06 02833
                    2834 ************************************************************************************* 06 02834
                    2835 *                                                                                  * 06 02835
                    2836 *          O U T P U T   A B S O L U T E   W O R D ( O A B )                       * 06 02836
                    2837 *                                                                                  * 06 02837
                    2838 * FUNCTION: TO OUTPUT AN ABS WORD IN THE OBJECT TEXT                               * 06 02838
                    2839 *                                                                                  * 06 02839
                    2840 * ENTRY: A=ABS WORD                                                                * 06 02840
                    2841 *                                                                                  * 06 02841
                    2842 * EXIT : 2-WORD LOAD ITEM OUTPUT:                                                  * 06 02842
                    2843 *                                                                                  * 06 02843
                    2844 *              WORD 1: 0100000  CONTROL WORD(CODE=4,COUNT=1)                       * 06 02844
                    2845 *              WORD 2: ABS WORD                                                    * 06 02845
                    2846 *                                                                                  * 06 02846
                    2847 ************************************************************************************* 06 02847
003716 000000 A     2849 OAB    ENTRY                                                                         06 02849
003717 005012 A     2850        TAB                     ABS WORD TO B                                         06 02850
003720 010440 A     2851        LDA     BS15            LOAD A WITH LOADER CONTROL WORD                       06 02851
003721 002000 A     2852        CALL    .WD             OUTPUT ABS LOAD ITEM                                  06 02852
003722 004675 R
003723 001000 A     2853        JMP*    OAB             EXIT                                                  06 02853
003724 103716 R
                    2854        EJECT                                                                         06 02854
                    2855 ************************************************************************************* 06 02855
                    2856 *                                                                                  * 06 02856
                    2857 *                O U T P U T   D O U B L E ( O D B )                               * 06 02857
                    2858 *                                                                                  * 06 02858
                    2859 * FUNCTION: TO OUTPUT A VDM 620 2-WORD INSTRUCTION(E.G. JMPM $ST)                  * 06 02859
                    2860 *                                                                                  * 06 02860
                    2861 * ENTRY: A=1ST WORD OF INSTRUCTION                                                 * 06 02861
                    2862 *        I=POINTER TO ASSIGNMENT TABLE ENTRY DEFINING 2ND WORD                     * 06 02862
                    2863 *                                                                                  * 06 02863
                    2864 * EXIT : XRPT SET TO KILL X-REG ASSIGNMENT                                         * 06 02864
                    2865 *        2 WORD INSTRUCTION OUTPUT                                                 * 06 02865
                    2866 *                                                                                  * 06 02866
                    2867 ************************************************************************************* 06 02867
003725 000000 A     2869 ODB    ENTRY                                                                         06 02869
003726 057000 I     2870        STA     XRPT            KILL X-REG ASSIGNMENT                                 06 02870
003727 002000 A     2871        CALL    OAB             OUTPUT ABS 1ST WORD                                   06 02871
003730 003716 R
003731 005001 A     2872        TZA                     CALL OUT WITH A=0                                     06 02872
003732 002000 A     2873        CALL    OUT             OUTPUT 2ND WORD                                       06 02873
003733 004320 R
003734 001000 A     2874        JMP*    ODB             EXIT                                                  06 02874
003735 103725 R
                    2875        EJECT                                                                         06 02875
                    2876 ************************************************************************************* 06 02876
                    2877 *                                                                                  * 06 02877
                    2878 *                O U T P U T   D A T A   S T O R E ( O D S )                       * 06 02878
                    2879 *                                                                                  * 06 02879
                    2880 * FUNCTION: TO OUTPUT AN OBJECT WORD TO THE OBJECT BUFFER OBUF,                    * 06 02880
                    2881 *           AND TO OUTPUT ITS EQUIVALENT ASCII OCTAL STRING TO                     * 06 02881
                    2882 *           BUFFER SLOT.                                                           * 06 02882
                    2883 *                                                                                  * 06 02883
                    2884 * ENTRY: A=OUTPUT OBJECT WORD                                                      * 06 02884
                    2885 *                                                                                  * 06 02885
                    2886 * EXIT : NO SPECIAL CONDITIONS                                                     * 06 02886
                    2887 *                                                                                  * 06 02887
                    2888 ************************************************************************************* 06 02888
003736 000000 A     2890 ODS    ENTRY                                                                         06 02890
003737 002000 A     2891        CALL    PBS             STORE OBJECT WORD IN OBUF                             06 02891
003740 004747 R
003741 027000 I     2892        LDB     .PCW                                                                  06 02892
003742 006463 A     2893        BT      $$$,ODS5-2      NO LIST OUTPUT                                        06 02893
003743 004044 R
003744 054102 A     2894        STA     ODS5+1                                                                06 02894
003745 017000 I     2895        LDB     .LOP                                                                  06 02895
003746 140465 A     2896        SUB     =1/0                                                                  06 02896
003747 001016 A     2897        JAZ     ODS5            NOT CONTROL WORD OUTPUT                               06 02897
003750 004046 R
003751 014075 A     2898        LDA     ODS5+1                                                                06 02898
003752 004355 A     2899        LRSA    18              (A) = LOADER CODE                                     06 02899
003753 001010 A     2900        JAZ     ODS3            LOADER FUNCTION                                       06 02900
003754 004006 R
003755 140422 A     2901        SUB     TWO                                                                   06 02901
003756 001010 A     2902        JAZ     ODS1            RELATIVE                                              06 02902
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003757 003767 R
003760 140422 A 2903          SUB     TWO                                                    06 02903
003761 001016 A 2904          JANZ    ODS5                                                   06 02904
003762 004046 R
003763 010000 L 2905          LDA     =' '      ABSOLUTE                                     06 02905
003764 005012 A 2906          TAB                                                            06 02906
003765 001000 A 2907          JMP     ODS2                                                   06 02907
003766 004000 R
003767 006020 A 2908 ODS1     LDBI    ' R'                                                   06 02908
003770 120322 A
003771 014055 A 2909          LDA     ODS5+1                                                 06 02909
003772 140437 A 2910          SUB     BS14                                                   06 02910
003773 001016 A 2911          JANZ    ODS3+2    NOT PROGRAM RELATIVE                         06 02911
003774 004010 R
003775 005021 A 2912          TBA                                                            06 02912
003776 006020 A 2913          LDBI    'EL'                                                   06 02913
003777 142714 A
004000 006057 A 2914 ODS2     STAE    SLOT+3                                                 06 02914
004001 010005 R
004002 006067 A 2915          STBE    SLOT+4                                                 06 02915
004003 010006 R
004004 001000 A 2916          JMP     ODS4                                                   06 02916
004005 004023 R
004006 006020 A 2917 ODS3     LDBI    ' F'                                                   06 02917
004007 120306 A
004010 006067 A 2918          STBE    SLOT+3    SET TYPE                                     06 02918
004011 010005 R
004012 010467 A 2919          LDA     SEVEN                                                  06 02919
004013 057000 I 2920          STA     CLOP                                                   06 02920
004014 014032 A 2921          LDA     ODS5+1                                                 06 02921
004015 020421 A 2922          LDB     ONE                                                    06 02922
004016 002000 A 2923          CALL    ODS6      OUTPUT REMAINDER OF CONTROL WORD             06 02923
004017 004054 R
004020 014026 A 2924          LDA     ODS5+1                                                 06 02924
004021 006456 A 2925          BT      056,ODS42 NO LOC-CNTR LIST FOR LOADER FUNCTION         06 02925
004022 004041 R
004023 006020 A 2926 ODS4     LDBI    '0 '                                                   06 02926
004024 130240 A
004025 006067 A 2927          STBE    SLOT+2    SET 0-VALUE                                  06 02927
004026 010004 R
004027 005002 A 2928          TZB                                                            06 02928
004030 067000 I 2929          STB     CLOP      POINT TO 1ST WORD OF SLOT                    06 02929
004031 017000 I 2930          LDA     RL                                                     06 02930
004032 001010 A 2931          JAZ     ODS42                                                  06 02931
004033 004041 R
004034 002000 A 2932          CALL    ODS6      OUTPUT PROGRAM LOCATION                      06 02932
004035 004054 R
004036 010000 L 2933          LDA     =' '                                                   06 02933
004037 002000 A 2934          CALL    SLOP      ROTATE LAST DIGIT                            06 02934
004040 006117 R
004041 006010 A 2935 ODS42    LDAI    12                                                     06 02935
004042 000014 A
004043 057000 I 2936          STA     CLOP      RESET CLOP TO SECOND FIELD                   06 02936
004044 001000 A 2937          JMP*    ODS                                                    06 02937
004045 103736 R
004046 006010 A 2938 ODS5     LDAI    **                                                     06 02938
004047 104046 R
004050 002000 A 2939          CALL    LOCT                                                   06 02939
004051 003506 R
004052 001000 A 2940          JMP*    ODS                                                    06 02940
004053 103736 R
               2941 * OUTPUT 5 OCTAL CHARACTERS                                              06 02941
004054 000000 A 2942 ODS6     ENTRY                                                          06 02942
004055 064012 A 2943          STB     ODS8      LEADING ZERO SUPPRESS FLAG                   06 02943
004056 005012 A 2944          TAB                                                            06 02944
004057 010440 A 2945          LDA     BS15                                                   06 02945
004060 004441 A 2946          LLRL    1         SET END MARK                                 06 02946
004061 014006 A 2947 ODS7     LDA     ODS8                                                   06 02947
004062 004443 A 2948          LLRL    3         GET NEXT OCTAL DIGIT                         06 02948
004063 001020 A 2949          JAZ*    ODS6      EXIT                                         06 02949
004064 104054 R
004065 001010 A 2950          JAZ     ODS9      SUPPRESS LEADING ZEROES                      06 02950
004066 004073 R
004067 006040 A 2951          INRI    **        TURN OFF ZERO-SUPPRESSION                    06 02951
004070 104067 R
       004070 R 2952 ODS8     EQU     *-1                                                    06 02952
004071 150467 A 2953          ANA     SEVEN     GET OCTAL CHARACTER                          06 02953
004072 120425 A 2954          ADD     K20       '0'-' '                                      06 02954
004073 120000 L 2955 ODS9     ADD     =' '                                                   06 02955
004074 002000 A 2956          CALL    SLOP                                                   06 02956
004075 006117 R
004076 001000 A 2957          JMP     ODS7                                                   06 02957
004077 004061 R
               2958          EJECT                                                          06 02958
               2959 ********************************************************************** 06 02959
               2960 *                                                                      * 06 02960
               2961 *                    O U T P U T   N A M E ( O N E N )                 * 06 02961
               2962 *                                                                      * 06 02962
               2963 * FUNCTION: TO OUTPUT A 4-WORD NAME LOAD ITEM                          * 06 02963
               2964 *                                                                      * 06 02964
               2965 * ENTRY: A=LOADER CONTROL WORD(BITS 0-3=0)                             * 06 02965
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                    2966 *          B=NUMERIC VALUE                                                                  * 06 02966
                    2967 *          ID,ID+1,ID+2 HOLD LEFT NORMALIZED NAME INASCII                                   * 06 02967
                    2968 *                                                                                           * 06 02968
                    2969 * EXIT :  4-WORD LOAD ITEM OUTPUT(6-BIT LOADER CODE = ASCII-0240):                           * 06 02969
                    2970 *                                                                                           * 06 02970
                    2971 *          WORD 0: CONTROL WORD AND HIGH 4 BITS OF NAME                                     * 06 02971
                    2972 *          WORD 1: NEXT 16 BITS OF NAME                                                     * 06 02972
                    2973 *          WORD 2: LOWER 16 BITS OF NAME                                                    * 06 02973
                    2974 *          WORD 3: NUMERIC VALUE ASSOCIATED WITH NAME                                       * 06 02974
                    2975 *                                                                                           * 06 02975
                    2976 *          PC SAVED                                                                         * 06 02976
                    2977 *                                                                                           * 06 02977
                    2978 ********************************************************************************************* 06 02978
004100 000000 A 2980 ONEN    ENTRY                                                                                    06 02980
004101 064067 A 2981         STB     ONEV            SAVE NUMERIC VALUE                                               06 02981
004102 054037 A 2982         STA     ONEC            SAVE CONTROL WORD                                                06 02982
004103 005001 A 2983         TZA                                                                                      06 02983
004104 030466 A 2984         LDX     SIX                                                                              06 02984
004105 006055 A 2985 ONE0    STAE    ONEX,X          CLEAR CHARACTERS                                                 06 02985
004106 004224 R
004107 005344 A 2986         DXR                                                                                      06 02986
004110 001046 A 2987         JXNZ    ONE0                                                                             06 02987
004111 004105 R
004112 006010 A 2988         LDAI    ONEX+6                                                                           06 02988
004113 004232 R
004114 054107 A 2989         STA     ONEX                                                                             06 02989
004115 030464 A 2990         LDX     THREE                                                                            06 02990
004116 005344 A 2991 ONE1    DXR             LOOP TO FORM RIGHT-NORMALIZED NAME                                       06 02991
004117 006025 A 2992         LDBE    ID,X                                                                             06 02992
004120 010237 R
004121 005001 A 2993 ONE2    TZA                                                                                      06 02993
004122 004470 A 2994         LLRL    24                                                                               06 02994
004123 004350 A 2995         LSRA    8                                                                                06 02995
004124 140000 L 2996         SUB     =' '                                                                             06 02996
004125 001010 A 2997         JAZ     ONE3            PASS TRAILING BLANKS                                             06 02997
004126 004133 R
004127 057000 I 2998         STA*    ONEX                                                                             06 02998
004130 014073 A 2999         LDA     ONEX                                                                             06 02999
004131 005311 A 3000         DAR                                                                                      06 03000
004132 054071 A 3001         STA     ONEX                                                                             06 03001
004133 001026 A 3002 ONE3    JBNZ    ONE2                                                                             06 03002
004134 004121 R
004135 001046 A 3003         JXNZ    ONE1                                                                             06 03003
004136 004116 R
004137 014065 A 3004         LDA     ONEX+1                                                                           06 03004
004140 004342 A 3005         LSRA    2                                                                                06 03005
004141 006120 A 3006         ADDI    **                                                                               06 03006
004142 104141 R
       004142 R 3007 ONEC    EQU     *-1             CONTROL WORD                                                     06 03007
004143 002000 A 3008         CALL    LDS             WORD-0                                                           06 03008
004144 003736 R
004145 014064 A 3009         LDA     ONEX+6                                                                           06 03009
004146 004546 A 3010         LLSR    6                                                                                06 03010
004147 014061 A 3011         LDA     ONEX+5                                                                           06 03011
004150 004546 A 3012         LLSR    6                                                                                06 03012
004151 014056 A 3013         LDA     ONEX+4                                                                           06 03013
004152 004544 A 3014         LLSR    4                                                                                06 03014
004153 064050 A 3015         STB     ONEX                                                                             06 03015
004154 004542 A 3016         LLSR    2                                                                                06 03016
004155 014051 A 3017         LDA     ONEX+3                                                                           06 03017
004156 004546 A 3018         LLSR    6                                                                                06 03018
004157 014046 A 3019         LDA     ONEX+2                                                                           06 03019
004160 004546 A 3020         LLSR    6                                                                                06 03020
004161 014043 A 3021         LDA     ONEX+1                                                                           06 03021
004162 004456 A 3022         LLRL    14                                                                               06 03022
004163 002000 A 3023         CALL    LDS             WORD-1                                                           06 03023
004164 003736 R
004165 014036 A 3024         LDA     ONEX                                                                             06 03024
004166 002000 A 3025         CALL    LDS             WORD-3                                                           06 03025
004167 003736 R
004170 006010 A 3026         LDAI    **                                                                               06 03026
004171 104170 R
       004171 R 3027 ONEV    EQU     *-1                                                                              06 03027
004172 002000 A 3028         CALL    LDS             VALUE                                                            06 03028
004173 003736 R
004174 017000 I 3029         LDA     $PCW                                                                             06 03029
004175 006443 A 3030         BT      043,ONE4        NO LIST OUTPUT                                                   06 03030
004176 004220 R
004177 010000 L 3031         LDA     =' '                                                                             06 03031
004200 002000 A 3032         CALL    SLOP                                                                             06 03032
004201 006117 R
004202 006020 A 3033         LDXI    SLOT+17                                                                          06 03033
004203 010023 R
004204 017000 I 3034         LDA     ID              TRANSFER ALPHA NAME                                              06 03034
004205 056000 A 3035         STA     0,B                                                                              06 03035
004206 017000 I 3036         LDA     ID+1                                                                             06 03036
004207 056001 A 3037         STA     1,B                                                                              06 03037
004210 017000 I 3038         LDA     ID+2                                                                             06 03038
004211 056002 A 3039         STA     2,B                                                                              06 03039
004212 006030 A 3040         LDXI    29                                                                               06 03040
004213 000035 A
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004214 006020 A 3041          LDBI    SLOT-9                                  06 03041
004215 007771 R
004216 002000 A 3042          CALL    LIST                                    06 03042
004217 003406 R
004220 002000 A 3043 ONE4     CALL    ILB                                     06 03043
004221 001642 R
004222 001000 A 3044          JMP*    ONEN                                    06 03044
004223 104100 R
004224          3045 ONEX     BSS     7                                       06 03045
                3046          EJECT                                           06 03046
                3047 ********************************************************** 06 03047
                3048 *                                                        * 06 03048
                3049 *                  O U T P U T   A S C I I ( O P K )     * 06 03049
                3050 *                                                        * 06 03050
                3051 * FUNCTION: OPK OUTPUTS ASCII CHARS, 2/WORD, TO THE OBJECT TEXT * 06 03051
                3052 *            STREAM.                                     * 06 03052
                3053 *                                                        * 06 03053
                3054 * ENTRY:  TC=OUTPUT CHAR IN FORTRAN 6-BIT CODE           * 06 03054
                3055 *         OPW=PREVIOUS CHAR OR ZERO, ON.ALTERNATE ENTRIES * 06 03055
                3056 *                                                        * 06 03056
                3057 * EXIT :  IF OPW=ASCII CHAR AT ENTRY: WORD (OPW,TC) OUTPUT TO BO * 06 03057
                3058 *                                     OPW=0              * 06 03058
                3059 *          OTHERWISE, OPW=TC(ASCII)                      * 06 03059
                3060 *                                                        * 06 03060
                3061 ********************************************************** 06 03061
004233 000000 A 3063 OPK      ENTRY                                           06 03063
004234 017000 I 3064          LDA     TC              GET FORTRAN CHAR        06 03064
004235 004550 A 3065          LLSR    8                                       06 03065
004236 017000 I 3066          LDA     OPW                                     06 03066
004237 004450 A 3067          LLRL    8                                       06 03067
004240 001002 A 3068          JAP     OPK1            ONLY ONE CHARACTER PRESENT 06 03068
004241 004245 R
004242 002000 A 3069          CALL    OAB             OUTPUT 2 ASCII CHARS    06 03069
004243 003716 R
004244 005001 A 3070          TZA                     CLEAR OPW               06 03070
004245 057000 I 3071 OPK1     STA     OPW             STORE CHAR IN OPW IF ONLY ONE 06 03071
004246 001000 A 3072          JMP*    OPK             EXIT                    06 03072
004247 104233 R
                3073          EJECT                                           06 03073
                3074 ********************************************************** 06 03074
                3075 *                                                        * 06 03075
                3076 *          O U T P U T   R E L A T I V E   W O R D ( O R E ) * 06 03076
                3077 *                                                        * 06 03077
                3078 * FUNCTION: TO OUTPUT A RELATIVE LOAD ITEM               * 06 03078
                3079 *                                                        * 06 03079
                3080 * ENTRY:  A=RELATIVE ADDRESS                             * 06 03080
                3081 *                                                        * 06 03081
                3082 * EXIT :  A 2-WORD LOAD ITEM IS OUTPUT:                  * 06 03082
                3083 *                                                        * 06 03083
                3084 *          WORD 1: 040000  CODE=2(RELATIVE)              * 06 03084
                3085 *                          POINTER=0(PROGRAM REGION)     * 06 03085
                3086 *                                                        * 06 03086
                3087 *          WORD 2: RELATIVE ADDRESS                      * 06 03087
                3088 *                                                        * 06 03088
                3089 ********************************************************** 06 03089
004250 000000 A 3091 ORE      ENTRY                                           06 03091
004251 005012 A 3092          TAB                     RELATIVE WORD TO B      06 03092
004252 010437 A 3093          LDA     BS14            LOADER CONTROL WORD TO A 06 03093
004253 002000 A 3094          CALL    OWD             OUTPUT 2-WORD LOAD ITEM TO BO DEVICE 06 03094
004254 004675 R
004255 001000 A 3095          JMP*    ORE             EXIT                    06 03095
004256 104250 R
                3096          EJECT                                           06 03096
                3097 ********************************************************** 06 03097
                3098 *                                                        * 06 03098
                3099 *          O U T P U T   S T R I N G   R E L A T I V E ( O S R ) * 06 03099
                3100 *                                                        * 06 03100
                3101 * FUNCTION: TO OUTPUT A LOAD ITEM DIRECTING THAT THE CURRENT CONTENTS * 06 03101
                3102 *            OF THE LOCATION COUNTER REPLACE ALL MEMBERS OF A CHAIN. * 06 03102
                3103 *                                                        * 06 03103
                3104 * ENTRY:  A=ADDRESS(PROGRAM RELATIVE) OF FIRST LINK OF CHAIN.THIS IS * 06 03104
                3105 *            ASSUMED TO REFER TO THE FIRST WORD OF A 2-WORD INSTRUCTION, * 06 03105
                3106 *            SO OSR ACTUALLY CHAINS THROUGH A+1.         * 06 03106
                3107 *                                                        * 06 03107
                3108 * EXIT :  2-WORD LOAD ITEM OUTPUT:                       * 06 03108
                3109 *                                                        * 06 03109
                3110 *                WORD 1: 002000  SUBCODE=2(CHAIN)        * 06 03110
                3111 *                                POINTER=0(PROGRAM)      * 06 03111
                3112 *                                                        * 06 03112
                3113 *                WORD 2: A+1     PROGRAM RELATIVE ADDRESS OF FIRST LINK * 06 03113
                3114 *                                                        * 06 03114
                3115 *          AT LOAD TIME, ALL LINKS OF THE CHAIN WILL BE REPLACED BY * 06 03115
                3116 *          THE CONTENTS OF THE LOAD LOCATION COUNTER, UNTIL A ZERO LINK * 06 03116
                3117 *          IS REACHED.                                   * 06 03117
                3118 *                                                        * 06 03118
                3119 ********************************************************** 06 03119
004257 000000 A 3121 OSR      ENTRY                                           06 03121
004260 005112 A 3122          INCR.   012             CHAIN START ADDRESS A+1 TO B 06 03122
004261 014000 A 3123          LDA     *+1             LOAD A WITH LOADER CONTROL WORD 06 03123
004262 002000 A 3124          CALL    OWS             OUTPUT CHAIN LOAD ITEM  06 03124
004263 004703 R
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004264 001000 A 3125          JMP*    DSR                                                    06 03125
004265 104257 R
               3126          OJECT                                                          06 03126
               3127 ********************************************************************** 06 03127
               3128 *                                                                      * 06 03128
               3129 *                  O U T P U T   J U M P   0 ( O T J )                  * 06 03129
               3130 *                                                                      * 06 03130
               3131 * FUNCTION: TO OUTPUT 'JMP 0' TO THE OBJECT TEXT STREAM               * 06 03131
               3132 *                                                                      * 06 03132
               3133 * ENTRY: NO SPECIAL CONDITIONS                                        * 06 03133
               3134 *                                                                      * 06 03134
               3135 * EXIT : 'JMP 0' OUTPUT                                               * 06 03135
               3136 *                                                                      * 06 03136
               3137 ********************************************************************** 06 03137
004266 000000 A 3139 OTJ     ENTRY                                                          06 03139
004267 010432 A 3140          LDA     KJMP            LOAD 'JMP'                             03140
004270 057000 I 3141          STA     XRPT                                                   03141
004271 002000 A 3142          CALL    CAD             OUTPUT 'JMP'                           03142
004272 003716 R
004273 005001 A 3143          TZA                                                            03143
004274 002000 A 3144          CALL    DAP             OUTPUT 0                               03144
004275 003716 R
004276 001000 A 3145          JMP*    OTJ             EXIT                                   03145
004277 104266 R
               3146          EJEC                                                           03146
               3147 *        OUT     OUTPUT OPERATOR AND POINTER                            03147
004300 017000 I 3149 OUT7    LDA     XT                                                     03149
004301 140467 A 3150          SUB     =EVEN                                                  03150
004302 001004 A 3151          JAN     OUTE                                                   03151
004303 004306 R
004304 010440 A 3152          LDA     BS15            DUMMY, FORCE IND. BIT                  03152
004305 001006 A 3153          DATA    01006                                                  03153
004306 017000 I 3154 OUTE    LDA     AS+1                                                   03154
004307 117000 I 3155          ORA     AF                                                     03155
004310 004460 A 3156          ELRL    $BIT            A==B                                   03156
004311 004244 A 3157          ERLA    1                                                      03157
004312 120437 A 3158          ADD     BS14                                                   03158
004313 002000 A 3159          JMPM    OWD             OUTPUT WORD                            03159
004314 004675 R
004315 005301 A 3160 OUTDEC  DECR    1               (A):-1                                 03160
004316 057000 I 3161          STA     XRPT                                                   03161
004317 001000 A 3162          JMP                                                            03162
004320 000000 A
               004320 R 3163 OUT     EQU     *-1                                            03163
004321 057000 I 3164          STA     AS+1                                                   03164
004322 006150 A 3165          ANAI    0177377         REMOVE INDIRECT BIT                    03165
004323 177377 A
004324 057000 I 3166          STA     AS                                                     03166
004325 137000 I 3167          LDA     AS+1                                                   03167
004326 004247 A 3168          LRLA    7                                                      03168
004327 057000 I 3169          STA     AS+1            IND. FLAG                              03169
004330 002000 A 3170          JMPM    LAX             LOAD ASSIGN                            03170
004331 003165 R
004332 017000 I 3171          LDA     IU                                                     03171
004333 140464 A 3172          SUB     =AREE                                                  03172
004334 001010 A 3173          JAZ     OUT5            SUBR. CALL                             03173
004335 004514 R
004336 017000 I 3174          LDA     IM                                                     03174
004337 140422 A 3175          SUB     K2                                                     03175
004340 001004 A 3176          JAN     OUT5                                                   03176
004341 004514 R
004342 017000 I 3177 OUTB    LDA     XT                                                     03177
004343 140420 A 3178          SUB     K2                                                     03178
004344 001010 A 3179          JAZ     *+10            STRING BASE                            03179
004345 004545 R
004346 005102 A 3180          INCR    2               (B):1                                  03180
004347 140434 A 3181          SUB     =AREE                                                  03181
004350 001010 A 3182          JAZ     OUT1            DATA POOL                              03182
004351 004357 R
004352 027000 I 3183          LTJ     IL                                                 V   03183
004353 003311 A 3184 KDAR    DAR                                                            03184
004354 001010 A 3185          JAZ     OUT1            COMMON                                 03185
004355 004357 R
004356 005002 A 3186          TZB                                                            03186
004357 017000 I 3187 OUT1    LDA     BS                                                     03187
004360 001010 A 3188          JAZ     OUT7            DATA WORD                              03188
004361 004303 R
004362 006150 A 3189          ANAI    07000                                                  03189
004363 007000 A
004364 001010 A 3190          JAZ     OUT8            DUMMY FORCE                            03190
004365 004556 R
004366 005304 A 3191 OUT2    DECR    4               (X):-1                                 03191
004367 017000 I 3192          LDA     AF              FIND POINTER                           03192
004370 005144 A 3193 KIXR    IXR                                                            03193
004371 140432 A 3194          SUB     KJMP            (512)                                  03194
004372 001002 A 3195          JAP     *+2                                                    03195
004373 004376 R
004374 120432 A 3196          ADD     KJMP            (512)                                  03196
004375 057000 I 3197          STA     AF              RESIDUAL                               03197
004376 005041 A 3198          TXA                                                            03198
004377 147000 I 3199          SUB     XRPT+1                                                 03199
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004400 001010 A 3200          JAZ     OUT9          MATCHED SIZE                    06 03200
004401 004566 R
004402 077000 I 3201          STX     XRPT+1                                        06 03201
004403 067000 I 3202          STB     XRPT                                          06 03202
004404 006010 A 3203 OUT3     LDAI    06030                                         06 03203
004405 006030 A
004406 002000 A 3204          CALL    OAB           OUTPUT 'LDXI'                   06 03204
004407 003716 R
004410 017000 I 3205          LDA     AT                                            06 03205
004411 140465 A 3206          SUB     FIVE                                          06 03206
004412 001016 A 3207          JANZ    OUTG          POSTPROGRAM ?                   06 03207
004413 004470 R
004414 017000 I 3208          LDA     I             YES                             06 03208
004415 054234 A 3209          STA     OUTI                                          06 03209
004416 017000 I 3210          LDA     AF                                            06 03210
004417 054231 A 3211          STA     OUTAF         SAVE PARAMS                     06 03211
004420 005001 A 3212          TZA                                                   06 03212
004421 057000 I 3213          STA     NT                                            06 03213
004422 057000 I 3214          STA     IM                                            06 03214
004423 017000 I 3215          LDA     XRPT+1                                        06 03215
004424 002000 A 3216          CALL    CBA                                           06 03216
004425 000206 R
004426 057000 I 3217          STA     ID+1                                          06 03217
004427 006010 A 3218          LDAI    '>D'                                          06 03213
004430 124704 A
004431 057000 I 3219          STA     ID                                            06 03219
004432 010465 A 3220          LDA     FIVE                                          06 03220
004433 057000 I 3221          STA     EL                                            06 03221
004434 002000 A 3222          CALL    ASI           GET POSTPROG CHAIN HEAD         06 03222
004435 000000 R
004436 017000 I 3223          LDA     AT                                            06 03223
004437 140422 A 3224          SUB     TWO                                           06 03224
004440 001010 A 3225          JAZ     OUTH                                          06 03225
004441 004447 R
004442 017000 I 3226          LDA     AF                                            06 03226
004443 002000 A 3227          CALL    ORE           OUTPUT CHAIN                    06 03227
004444 004250 R
004445 001000 A 3228          JMP     OUTJ                                          06 03228
004446 004453 R
004447 002000 A 3229 OUTH     CALL    OAB           'DATA  0' FOR CHAIN END         06 03229
004450 003716 R
004451 010421 A 3230          LDA     ONE                                           06 03230
004452 057000 I 3231          STA     AT                                            06 03231
004453 017000 I 3232 OUTJ     LDA     RL                                            06 03232
004454 005311 A 3233          DAR                                                   06 03233
004455 057000 I 3234          STA     AF                                            06 03234
004456 002000 A 3235          CALL    SAX           RESTORE CHAIN ENTRY             06 03235
004457 005134 R
004460 014171 A 3236          LDA     OUTI                                          06 03236
004461 057000 I 3237          STA     I             RESTORE I                       06 03237
004462 002000 A 3238          CALL    LAM           RESTORE ENTRY                   06 03238
004463 003165 R
004464 014164 A 3239          LDA     OUTAF                                         06 03239
004465 057000 I 3240          STA     AF            RESTORE AF                      06 03240
004466 001000 A 3241          JMP     OUTF-1                                        06 03241
004467 004477 R
004470 017000 I 3242 OUTG     LDA     XRPT                                          06 03242
004471 004244 A 3243          LRLA    4                                             06 03243
004472 110437 A 3244          ORA     8314                                          06 03244
004473 027000 I 3245          LDB     XRPT+1                                        06 03245
004474 004051 A 3246          LRLB    9                                             06 03246
004475 002000 A 3247          CALL    OWD           OUTPUT ADDRESS                  06 03247
004476 004675 R
004477 017000 I 3248          LDA     AT                                            06 03249
004500 140467 A 3249 OUTF     SUB     SEVEN                                         06 03249
004501 001010 A 3250          JAZ     OUTA          DUMMY                           06 03250
004502 004636 R
004503 017000 I 3251          LDA     AS+1                                          06 03251
004504 001004 A 3252          JAN     OUTA          INDIRECT                        06 03252
004505 004636 R
004506 017000 I 3253 OUT4     LDA     AS                                            06 03253
004507 127000 I 3254          ADD     AF                                            06 03254
004510 002000 A 3255          JMPM    OAB           OUTPUT ABSOLUTE                 06 03255
004511 003716 R
004512 001000 A 3256          JMP*    OUT                                           06 03256
004513 104320 R
004514 017000 I 3257 OUT5     LDA     AT                                            06 03257
004515 140422 A 3258          SUB     K2                                            06 03258
004516 001010 A 3259          JAZ     OUTC                                          06 03259
004517 004541 R
004520 140465 A 3260          SUB     FIVE                                          06 03260
004521 001010 A 3261          JAZ     OUTB                                          06 03261
004522 004342 R
004523 017000 I 3262          LDA     AF                                            06 03262
004524 002000 A 3263          JMPM    ORE           OUTPUT RELATIVE                 06 03263
004525 004250 R
004526 017000 I 3264          LDA     AT                                            06 03264
004527 005311 A 3265          DAR                                                   06 03265
004530 001010 A 3266          JAZ*    OUT                                           06 03266
004531 104320 R
004532 017000 I 3267 OUTD     LDA     RL                                            06 03267
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004533 005311 A 3266          DAR                                                    06 03268
004534 020464 A 3269          LDB     THREE                                          06 03269
004535 002000 A 3270          JMPM    DFT       DEFINE AF,AT                         06 03270
004536 000274 R
004537 001000 A 3271          JMP*    OUT                                            06 03271
004540 104320 R
004541 002000 A 3272 OUT6     JMPM    OAB       OUTPUT ABSOLUTE 0                    06 03272
004542 003716 R
004543 001000 A 3273          JMP     OUTD                                           06 03273
004544 004532 R
004545 017000 I 3274 OUTC     LDA     RL+1      MAKE DATA ADDR                       06 03274
004546 020465 A 3275          LDB     FIVE                                           06 03275
004547 002000 A 3276          JMPM    DFT       DEFINE AF,A1                         06 03276
004550 000270 R
004551 127000 I 3277          ADD     IS        INCREMENT RL1 BY IS                  06 03277
004552 057000 I 3278          STA     RL+1      V                                    06 03278
004553 005102 A 3279          INCR    2         (B):1                                06 03279
004554 001000 A 3280          JMP     OUT1                                           06 03280
004555 004357 R
004556 005101 A 3281 OUT8     INCR    1         (A):1                                06 03281
004557 057000 I 3282          STA     AT        MAKE REL.                            06 03282
004560 017000 I 3283          LDA     AS                                             06 03283
004561 006120 A 3284          ADDI    05000     MAKE B MOD.                          06 03284
004562 005000 A
004563 057000 I 3285          STA     AS                                             06 03285
004564 001000 A 3286          JMP     OUT2                                           06 03286
004565 004366 R
004566 005021 A 3287 OUT9     TBA                                                    06 03287
004567 147000 I 3288          SUB     XRPT                                           06 03288
004570 001010 A 3289          JAZ     OUTF-1    (X) AT OBJECT O.K.                   06 03289
004571 004477 R
004572 017000 I 3290          LDA     IM                                       FF 05 03290
004573 140422 A 3291          SUB     TWO                                      FF 04 03291
004574 001016 A 3292          JANZ    OUT9B     INTEGER ?                      FF 06 03292
004575 004633 R
004576 017000 I 3293          LDA     NT        YES                            FF 06 03293
004577 001010 A 3294          JAZ     OUT9B     CONSTANT ?                     FF 06 03294
004600 004633 R
004601 005021 A 3295          TBA               YES                            FF 06 03295
004602 004354 A 3296          LSRA    12                                       FF 06 03296
004603 140465 A 3297          SUB     FIVE                                     FF 06 03297
004604 001010 A 3298          JAZ     OUT9B     IGNORE STORE                   FF 06 03298
004605 004633 R
004606 054042 A 3299          STB     OUTAF     SAVE B                         FF 06 03299
004607 006030 A 3300          LDXI    NT                                       FF 06 03300
004610 000420 A
004611 017000 I 3301 OUT9L    LDA     ID                                             06 03301
004612 145000 A 3302          SUB     0,X       SEARCH LOW CORE CONSTANTS      FF 06 03302
004613 001016 A 3303          JANZ    OUT9A     FIND ?                         FF 04 03303
004614 004625 R
004615 017000 I 3304          LDA     03        YES                            FF 06 03304
004616 006150 A 3305          ANDI    0170000                                  FF 16 03305
004617 170000 A
004620 005051 A 3306          MERG    A51       CONSTRUCT DIRECT REF           FF 06 03306
004621 002000 A 3307          CALL    OAB                                      FF 06 03307
004622 003716 R
004623 001000 A 3308          JMP*    OUT                                      FF 06 03308
004624 104320 R
004625 005145 A 3309 OUT9A    INCR    045                                      FF 06 03309
004626 006140 A 3310          SUBI    NTE                                      FF 16 03310
004627 000500 A
004630 001004 A 3311          JAN     OUT9L                                    FF 04 03311
004631 004611 R
004632 024016 A 3312          LDB     OUTAF     RESTORE B                      FF 16 03312
004633 067000 I 3313 OUT9B    STD     XRPT                                     FF 16 03313
004634 001000 A 3314          JMP     OUT3                                           06 03314
004635 004404 R
004636 006010 A 3315 OUTA     LDAI    035000                                         06 03315
004637 035000 A
004640 127000 I 3316          ADD     AF                                             06 03316
004641 002000 A 3317          JMPM    OAB       OUTPUT ABSOLUTE                      06 03317
004642 003716 R
004643 005001 A 3318          TZA                                                    06 03318
004644 057000 I 3319          STA     AF                                             06 03319
004645 005301 A 3320          DECR    1         (A):-1                               06 03320
004646 057000 I 3321          STA     XRPT                                           06 03321
004647 001000 A 3322          JMP     OUT4                                           06 03322
004650 004506 R
004651          3323 OUTAF    BSS     1                                              06 03323
004652          3324 OUTI     BSS     1                                              06 03324
                3325          EJECT                                                  06 03325
                3326 ********************************************************************** 06 03326
                3327 *                                                                *  06 03327
                3328 *       O V E R L A Y   C A L L ( O V E R )                      *  06 03328
                3329 *                                                                *  06 03329
                3330 * FUNCTION: TO CALL IN THE NEXT REQUIRED OVERLAY                 *  06 03330
                3331 *                                                                *  06 03331
                3332 * ENTRANCE: (A) = OVERLAY NUMBER                                 *  06 03332
                3333 *                                                                *  06 03333
                3334 ********************************************************************** 06 03334
004653 000000 A 3336 OVER     ENTRY                                                  06 03335
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004654 134017 A 3337          ERA     OVE2                                                    06 03337
004655 001010 A 3338          JAZ*    OVER          CORRECT OVERLAY PRESENT                   06 03338
004656 104653 R
004657 134014 A 3339          ERA     OVE2                                                    06 03339
004660 054013 A 3340          STA     OVE2          NEW OVERLAY VALUE                         06 03340
004661 006120 A 3341          ADDI    'R0'                                                    06 03341
004662 151260 A
004663 054005 A 3342          STA     OVE1          MAKE OVERLAY NAME                         06 03342
               3343           OVLAY   1,'VS','FO','R0'                                       06 03343
004664 006505 A
004665 000406 A
004666 001301 A
004667 153244 A
004670 143317 A
004671 151260 A
       004671 R 3344 OVE1     EQU     *-1                                                     06 03344
004672 001000 A 3345          JMP*    OVER                                                    06 03345
004673 104653 R
004674 177777 A 3346 OVE2     DATA    -1            OVERLAY NUMBER PRESENT                    06 03346
               3347           EJECT                                                           06 03347
               3348 ********************************************************************** 06 03348
               3349 *                                                                      * 06 03349
               3350 *              O U T P U T   M E M O R Y   W O R D ( O W D )           * 06 03350
               3351 *                                                                      * 06 03351
               3352 * FUNCTION: TO OUTPUT THE TWO WORDS OF OBJECT TEXT IN REGS AB, WHERE  * 06 03352
               3353 *             THE RESULT WILL LOAD A WORD OF MEMORY AT EXECUTION TIME. * 06 03353
               3354 *                                                                      * 06 03354
               3355 * ENTRY: AB=OUTPUT                                                     * 06 03355
               3356 *                                                                      * 06 03356
               3357 * EXIT : PROGRAM LOCATION COUNTER RL INCREMENTED                       * 06 03357
               3358 *         OWS CALLED TO OUTPUT AB                                      * 06 03358
               3359 *                                                                      * 06 03359
               3360 ********************************************************************** 06 03360
004675 000000 A 3362 OWD      ENTRY                                                           06 03362
004676 002000 A 3363          CALL    OWS                                                     06 03363
004677 004703 R
004700 047000 I 3364          INR     RL            BUMP LOCATION COUNTER                     06 03364
004701 001000 A 3365          JMP*    OWD           EXIT                                      06 03365
004702 104675 R
               3366           EJECT                                                           06 03366
               3367 ********************************************************************** 06 03367
               3368 *                                                                      * 06 03368
               3369 *                        O U T P U T   A B ( O W S )                   * 06 03369
               3370 *                                                                      * 06 03370
               3371 * FUNCTION: TO OUTPUT TWO WORDS OF OBJECT TEXT                         * 06 03371
               3372 *                                                                      * 06 03372
               3373 * ENTRY: AB=OBJECT OUTPUT                                             * 06 03373
               3374 *                                                                      * 06 03374
               3375 * EXIT : OBJECT LINE LISTED ON LO DEVICE IF 'O' PARAMETER PRESENT      * 06 03375
               3376 *         ON '/FORTRAN' DIRECTIVE                                      * 06 03376
               3377 *                                                                      * 06 03377
               3378 ********************************************************************** 06 03378
004703 000000 A 3380 OWS      ENTRY                                                           06 03380
004704 064003 A 3381          STB     OWSB          SAVE WORD 2                               06 03381
004705 002000 A 3382          CALL    OBS           OUTPUT WORD 1                             06 03382
004706 003736 R
004707 006010 A 3383          LDAI    0             LOAD WORD 2                               06 03383
004710 000000 A
004710         3384 OWSB      BES     0                                                       06 03384
004711 002000 A 3385          CALL    OBS           OUTPUT WORD 2                             06 03385
004712 003736 R
004713 002000 A 3386          CALL    SLIT          TERMINATE OCTAL LIST LINE                 06 03386
004714 006075 R
004715 004254 A 3387          LRLA    $BIT-4        GET $PCW BIT 3 IN SIGN POSITION OF A      06 03387
004716 001002 A 3388          JAP     OWS1          'O' PARAMETER ABSENT                      06 03388
004717 004723 R
004720 017000 I 3389          LDA     TERF                                                    06 03389
004721 002010 A 3390          JAZM    LIST          OCTAL LINE IF NO TERMINATING ERRORS       06 03390
004722 003406 R
004723 002000 A 3391 OWS1     CALL    ILB                                                     06 03391
004724 001642 R
004725 001000 A 3392          JMP*    OWS           EXIT                                      06 03392
004726 104703 R
               3393           EJECT                                                           06 03393
               3394 ********************************************************************** 06 03394
               3395 *                                                                      * 06 03395
               3396 *          P A C K   C H A R A C T E R   S T R I N G ( P C K )          * 06 03396
               3397 *                                                                      * 06 03397
               3398 * FUNCTION:  TO PACK A CHARACTER INTO THE LOW ORDER OF A 3-WORD BLOCK  * 06 03398
               3399 *                                                                      * 06 03399
               3400 * ENTRY: X POINTS TO FIRST WORD OF BLOCK                              * 06 03400
               3401 *         PC HOLDS CHAR COUNTER                                        * 06 03401
               3402 *         TC HOLDS CHAR TO BE PACKED                                   * 06 03402
               3403 *                                                                      * 06 03403
               3404 * EXIT : BLOCK SHIFTED LEFT 1 CHAR, TC SHIFTED IN AT RIGHT END        * 06 03404
               3405 *         A=PC=PC-1                                                    * 06 03405
               3406 *                                                                      * 06 03406
               3407 ********************************************************************** 06 03407
004727 000000 A 3409 PCK      ENTRY                                                           06 03409
004730 015000 A 3410          LDA     0,X                                                     06 03410
004731 025001 A 3411          LDB     1,X                                                     06 03411
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004732 004450 A 3412          LLRL    8
004733 055000 A 3413          STA     0,X             WORD-1
004734 004150 A 3414          LSRB    8
004735 015002 A 3415          LDA     2,X
004736 004450 A 3416          LLRL    8
004737 065001 A 3417          STB     1,X             WORD-2
004740 117000 I 3418          ORA     TC              MERGE IN NEW CHAR
004741 055002 A 3419          STA     2,X             RESTORE THIRD WORD
004742 017000 I 3420          LDA     PC
004743 005311 A 3421          DAR                     DECREMENT CHAR COUNTER PC
004744 057000 I 3422          STA     PC
004745 001000 A 3423          JMP*    PCK
004746 104727 R

                3424          EJECT
                3425 ***********************************************************************
                3426 *                                                                     *
                3427 *                P A C K   D A T A   S U B - F I E L D ( P D S )      *
                3428 *                                                                     *
                3429 * FUNCTION: TO OUTPUT AN OBJECT WORD                                  *
                3430 *                                                                     *
                3431 * ENTRY: OBJECT WORD IN A                                             *
                3432 *        OBUF+1 POINTS TO LAST OUTPUT WORD IN OBJECT BUFFER OBUF      *
                3433 *        TERF HOLDS COUNT OF TERMINATING ERRORS                       *
                3434 *                                                                     *
                3435 * EXIT : BUFFER OBUF IS OUTPUT IF FULL AT ENTRY TO PDS.              *
                3436 *        OBJECT WORD STORED IN OBUF AT NEXT CONSECUTIVE AVAILABLE      *
                3437 *         LOCATION.                                                   *
                3438 *        OBUF+1 POINTS AT OBJECT WORD IN OBUF                         *
                3439 *                                                                     *
                3440 ***********************************************************************
004747 000000 A 3442 PDS       ENTRY
004750 054012 A 3443           STA     PDS10           SAVE OBJECT WORD
                3444 ***************************************************
                3445 * NO OBJECT OUTPUT IF A TERMINATING ERROR HAS OCCURRED *
                3446 ***************************************************
004751 017000 I 3447           LDA     TERF            GET TERMINATING ERROR FLAG TERF
004752 001016 A 3448           JANZ*   PDS             NO OUTPUT IF TERMINATING ERROR OCCURRED
004753 104747 R
                3449 ***************************************************
                3450 * WRITE AN OBJECT RECORD IF BUFFER FULL *
                3451 ***************************************************
004754 037000 I 3452           LDX     OBUF+1          POINT X AT LAST DATA WORD IN BUFFER
004755 005145 A 3453           INCR    0,5             BUMP POINTER X
004756 006140 A 3454           SUBI    OBUF+60         END OF BUFFER ?
004757 021142 R
004760 002010 A 3455           JAZM    WROT            IF YES, OUTPUT OBJECT BUFFER
004761 007510 R
                3456 ***************************************************
                3457 * STORE OBJECT WORD IN OBJECT BUFFER OBUF *
                3458 ***************************************************
004762 006010 A 3459           LDAI    0               RELOAD OBJECT WORD
004763 000000 A
004763                         SES     0               SAVE OBJECT WORD
004764 055000 A 3461           STA     0,X             STORE IN OBJECT BUFFER
004765 077000 I 3462           STX     OBUF+1          STORE POINTER TO LAST DATA WORD IN OBUF+1
004766 001000 A 3463           JMP*    PDS             EXIT
004767 104747 R

                3464           EJECT
                3465 ***********************************************************************
                3466 *                                                                     *
                3467 *                P A C K   E R R O R   B U F F E R ( P E B )          *
                3468 *                                                                     *
                3469 * FUNCTION: TO  MAINTAIN AN ASCII SUBSTRING OF THE MOST RECENT        *
                3470 *           CHARACTERS INPUT FROM THE SOURCE RECORD. THIS SUBSTRING,   *
                3471 *           THE 12-CHARACTER BUFFER ERBF, IS OUTPUT WITH ERROR        *
                3472 *           MESSAGES TO AID IN ISOLATING THE ERROR.                   *
                3473 *                                                                     *
                3474 * ENTRY: LAST SOURCE CHARACTER IN TC                                  *
                3475 *                                                                     *
                3476 * EXIT : (A) = TC                                                     *
                3477 *        12-CHAR STRING ERBF SHIFTED 1 CHAR LEFT, TC(ASCII) SHIFTED   *
                3478 *        INTO RIGHT BYTE.                                             *
                3479 *                                                                     *
                3480 ***********************************************************************
004770 000000 A 3482 PEB       ENTRY
004771 017000 I 3483           LDA     TC
004772 004550 A 3484           LLSR    8
004773 006067 A 3485           STBE    ERBF+6
004774 007750 R
004775 006030 A 3486           LDX1    ERBF
004776 007742 R
004777 015000 A 3487 PEB10     LDA     0,X             SHIFT STRING LEFT ONE CHARACTER
005000 025001 A 3488           LDB     1,X
005001 004450 A 3489           LLRL    8
005002 055000 A 3490           STA     0,X             RESTORE SHIFTED WORD
005003 005145 A 3491           INCR    0,5             BUMP STRING POINTER
005004 006140 A 3492           SUBI    ERBF+6          CHECK FINISH
005005 007750 R
005006 001004 A 3493           JAN     PEB10           LOOP BACK UNTIL FINISHED
005007 004777 R
005010 017000 I 3494           LDA     TC              EXIT WITH TC IN A
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005011 001000 A 3495          JMP*    PEB                                                    06 03495
005012 104770 R
               3496           EJECT                                                          06 03496
               3497 ************************************************************************06 03497
               3498 *                                                                      *06 03498
               3499 *          P U R G E  T R I A D S ( P T R )                            *06 03499
               3500 *                                                                      *06 03500
               3501 * FUNCTION: TO OUTPUT ALL TRIADS IN THE TRIAD TABLE                     *06 03501
               3502 *                                                                      *06 03502
               3503 * ENTRY: NO SPECIAL CONDITION                                          *06 03503
               3504 *                                                                      *06 03504
               3505 * EXIT: NO SPECIAL CONDITION                                           *06 03505
               3506 *                                                                      *06 03506
               3507 ************************************************************************06 03507
005013 000000 A 3508 PTR      ENTRY                                                          06 03508
005014 017000 I 3509          LDA     IT              ASSIGNMENT LIMIT                       06 03509
005015 147000 I 3510          SUB     JT              TRIAD BASE                             06 03510
005016 001010 A 3511          JAZ     PTR1                                                   06 03511
005017 005027 R
005020 017000 I 3512          LDA     SPFL                                                   06 03512
005021 001010 A 3513          JAZ     PTR1            NO OUTPUT BEFORE SPECIFICATION ASSIGNMENT 06 03513
005022 005027 R
005023 002000 A 3514          CALL*   OTR                                                    06 03514
005024 110640 R
005025 001000 A 3515          JMP     PTR+1                                                  06 03515
005026 005014 R
005027 017000 I 3516 PTR1     LDA     TSFL                                                   06 03516
005030 150462 A 3517          ANA     LHW                                                    06 03517
005031 057000 I 3518          STA     TSFL            RESET TEMP LOGIC                       06 03518
005032 001000 A 3519          JMP*    PTR                                                    06 03519
005033 105013 R
               3520           EJECT                                                          06 03520
               3521 ************************************************************************06 03521
               3522 *                                                                      *06 03522
               3523 *          L E F T  P A R E N T H E S I S  T E S T ( P T S )            *06 03523
               3524 *                                                                      *06 03524
               3525 * FUNCTION: TO TEST THAT TERMINATOR TC IS '('                          *06 03525
               3526 *                                                                      *06 03526
               3527 * ENTRY: TERMINATOR IN TC                                              *06 03527
               3528 *                                                                      *06 03528
               3529 * EXIT : A=0 IF TC='('                                                *06 03529
               3530 *        OTHERWISE EXIT THROUGH TST AND TER1                           *06 03530
               3531 *                                                                      *06 03531
               3532 ************************************************************************06 03532
005034 000000 A 3534 PTS      ENTRY                                                          06 03534
005035 010000 L 3535          LDA     ='('                                                   06 03535
005036 002000 A 3536          CALL    TST             DOES TC = '(' ?                        06 03536
005037 007465 R
005040 001000 A 3537          JMP*    PTS             YES, RETURN                            06 03537
005041 105034 R
               3538           EJECT                                                          06 03538
               3539 ************************************************************************06 03539
               3540 *                                                                      *06 03540
               3541 *          S A V E / R E S T O R E  S C A N  P A R A M E T E R S       *06 03541
               3542 *                                                                      *06 03542
               3543 *                    ( R C C S , R C C )                               *06 03543
               3544 *                                                                      *06 03544
               3545 * FUNCTION: TO SAVE AND RESTORE SOURCE SCAN PARAMETERS                 *06 03545
               3546 *                                                                      *06 03546
               3547 * ENTRY: RCCS: SAVE ENTRY                                             *06 03547
               3548 *        RCC : RESTORE ENTRY                                           *06 03548
               3549 *                                                                      *06 03549
               3550 * EXIT: RCCS SAVES: INBP: SOURCE BUFFER POINTER                       *06 03550
               3551 *                   ICRR: READ/REREAD SWITCH                          *06 03551
               3552 *                   TC: TERMINATING CHAR                              *06 03552
               3553 *                   TC+1: PREVIOUS TERMINATING CHAR                   *06 03553
               3554 *                   DF: DELIMINTER FLAG                               *06 03554
               3555 *                                                                      *06 03555
               3556 *         RCC: RESTORES ABOVE PARAMETERS                               *06 03556
               3557 *              CLEARS ERBF AND PACKS TC IN IT                          *06 03557
               3558 *              SETS END-OF-LINE SWITCH TO READ NEXT LINE               *06 03558
               3559 *                                                                      *06 03559
               3560 ************************************************************************06 03560
005042 000000 A 3562 RCCS     ENTRY                                                          06 03562
005043 017000 I 3563          LDA     INBP                                                   06 03563
005044 054016 A 3564          STA     RCC1            SAVE SOURCE BUFFER POINTER INBP        06 03564
005045 017000 I 3565          LDA     ICRR                                                   06 03565
005046 054017 A 3566          STA     RCC2            SAVE READ/REREAD SWITCH ICRR           06 03566
005047 017000 I 3567          LDA     TC                                                     06 03567
005050 054020 A 3568          STA     RCC3            SAVE TERMINATING CHAR TC               06 03568
005051 017000 I 3569          LDA     TC+1                                                   06 03569
005052 054023 A 3570          STA     RCC4            SAVE PREVIOUS TERMINATOR TC+1          06 03570
005053 017000 I 3571          LDA     DF                                                     06 03571
005054 054024 A 3572          STA     RCC5            SAVE DELIMITER FLAG                    06 03572
005055 001000 A 3573          JMP*    RCCS                                                   06 03573
005056 105042 R
005057 000000 A 3574 RCC      ENTRY                                                          06 03574
005060 002000 A 3575          CALL    ZEB             BLANK ERROR BUFFER                     06 03575
005061 007722 R
005062 006010 A 3576          LDAI    0                                                      06 03576
005063 000000 A
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005063                  3577 RCC1   BES     0                                                   06 03577
005064 057000  I        3578        STA     INBP    RESTORE SOURCE BUFFER POINTER INBP           06 03578
005065 006010  A        3579        LDAI    0                                                   06 03579
005066 000000  A
005066                  3580 RCC2   BES     0                                                   06 03580
005067 057000  I        3581        STA     ICRR    RESTORE READ/REREAD SWITCH ICRR              06 03581
005070 006010  A        3582        LDAI    0                                                   06 03582
005071 000000  A
005071                  3583 RCC3   BES     0                                                   06 03583
005072 057000  I        3584        STA     TC      RESTORE TERMINATING CHAR TC                  06 03584
005073 002000  A        3585        CALL    PEB     STORE TC IN ERROR BUFFER ERBF                06 03585
005074 004770  R
005075 006010  A        3586        LDAI    0                                                   06 03586
005076 000000  A
005076                  3587 RCC4   BES     0                                                   06 03587
005077 057000  I        3588        STA     TC+1    RESTORE PREVIOUS TERMINATING CHAR TC+1       06 03588
005100 006010  A        3589        LDAI    0                                                   06 03589
005101 000000  A
005101                  3590 RCC5   BES     0                                                   06 03590
005102 057000  I        3591        STA     DF      RESTORE DELIMITER FLAG DF                    06 03591
005103 006010  A        3592        LDAI    ICORNL                                              06 03592
005104 001273  R
005105 057000  I        3593        STA     EOLSW   SET END-OF-LINE SW TO READ NEXT LINE         06 03593
005106 001000  A        3594        JMP*    RCC     EXIT                                        06 03594
005107 105057  R
                        3595        EJECT                                                       06 03595
                        3596 ********************************************************************06 03596
                        3597 *                                                                  * 06 03597
                        3598 *              S E T   R E R E A D   S W I T C H ( R C H )          * 06 03598
                        3599 *                                                                  * 06 03599
                        3600 * FUNCTION: TO SET THE READ/REREAD CHAR SWITCH ICRR TO THE REREAD * 06 03600
                        3601 *             POSITION. THIS SETS THE SCAN BACK 1 CHAR, SO THE LAST* 06 03601
                        3602 *             CHAR WILL BE INPUT AGAIN.                            * 06 03602
                        3603 *                                                                  * 06 03603
                        3604 * ENTRY: NO SPECIAL CONDITIONS                                     * 06 03604
                        3605 *                                                                  * 06 03605
                        3606 * EXIT : ICRR POINTS TO ICRE                                      * 06 03606
                        3607 *          A SAVED                                                 * 06 03607
                        3608 ********************************************************************06 03608
005110 000000  A        3610 RCH    ENTRY                                                       06 03610
005111 006020  A        3611        LDBI    ICRE                                                06 03611
005112 001206  R
005113 067000  I        3612        STB     ICRR    SET SWITCH TO REREAD POSITION               06 03612
005114 001000  A        3613        JMP*    RCH     EXIT                                        06 03613
005115 105110  R
                        3614        EJECT                                                       06 03614
                        3615 ********************************************************************06 03615
                        3616 *                                                                  * 06 03616
                        3617 *            R I G H T   I N P U T   O P E R A T O R ( R I O )     * 06 03617
                        3618 *                                                                  * 06 03618
                        3619 * FUNCTION: TO TERMINATE SCAN OF AN ITEM WHICH ENDS IN ')'        * 06 03619
                        3620 *                                                                  * 06 03620
                        3621 * ENTRY: NO SPECIAL CONDITIONS                                     * 06 03621
                        3622 *                                                                  * 06 03622
                        3623 * EXIT : SCAN PASSES ')' AND CALLS ICH AND FND TO INPUT           * 06 03623
                        3624 *          FOLLOWING OPERATOR.                                     * 06 03624
                        3625 *          CH+1 DECREMENTED BY 020                                 * 06 03625
                        3626 *          A=0                                                     * 06 03626
                        3627 *                                                                  * 06 03627
                        3628 ********************************************************************06 03628
005116 000000  A        3630 RIO    ENTRY                                                       06 03630
005117 010000  L        3631        LDA     =')'                                                06 03631
005120 002000  A        3632        CALL    TST             TERMINATOR MUST BE ')'              06 03632
005121 007465  R
005122 002000  A        3633        CALL    ICH             INPUT FOLLOWING CHAR                06 03633
005123 001214  R
005124 002000  A        3634        CALL    FND             PROCESS OPERATOR                    06 03634
005125 000521  R
005126 017000  I        3635        LDA     CH+1                                                06 03635
005127 140425  A        3636        SUB     =20             DECREMENT HIERARCHY BASE CH+1       06 03636
005130 057000  I        3637        STA     CH+1                                                06 03637
005131 005001  A        3638        TZA                     CLEAR A                             06 03638
005132 001000  A        3639        JMP*    RIO             EXIT                                06 03639
005133 105116  R
                        3640        EJECT                                                       06 03640
                        3641 ********************************************************************06 03641
                        3642 *                                                                  * 06 03642
                        3643 *          S T O R E   A S S I G N M E N T   E N T R Y ( S A X )    * 06 03643
                        3644 *                                                                  * 06 03644
                        3645 * FUNCTION: TO FORMAT, PACK, AND STORE AN ENTRY IN THE ASSIGNMENT * 06 03645
                        3646 *             TABLE.                                               * 06 03646
                        3647 *                                                                  * 06 03647
                        3648 * ENTRY: I POINTS TO ENTRY LOCATION IN ASSIGNMENT TABLE.          * 06 03648
                        3649 *          ENTRY PARAMETERS LOADED: MF,LF(IF IU=2),CL,NI,DT,IN,JU, * 06 03649
                        3650 *                                   ID-1,ID,ID+1.                  * 06 03650
                        3651 *                                                                  * 06 03651
                        3652 * EXIT : I UNCHANGED                                             * 06 03652
                        3653 *                                                                  * 06 03653
                        3654 ********************************************************************06 03654
005134 000000  A        3656 SAX    ENTRY                                                       06 03656
                        3657 ****************                                                  06 03657
```

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                    3658 * PACK WORD 2 *                                                                    06 03658
                    3659 ****************                                                                   06 03659
005135 017000  I    3660          LDA     NT          GET NT                                                06 03660
005136 004243  A    3661          LRLA    3           AT FIELD IS 3 BITS                                    06 03661
005137 117000  I    3662          ORA     AT          GET AT                                                06 03662
005140 004243  A    3663          LRLA    3           IM FIELD IS 3 BITS                                    06 03663
005141 117000  I    3664          ORA     IM          GET IM                                                06 03664
005142 004242  A    3665          LRLA    2           IU FIELD IS 2 BITS                                    06 03665
005143 117000  I    3666          ORA     IU          GET IU                                                06 03666
005144 004247  A    3667          LRLA    7           SHIFT WORD 2 TO POSITION                              06 03667
005145 117000  I    3668          ORA     EL          APPEND ENTRY LENGTH                                   06 03668
005146 027000  I    3669          LDB     I           POINT B AT ITEM IN TABLE                              06 03669
005147 056002  A    3670          STA     2,B         STORE WORD 2                                          06 03670
                    3671 **********************                                                             06 03671
                    3672 * STORE WORDS 1,3,4 *                                                             06 03672
                    3673 **********************                                                             06 03673
005150 017000  I    3674          LDA     CL                                                                06 03674
005151 056001  A    3675          STA     1,B         CL TO WORD 1                                          06 03675
005152 017000  I    3676          LDA     EL                                                                06 03676
005153 140423  A    3677          SUB     FOUR                                                              06 03677
005154 001004  A    3678          JAN     SAX5        3 LENGTH ID                                           06 03678
005155 005202  R
005156 017000  I    3679          LDA     ID                                                                06 03679
005157 056003  A    3680          STA     3,B         ID TO WORD 3                                          06 03680
005160 017000  I    3681          LDA     EL                                                                06 03681
005161 140465  A    3682          SUB     FIVE                                                              06 03682
005162 001004  A    3683          JAN     SAX5        0 OR 1 WORD ID                                        06 03683
005163 005202  R
005164 017000  I    3684          LDA     ID+1                                                              06 03684
005165 056004  A    3685          STA     4,B                                                               06 03685
005166 017000  I    3686          LDA     EL                                                                06 03686
005167 140466  A    3687          SUB     SIX                                                               06 03687
005170 001004  A    3688          JAN     SAX5        2-WORD ID                                             06 03688
005171 005202  R
005172 017000  I    3689          LDA     ID+2                                                              06 03689
005173 056005  A    3690          STA     5,B                                                               06 03690
005174 017000  I    3691          LDA     EL                                                                06 03691
005175 140467  A    3692          SUB     SEVEN                                                             06 03692
005176 001004  A    3693          JAN     SAX5        3-WORD ID                                             06 03693
005177 005202  R
005200 017000  I    3694          LDA     ID+3                                                              06 03694
005201 056006  A    3695          STA     6,B                                                               06 03695
005202 017000  I    3696 SAX5     LDA     IU                                                                06 03696
005203 130422  A    3697          ERA     K2                                                                06 03697
005204 005311  A    3698          DAR                 TEST FOR ARRAY NAME                                   06 03698
005205 001002  A    3699          JAP     SAX10                                                             06 03699
005206 005212  R
                    3700 ************************                                                           06 03700
                    3701 * ITEM IS AN ARRAY NAME *                                                          06 03701
                    3702 ************************                                                           06 03702
005207 017000  I    3703          LDA     LF          GET LF                                                06 03703
005210 056000  A    3704          STA     0,B         STORE IN WORD 0                                       06 03704
005211 005012  A    3705          TAB                 POINT B AT ARRAY HEADER ITEM                          06 03705
005212 017000  I    3706 SAX10    LDA     AF          GET AF                                                06 03706
005213 056000  A    3707          STA     0,B         STORE IN WORD 0(OF HEADER, IF ARRAY NAME)             06 03707
005214 001000  A    3708          JMP*    SAX         EXIT                                                  06 03708
005215 105134  R
                    3709          EJEC                                                                      06 03709
                    3710 *        SDX     STORE DO ENTRIES                                                  06 03710
005216 000000  A    3712 SDX      ENTRY                                                                     06 03712
005217 027000  I    3713          LDB     D                                                                 06 03713
005220 005021  A    3714          TBA                                                                       06 03714
005221 147000  I    3715          SUB     DT                                                                06 03715
005222 001002  A    3716          JAP     SDX1        INSIDE TABLE                                          06 03716
005223 005232  R
005224 005021  A    3717          TBA                                                                       06 03717
005225 147000  I    3718          SUB     JT                                                                06 03718
005226 140464  A    3719          SUB     THREE                                                             06 03719
005227 002004  A    3720          JANM    TOF                                                               06 03720
005230 006710  R
005231 067000  I    3721          STB     DT          NEW TOP                                               06 03721
005232 017000  I    3722 SDX1     LDA     DS          STMT. NMBR                                            06 03722
005233 056000  A    3723          STA     0,2                                                               06 03723
005234 017000  I    3724          LDA     DV          VARIABLE                                              06 03724
005235 056001  A    3725          STA     1,2                                                               06 03725
005236 017000  I    3726          LDA     DH          HIGH                                                  06 03726
005237 056002  A    3727          STA     2,2                                                               06 03727
005240 017000  I    3728          LDA     DI          INCREMENT                                             06 03728
005241 056003  A    3729          STA     3,2                                                               06 03729
005242 017000  I    3730          LDA     DR          RETURN                                                06 03730
005243 056004  A    3731          STA     4,2                                                               06 03731
005244 001000  A    3732          JMP*    SDX                                                               06 03732
005245 105216  R
                    3733          EJECT                                                                     06 03733
                    3734 ********************************************************************************  06 03734
                    3735 *                                                                              *  06 03735
                    3736 *      S T A T E M E N T   I D E N T I F I C A T I O N ( S I D )               *  06 03736
                    3737 *                                                                              *  06 03737
                    3738 * FUNCTION: TO IDENTIFY A STATEMENT BY ITS INITIAL CHARACTERS                  *  06 03738
                    3739 *                                                                              *  06 03739
                    3740 * ENTRY: REPLACEMENT, DO, AND STATEMENT-FUNCTION STATEMENTS HAVE              *  06 03740
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                    3741 *         ALREADY BEEN IDENTIFIED IN (STS)                                    * 06 03741
                    3742 *                                                                             * 06 03742
                    3743 * EXIT: TO STATEMENT PROCESSOR THRU STSW AFTER CALLING FNS                     * 06 03743
                    3744 *                              STSW = PROCESSOR ADDRESS                       * 06 03744
                    3745 *                              MF = MODE (FOR MODE ORIENTED STATEMENTS)       * 06 03745
                    3746 *                              NAME = 1ST TWO CHARACTERS OF I.D.              * 06 03746
                    3747 *                                                                             * 06 03747
                    3748 ***************************************************************************** 06 03748
005246 005001 A     3750 SID     TZA                                                                     06 03750
005247 057000 I     3751         STA      CFPTSW         ENABLE FINAL '.' TEST IN FND                    06 03751
005250 017000 I     3752         LDA      ERBF+5                                                         06 03752
005251 006130 A     3753         ERAI     'ND'                                                           06 03753
005252 147304 A
005253 001016 A     3754         JANZ     SID1           NOT 'END'                                       06 03754
005254 005271 R
005255 006017 A     3755         LDAE     ERBF+4                                                         06 03755
005256 007746 R
005257 006130 A     3756         ERAI     0177305        'D'                                             06 03756
005260 177305 A
005261 001016 A     3757         JANZ     SID1           NOT 'END'                                       06 03757
005262 005271 R
005263 006010 A     3758         LDAI     END                                                            06 03758
005264 010622 R
005265 057000 I     3759         STA      &TSW                                                           06 03759
005266 010421 A     3760         LDA      ONE                                                            06 03760
005267 001000 A     3761         JMP      SID2                                                           06 03761
005270 005305 R
005271 002000 A     3762 SID1    CALL     RCC                                                            06 03762
005272 005057 R
005273 006010 A     3763         LDAI     SIDTBX                                                         06 03763
005274 005666 R
005275 002000 A     3764         CALL     SIS            SCAN STATEMENT TABLE                            06 03764
005276 005670 R
005277 015001 A     3765         LDA      1,X            (X) = SIDTB ADDRESS                             06 03765
005300 057000 I     3766         STA      STSW                                                           06 03766
005301 015002 A     3767         LDA      2,X            GET 1ST TWO CHARACTERS OF I.D.                  06 03767
005302 057000 I     3768         STA      NAME                                                           06 03768
005303 015000 A     3769         LDA      0,X                                                            06 03769
005304 004351 A     3770         LSRA     9              GET SPECIFICATION LEVEL                         06 03770
005305 002000 A     3771 SID2    CALL     FNS                                                            06 03771
005306 000572 R
005307 017000 I     3772         LDA*     STSW                                                           06 03772
005310 057000 I     3773         STA      STSW                                                           06 03773
005311 001000 A     3774         JMP*     STSW           TO PROCESSOR                                    06 03774
005312 110401 R
                    3775         EJECT                                                                   06 03775
                    3776 ***************************************************************************** 06 03776
                    3777 *                                                                             * 06 03777
                    3778 *       S T A T E M E N T   I . D .   T A B L E                               * 06 03778
                    3779 *                                                                             * 06 03779
                    3780 * WORD-1          BITS 0-5:      NUMBER OF CHARACTERS OVER 4                    * 06 03780
                    3781 *                    6-8:      MODE (FOR MODE SETTING STATEMENTS              * 06 03781
                    3782 *                    9-15:     SPECIFICATION LEVEL                            * 06 03782
                    3783 * WORD-2          PROCESSOR ADDRESS                                           * 06 03783
                    3784 * WORD-3 - N      STATEMENT IDENTIFICATION                                    * 06 03784
                    3785 *                                                                             * 06 03785
                    3786 ***************************************************************************** 06 03786
                    3788 @       FORM     7,3,6                                                          06 03788
005313 000203 A     3790 SIDTB   @        0,2,3                                                          06 03790
005314 010634 R     3791         DATA     MOD                                                            06 03791
005315 144716 A     3792         DATA     'INTEGER'                                                      06 03792
005316 152305 A
005317 143705 A
005320 151240 A
005321 000205 A     3793         @        0,2,5                                                          06 03793
005322 010634 R     3794         DATA     MOD                                                            06 03794
005323 144716 A     3795         DATA     'INTEGER*2'                                                    06 03795
005324 152305 A
005325 143705 A
005326 151252 A
005327 131240 A
005330 000605 A     3796         @        0,6,5                                                          06 03796
005331 010634 R     3797         DATA     MOD                                                            06 03797
005332 144716 A     3798         DATA     'INTEGER*4'                                                    06 03798
005333 152305 A
005334 143705 A
005335 151252 A
005336 132240 A
005337 000300 A     3799         @        0,3,0                                                          06 03799
005340 010634 R     3800         DATA     MOD                                                            06 03800
005341 151305 A     3801         DATA     'REAL'                                                         06 03801
005342 140714 A
005343 000302 A     3802         @        0,3,2                                                          06 03802
005344 010634 R     3803         DATA     MOD                                                            06 03803
005345 151305 A     3804         DATA     'REAL*4'                                                       06 03804
005346 140714 A
005347 125264 A
005350 000402 A     3805         @        0,4,2                                                          06 03805
005351 010634 R     3806         DATA     MOD                                                            06 03806
005352 151305 A     3807         DATA     'REAL*8'                                                       06 03807
005353 140714 A
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005354 125270 A
005355 000413 A 3808          Q       0,4,11                                  06 03808
005356 010634 R 3809          DATA    MOD                                     06 03809
005357 142317 A 3810          DATA    'DOUBLEPRECISION'                       06 03810
005360 152702 A
005361 146305 A
005362 150322 A
005363 142703 A
005364 144723 A
005365 144717 A
005366 147240 A
005367 000503 A 3811          Q       0,5,3                                   06 03811
005370 010634 R 3812          DATA    MOD                                     06 03812
005371 141717 A 3813          DATA    'COMPLEX'                               06 03813
005372 146720 A
005373 146305 A
005374 154240 A
005375 000505 A 3814          Q       0,5,5                                   06 03814
005376 010634 R 3815          DATA    MOD                                     06 03815
005377 141717 A 3816          DATA    'COMPLEX*8'                             06 03816
005400 146720 A
005401 146305 A
005402 154252 A
005403 134240 A
005404 000203 A 3817          Q       0,2,3                                   06 03817
005405 010634 R 3818          DATA    MOD                                     06 03818
005406 146317 A 3819          DATA    'LOGICAL'                               06 03819
005407 143711 A
005410 141701 A
005411 146240 A
005412 000205 A 3820          Q       0,2,5                                   06 03820
005413 010634 R 3821          DATA    MOD                                     06 03821
005414 146317 A 3822          DATA    'LOGICAL*2'                             06 03822
005415 143711 A
005416 141701 A
005417 146252 A
005420 131240 A
       005420 R 3823 SIDTB1   EQU     *-1          END OF MODE-ORIENTED STATEMENTS 06 03823
005421 004002 A 3824          Q       4,0,2                                   06 03824
005422 010622 R 3825          DATA    ASSI                                    06 03825
005423 140723 A 3826          DATA    'ASSIGN'                                06 03826
005424 151711 A
005425 143716 A
005426 004005 A 3827          Q       4,0,5                                   06 03827
005427 010625 R 3828          DATA    BSP                                     06 03828
005430 141301 A 3829          DATA    'BACKSPACE'                             06 03829
005431 141713 A
005432 151720 A
005433 140703 A
005434 142640 A
005435 000005 A 3830          Q       0,0,5                                   06 03830
005436 010624 R 3831          DATA    BLD                                     06 03831
005437 141314 A 3832          DATA    'BLOCKDATA'                             06 03832
005440 147703 A
005441 145704 A
005442 140724 A
005443 140640 A
005444 007000 A 3833          Q       7,0,0                                   06 03833
005445 010626 R 3834          DATA    CAL                                     06 03834
005446 141701 A 3835          DATA    'CALL'                                  06 03835
005447 146314 A
005450 000002 A 3836          Q       0,0,2                                   06 03836
005451 010625 R 3837          DATA    CMN                                     06 03837
005452 141717 A 3838          DATA    'COMMON'                                06 03838
005453 146715 A
005454 147716 A
005455 004005 A 3839          Q       4,0,5                                   06 03839
005456 005667 R 3840          DATA    SIDTBX+1      TO 'CRT'                  06 03840
005457 141717 A 3841          DATA    'CONTINUE'                              06 03841
005460 147324 A
005461 144716 A
005462 152705 A
005463 177777 A 3842          DATA    -1                                      06 03842
005464 002000 A 3843          Q       2,0,0                                   06 03843
005465 010626 R 3844          DATA    DAT                                     06 03844
005466 142301 A 3845          DATA    'DATA'                                  06 03845
005467 152301 A
005470 004003 A 3846          Q       4,0,3                                   06 03846
005471 010627 R 3847          DATA    DEC                                     06 03847
005472 142305 A 3848          DATA    'DECODE('                               06 03848
005473 141717 A
005474 142305 A
005475 124240 A
005476 004006 A 3849          Q       4,0,6                                   06 03849
005477 010635 R 3850          DATA    DEF                                     06 03850
005500 142305 A 3851          DATA    'DEFINEFILE'                            06 03851
005501 143311 A
005502 147305 A
005503 143311 A
005504 146305 A
005505 000005 A 3852          Q       0,0,5                                   06 03852
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005506 010627 R 3853        DATA    DMN                                  06 03853
005507 142311 A 3854        DATA    'DIMENSION'                          06 03854
005510 146705 A
005511 147323 A
005512 144717 A
005513 147240 A
005514 004003 A 3855        0       4,0,3                                06 03855
005515 010633 R 3856        DATA    ENC                                  06 03856
005516 142716 A 3857        DATA    'ENCODE('                            06 03857
005517 141717 A
005520 142305 A
005521 124240 A
005522 004003 A 3858        0       4,0,3                                06 03858
005523 010632 R 3859        DATA    EFI                                  06 03859
005524 142716 A 3860        DATA    'ENDFILE'                            06 03860
005525 142306 A
005526 144714 A
005527 142640 A
005530 010001 A 3861        0       8,0,1                                06 03861
005531 010640 R 3862        DATA    ENT                                  06 03862
005532 142716 A 3863        DATA    'ENTRY'                              06 03863
005533 152322 A
005534 154640 A
005535 000007 A 3864        0       0,0,7                                06 03864
005536 010630 R 3865        DATA    EQU                                  06 03865
005537 142721 A 3866        DATA    'EQUIVALENCE'                        06 03866
005540 152711 A
005541 153301 A
005542 146005 A
005543 147303 A
005544 142640 A
005545 000004 A 3867        0       0,0,4                                06 03867
005546 010631 R 3868        DATA    EXT                                  06 03868
005547 142730 A 3869        DATA    'EXTERNAL'                           06 03869
005550 152303 A
005551 151316 A
005552 140714 A
005553 004001 A 3870        0       4,0,1                                06 03870
005554 010634 R 3871        DATA    FND                                  06 03871
005555 143311 A 3872        DATA    'FIND('                              06 03872
005556 147304 A
005557 124240 A
005560 005003 A 3873        0       5,0,3                                06 03873
005561 010622 R 3874        DATA    FOR                                  06 03874
005562 143017 A 3875        DATA    'FORMAT('                            06 03875
005563 151017 A
005564 140704 A
005565 124240 A
005566 000004 A 3876        0       0,0,4                                06 03876
005567 010632 R 3877        DATA    FUN                                  06 03877
005570 143025 A 3878        DATA    'FUNCTION'                           06 03878
005571 147303 A
005572 152311 A
005573 147716 A
005574 004000 A 3879        0       4,0,0                                06 03879
005575 010635 R 3880        DATA    GOT                                  06 03880
005576 143717 A 3881        DATA    'GOTO'                               06 03881
005577 152317 A
005600 007003 A 3882        0       7,0,0                                06 03882
005601 010637 R 3883        DATA    IFF                                  06 03883
005602 120240 A 3884        DATA    '  IF'                               06 03884
005603 144706 A
005604 000006 A 3885        0       0,0,4                                06 03885
005605 010633 R 3886        DATA    IMP                                  06 03886
005606 144715 A 3887        DATA    'IMPLICIT'                           06 03887
005607 151403 A
005610 144717 A
005611 144722 A
005612 000000 A 3888        0       0,0,0                                06 03888
005613 010635 R 3889        DATA    NAM                                  06 03889
005614 147005 A 3890        DATA    'NAME'                               06 03890
005615 146705 A
005616 004001 A 3891        0       4,0,1                                06 03891
005617 010641 R 3892        DATA    OSE                                  06 03892
005620 150001 A 3893        DATA    'PAUSE'                              06 03893
005621 150723 A
005622 142640 A
005623 004001 A 3894        0       4,0,1                                06 03894
005624 010642 R 3895        DATA    RED                                  06 03895
005625 151005 A 3896        DATA    'READ('                              06 03896
005626 140704 A
005627 124240 A
005630 004002 A 3897        0       4,0,2                                06 03897
005631 010643 R 3898        DATA    RET                                  06 03898
005632 151005 A 3899        DATA    'RETURN'                             06 03899
005633 152305 A
005634 151316 A
005635 004002 A 3900        0       4,0,2                                06 03900
005636 010644 R 3901        DATA    REW                                  06 03901
005637 151005 A 3902        DATA    'REWIND'                             06 03902
005640 153711 A
```

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005641 147304 A
005642 004000 A 3903          Q       4,0,0                                   06 03903
005643 010646 R 3904          DATA    STP                                     06 03904
005644 151724 A 3905          DATA    'STOP'                                  06 03905
005645 147720 A
005646 000006 A 3906          Q       0,0,6                                   06 03906
005647 010636 R 3907          DATA    SUB                                     06 03907
005650 151725 A 3908          DATA    'SUBROUTINE'                            06 03908
005651 141322 A
005652 147725 A
005653 152311 A
005654 147305 A
005655 000001 A 3909          Q       0,0,1                                   06 03909
005656 010637 R 3910          DATA    TIPR                                    06 03910
005657 152311 A 3911          DATA    'TITLE'                                 06 03911
005660 152314 A
005661 142640 A
005662 004002 A 3912          Q       4,0,2                                   06 03912
005663 010647 R 3913          DATA    WRT                                     06 03913
005664 153722 A 3914          DATA    'WRITE('                                06 03914
005665 144724 A
005666 142650 A
       005666 R 3915 SIDTBX   EQU     *-1             END OF TABLE            06 03915
005667 006162 R 3916          DATA    CRT                                     06 03916
                3917          EJECT                                           06 03917
                3918 ***************************************************************** 06 03918
                3919 *                                                           * 06 03919
                3920 *      S T A T E M E N T   I . D .   S C A N ( S I S )      * 06 03920
                3921 *                                                           * 06 03921
                3922 * FUNCTION: TO SCAN THE STATEMENT-ID TABLE FOR A MATCH       * 06 03922
                3923 *                                                           * 06 03923
                3924 * ENTRY: (A) = TABLE LIMIT (SIDTB1 OR SIDTBX)               * 06 03924
                3925 *                                                           * 06 03925
                3926 * EXIT: (X) = POINTER TO MATCHING ENTRY                     * 06 03926
                3927 *         MF = MODE OF STATEMENT (FOR MODE ORIENTED STATEMENTS) * 06 03927
                3928 *                                                           * 06 03928
                3929 * ERRORS: TER4 IF CHARACTERS 1-4 NOT IN TABLE              * 06 03929
                3930 *          ER12 IF SPELLING ERROR (INCORRECT CHARACTERS BEYOND 4) * 06 03930
                3931 *                                                           * 06 03931
                3932 ***************************************************************** 06 03932
005670 000000 A 3934 SIS      ENTRY                                           06 03934
005671 054104 A 3935          STA     SIS8            TABEL LIMIT             06 03935
005672 010423 A 3936          LDA     FOUR                                    06 03936
005673 002000 A 3937          CALL    IAC             GET UST FOUR CHARACTERS 06 03937
005674 001163 R
005675 006030 A 3938          LDXI    SIDTB                                   06 03938
005676 005313 R
005677 015002 A 3939 SIS1     LDA     2,X                                     06 03939
005700 137000 I 3940          ERA     PC+2                                    06 03940
005701 001016 A 3941          JANZ    SIS2            NO MATCH CHARACTERS 1,2 06 03941
005702 005707 R
005703 015003 A 3942          LDA     3,X                                     06 03942
005704 137000 I 3943          ERA     PC+3                                    06 03943
005705 001010 A 3944          JAZ     SIS3            MATCH ON CHARACTERS 1-4 06 03944
005706 005713 R
005707 002000 A 3945 SIS2     CALL    SIS6            BUMP TABLE ADDRESS      06 03945
005710 005762 R
005711 001000 A 3946          JMP     SIS1                                    06 03946
005712 005677 R
005713 077000 I 3947 SIS3     STX     T0                                      06 03947
005714 015000 A 3948          LDA     0,X                                     06 03948
005715 150474 A 3949          ANA     BM77                                    06 03949
005716 001010 A 3950          JAZ     SIS9            NO CHARACTERS REMAINING 06 03950
005717 006003 R
005720 054136 A 3951          STA     SIS12                                   06 03951
005721 077000 I 3952          STX     T8                                      06 03952
005722 002000 A 3953 SIS4     CALL    ICH                                     06 03953
005723 001214 R
005724 027000 I 3954          LDB     T8                                      06 03954
005725 016004 A 3955          LDA     4,B                                     06 03955
005726 004350 A 3956          LSRA    8               LEFT CHARACTER          06 03956
005727 002000 A 3957          CALL    SIS5                                    06 03957
005730 005743 R
005731 002000 A 3958          CALL    ICH                                     06 03958
005732 001214 R
005733 027000 I 3959          LDB     T8                                      06 03959
005734 016004 A 3960          LDA     4,B                                     06 03960
005735 150463 A 3961          ANA     BM377           RIGHT CHARACTER         06 03961
005736 002000 A 3962          CALL    SIS5                                    06 03962
005737 005743 R
005740 047000 I 3963          INR     T8                                      06 03963
005741 001000 A 3964          JMP     SIS4                                    06 03964
005742 005722 R
005743 000000 A 3965 SIS5     ENTRY                                           06 03965
005744 137000 I 3966          ERA     TC                                      06 03966
005745 002016 A 3967          JANZM   ER12             SPELLING ERROR         06 03967
005746 000340 R
005747 014107 A 3968          LDA     SIS12                                   06 03968
005750 005311 A 3969          DAR                                             06 03969
005751 001010 A 3970          JAZ     SIS9            ALL CHARACTERS CORRECT  06 03970
005752 006003 R
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005753 054103 A 3971          STA     SIS12                                                   06 03971
005754 017000 I 3972          LDA     TC                                                      06 03972
005755 130463 A 3973          ERA     BM377                                                   06 03973
005756 001016 A 3974          JANZ*   SIS5                                                    06 03974
005757 105743 R
005760 001000 A 3975          JMP     TER4    ILLEGAL END OF STATEMENT                        06 03975
005761 000351 R
005762 000000 A 3976 SIS6     ENTRY                                                           06 03976
005763 015000 A 3977          LDA     0,X                                                     06 03977
005764 150474 A 3978          ANA     BM77    NO. OF CHARACTERS                               06 03978
005765 005111 A 3979          IAR                                                             06 03979
005766 004341 A 3980          LSRA    1                                                       06 03980
005767 120423 A 3981          ADD     FOUR                                                    06 03981
005770 054002 A 3982          STA     SIS7                                                    06 03982
005771 005041 A 3983          TXA                                                             06 03983
005772 006120 A 3984          ADDI    **                                                      06 03984
005773 105772 R
       005773 R 3985 SIS7     EQU     *-1                                                     06 03985
005774 005014 A 3986          TAX                                                             06 03986
005775 006140 A 3987          SUBI    **                                                      06 03987
005776 105775 R
       005776 R 3988 SIS8     EQU     *-1     TABLE LIMIT                                     06 03988
005777 001004 A 3989          JAN*    SIS6                                                    06 03989
006000 105762 R
006001 001000 A 3990          JMP     TER4    ILLEGAL STATEMENT                               06 03990
006002 000351 R
006003 017000 I 3991 SIS9     LDA     T0                                                      06 03991
006004 005014 A 3992          TAX                                                             06 03992
006005 006140 A 3993          SUBI    SIDTB1                                                  06 03993
006006 005420 R
006007 001002 A 3994          JAP*    SIS     NORMAL STATEMENT EXIT                           06 03994
006010 105670 R
006011 002000 A 3995          CALL    FXA                                                     06 03995
006012 000500 R
006013 017000 I 3996          LDA     TC                                                      06 03996
006014 130000 L 3997          ERA     ='*'                                                    06 03997
006015 037000 I 3998          LDX     T0                                                      06 03998
006016 001016 A 3999          JANZ    SIS14   NO MODE SIZE                                    06 03999
006017 006067 R
006020 015000 A 4000          LDA     0,X                                                     06 04000
006021 150474 A 4001          ANA     BM77                                                    06 04001
006022 054022 A 4002          STA     SIS11   CHARACTERS TESTED                               06 04002
006023 002000 A 4003          CALL    SIS6                                                    06 04003
006024 005762 R
006025 077000 I 4004          STX     T0                                                      06 04004
006026 002000 A 4005          CALL    ICH     GET '*'                                         06 04005
006027 001214 R
006030 002000 A 4006          CALL    ICH     GET SIZE                                        06 04006
006031 001214 R
006032 037000 I 4007          LDX     T0                                                      06 04007
006033 002000 A 4008          CALL    SIS10                                                   06 04008
006034 006043 R
006035 002000 A 4009          CALL    SIS6                                                    06 04009
006036 005762 R
006037 002000 A 4010          CALL    SIS10                                                   06 04010
006040 006043 R
006041 001000 A 4011          JMP     TER4    ILLEGAL STATEMENT                               06 04011
006042 000351 R
006043 000000 A 4012 SIS10    ENTRY                                                           06 04012
006044 006010 A 4013          LDAI    **                                                      06 04013
006045 106044 R
       006045 R 4014 SIS11    EQU     *-1     GET EXTENSION CHARACTER                         06 04014
006046 005111 A 4015          IAR                                                             06 04015
006047 004541 A 4016          LLSR    1                                                       06 04016
006050 054006 A 4017          STA     SIS12                                                   06 04017
006051 005041 A 4018          TXA                                                             06 04018
006052 124004 A 4019          ADD     SIS12                                                   06 04019
006053 064003 A 4020          STB     SIS12                                                   06 04020
006054 005012 A 4021          TAB                                                             06 04021
006055 016004 A 4022          LDA     4,B                                                     06 04022
006056 006020 A 4023          LDBI    **                                                      06 04023
006057 106056 R
       006057 R 4024 SIS12    EQU     *-1                                                     06 04024
006060 006437 A 4025          BT      037,SIS13                                               06 04025
006061 006063 R
006062 004350 A 4026          LSRA    8               GET CHARACTER                           06 04026
006063 150463 A 4027 SIS13    ANA     BM377                                                   06 04027
006064 137000 I 4028          ERA     TC                                                      06 04028
006065 001016 A 4029          JANZ*   SIS10                                                   06 04029
006066 106043 R
006067 015000 A 4030 SIS14    LDA     0,X             GET MODE                                06 04030
006070 004346 A 4031          LSRA    6                                                       06 04031
006071 150467 A 4032          ANA     BM7                                                     06 04032
006072 057000 I 4033          STA     MF                                                      06 04033
006073 001000 A 4034          JMP*    SIS             EXIT                                    06 04034
006074 105671 R
                4035          EJECT                                                           06 04035
                4036 **********************************************************************  06 04036
                4037 *                                                                    *  06 04037
                4038 *      S P E C I A L   L I S T   T E R M I N A T O R ( S L I T )      *  06 04038
                4039 *                                                                    *  06 04039
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                    4040 * FUNCTION: TO PREPARE TO OUTPUT BUFFER SLOT                                    * 06 04040
                    4041 *                                                                               * 06 04041
                    4042 * ENTRY: CLOP HOLDS CHAR COUNT OF BUFFER SLOT                                   * 06 04042
                    4043 *                                                                               * 06 04043
                    4044 * EXIT : CLOP=6                                                                 * 06 04044
                    4045 *         A=$PCW                                                                * 06 04045
                    4046 *         X=WORD COUNT OF BUFFER SLOT                                           * 06 04046
                    4047 *         B=ADDRESS OF BUFFER SLOT                                              * 06 04047
                    4048 *                                                                               * 06 04048
                    4049 ************************************************************************************ 06 04049
006075 000000 A     4051 SLIT    ENTRY                                                                     06 04051
006076 017000 I     4052         LDA      CLOP                                                             06 04052
006077 006140 A     4053         SUBI     40                                                               06 04053
006100 000050 A
006101 001002 A     4054         JAP      SLIT1          BUFFER FULL                                       06 04054
006102 006106 R
006103 010000 L     4055         LDA      =' '                                                             06 04055
006104 002000 A     4056         CALL     SLOP           OUTPUT 1 BLANK TO FINISH LINE                     06 04056
006105 006117 R
006106 017000 I     4057 SLIT1   LDA      CLOP                                                             06 04057
006107 004341 A     4058         LSRA     1              GET BUFFER WORD COUNT                             06 04058
006110 120470 A     4059         ADD      NINE                                                             06 04059
006111 005014 A     4060         TAX                                                                       06 04060
006112 006020 A     4061         LDBI     SLOT-9                                                           06 04061
006113 007771 R
006114 017000 I     4062         LDA      $PCW           GET $PCW IN A                                     06 04062
006115 001000 A     4063         JMP*     SLIT                                                             06 04063
006116 106075 R
                    4064         EJECT                                                                     06 04064
                    4065 ************************************************************************************ 06 04065
                    4066 *                                                                               * 06 04066
                    4067 *     S P E C I A L   L I S T   O U T P U T   P A C K ( S L O P )               * 06 04067
                    4068 *                                                                               * 06 04068
                    4069 * FUNCTION: TO PACK A CHARACTER INTO THE SPECIAL BUFFER SLOT                     * 06 04069
                    4070 *                                                                               * 06 04070
                    4071 * ENTRY: A HOLDS FORTRAN CHAR                                                   * 06 04071
                    4072 *        CLOP HOLDS CHARACTER COUNT FOR BUFFER SLOT                             * 06 04072
                    4073 *                                                                               * 06 04073
                    4074 * EXIT : ASCII EQUIVALENT SHIFTED INTO LOW-ORDER BYTE OF THE WORD AT            * 06 04074
                    4075 *          ADDRESS SLOT+CLOP/2                                                  * 06 04075
                    4076 *        CHAR COUNT CLOP INCREMENTED BY 1                                       * 06 04076
                    4077 *                                                                               * 06 04077
                    4078 ************************************************************************************ 06 04078
006117 000000 A     4080 SLOP    ENTRY                                                                     06 04080
006120 064014 A     4081         STB      SLOP2          SAVE (B)                                          06 04081
006121 004550 A     4082         LLSR     8                                                                06 04082
006122 017000 I     4083         LDA      CLOP                                                             06 04083
006123 004341 A     4084         LSRA     1                                                                06 04084
006124 006120 A     4085         ADDI     SLOT           FORM CHARACTER ADDRESS                            06 04085
006125 010002 R
006126 054003 A     4086         STA      SLOP1                                                            06 04086
006127 017000 I     4087         LDA*     SLOP1                                                            06 04087
006130 004550 A     4088         LLSR     8                                                                06 04088
006131 006067 A     4089         STBE     **             STORE PACKED WORD                                 06 04089
006132 106131 R
006132 R            4090 SLOP1   EQU      *-1                                                              06 04090
006133 047000 I     4091         INR      CLOP                                                             06 04091
006134 006020 A     4092         LDBI     **             RESTORE (B)                                       06 04092
006135 106134 R
006135 R            4093 SLOP2   EQU      *-1                                                              06 04093
006136 001000 A     4094         JMP*     SLOP           EXIT                                              06 04094
006137 106117 R
                    4095         EJECT                                                                     06 04095
                    4096 ************************************************************************************ 06 04096
                    4097 *                                                                               * 06 04097
                    4098 *              L I S T   S O U R C E   L I N E ( S L S T )                       * 06 04098
                    4099 *                                                                               * 06 04099
                    4100 * FUNCTION: TO CALL LIST TO OUTPUT THE SOURCE LINE ON THE LO DEVICE.            * 06 04100
                    4101 *                                                                               * 06 04101
                    4102 * ENTRY: BIT 0 OF $PCW=1 IF 'N' OPTION ON '/FORTRAN' MOS DIRECTIVE.             * 06 04102
                    4103 *                                                                               * 06 04103
                    4104 * EXIT : $PCW(BIT 0)=1 : SLST DOES NOTHING                                      * 06 04104
                    4105 *                  =0 : SLST CALLS LIST TO OUTPUT $BUF TO LO                    * 06 04105
                    4106 *                                                                               * 06 04106
                    4107 ************************************************************************************ 06 04107
006140 000000 A     4109 SLST    ENTRY                                                                     06 04109
006141 006030 A     4110         LDXI     44             GET BUFFER WORD COUNT IN X                        06 04110
006142 000054 A
006143 006020 A     4111         LDBI     $BUF-1         GET ADDRESS OF BUFFER $BUF IN B                   06 04111
006144 020772 R
006145 017000 I     4112         LDA      $PCW           GET $PCW IN A                                     06 04112
006146 004257 A     4113         LRLA     $BIT-1         GET LISTING BIT INTO SIGN                         06 04113
006147 002002 A     4114         JAPM     LIST           LIST SOURCE RECORD IF BIT NOT SET                 06 04114
006150 003406 R
006151 001000 A     4115         JMP*     SLST           EXIT                                              06 04115
006152 106140 R
                    4116         EJECT                                                                     06 04116
                    4117 *       STC      STATEMENT COMPLETION                                             06 04117
006153 005301 A     4118 STN     DECR     1              ILLEGAL DO TERM./NO CONTROL CONTINUE              06 04118
006154 057000 I     4119         STA      DTFL                                                             06 04119
006155 005001 A     4120         TZA                                                                       06 04120
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006156 001000 A 4121        JMP     STC                                                  06 04121
006157 006163 R
006160 005301 A 4122 ILT    DECR    1       ILLEGAL DO TERM                              06 04122
006161 057000 I 4123        STA     DTFL    DTFL: -1                                     06 04123
006162 005101 A 4124 CRT    INCR    1       C/R TEST                                     06 04124
006163 057000 I 4125 STC    STA     JPFL    STATEMENT COMPLETION, SET JPFL: (A)          06 04125
006164 017000 I 4126        LDA     TC                                                   06 04126
006165 140463 A 4127        SUB     K77                                                  06 04127
006166 001004 A 4128        JAN     TER25    NOT STATEMENT END                           06 04128
006167 000324 R
006170 017000 I 4129        LDA     DSAV                                                 06 04129
006171 001010 A 4130        JAZ     *+5                                                  06 04130
006172 006176 R
006173 057000 I 4131        STA     DT                                                   06 04131
006174 005001 A 4132        TZA                                                          06 04132
006175 057000 I 4133        STA     DSAV                                                 06 04133
006176 017000 I 4134        LDA     LIF                                               V  06 04134
006177 001010 A 4135        JAZ     STC5                                              V  06 04135
006200 006220 R
006201 002000 A 4136        CALL    PTR     DUMP ALL TRIADS                              06 04136
006202 005013 R
006203 017000 I 4137        LDA     JPFL+1                                            V  06 04137
006204 001010 A 4138        JAZ     STC0    NO JUMPS                                     06 04138
006205 006213 R
006206 027000 I 4139        LDB     JPFL+2                                               06 04139
006207 006437 A 4140        BT      037,STC6    BCS CALL                                 06 04140
006210 006276 R
006211 002000 A 4141        CALL    STI20   OUTPUT NORMAL JUMPS                          06 04141
006212 006403 R
006213 017000 I 4142 STC0   LDA     LIF                                               V  06 04142
006214 057000 I 4143        STA     XRPT                                              V  06 04143
006215 002000 A 4144        JMPM    OSR     OUTPUT STRING RELATIVE LOCATION           V  06 04144
006216 004257 R
006217 047000 I 4145        INR     JPFL                                                 06 04145
006220         4146 STC5    BSS     0                                                 V  06 04146
006220 005001 A 4147        TZA                                                          06 04147
006221 057000 I 4148        STA     DTFL+1                                               06 04148
006222 017000 I 4149        LDA     STNB    STMT. NMBR                                   06 04149
006223 001010 A 4150        JAZ     STI     STMT. INPUT                                  06 04150
006224 006332 R
006225 017000 I 4151        LDA     DT      DO TOP                                       06 04151
006226 057000 I 4152 STC1   STA     D                                                    06 04152
006227 147000 I 4153        SUB     DPX     DATA POOL TOP                                06 04153
006230 001010 A 4154        JAZ     STI     NO DO                                        06 04154
006231 006332 R
006232 002000 A 4155        JMPM    LDX     LOAD DO ENTRIES                              06 04155
006233 003351 R
006234 017000 I 4156        LDA     DS                                                   06 04156
006235 147000 I 4157        SUB     STNB                                                 06 04157
006236 001010 A 4158        JAZ     STC3                                                 06 04158
006237 006245 R
006240 017000 I 4159        LDA     DS                                                   06 04159
006241 057000 I 4160        STA     DTFL+1                                               06 04160
006242 017000 I 4161 STC2   LDA     D                                                    06 04161
006243 120465 A 4162        ADD     FIVE    BUMP DO POINTER                              06 04162
006244 001000 A 4163        JMP     STC1                                                 06 04163
006245 006226 R
006246 017000 I 4164 STC3   LDA     DTFL                                                 06 04164
006247 002004 A 4165        JANM    ER4     ILLEGAL DO TERMINATION                       06 04165
006250 000350 R
006251 017000 I 4166        LDA     DTFL+1                                               06 04166
006252 001010 A 4167        JAZ     STC4                                                 06 04167
006253 006261 R
006254 057000 I 4168        STA     DS      RESET FOR NO LOOP                            06 04168
006255 002000 A 4169        JMPM    CDX     STORE DO ENTRIES                             06 04169
006256 005216 R
006257 001000 A 4170        JMP     TER9    DO NEST ERROR                                06 04170
006260 000344 R
006261 002000 A 4171 STC4   CALL    PTR     DUMP ALL TRIADS                              06 04171
006262 005013 R
006263 017000 I 4172        LDA     JPFL                                                 06 04172
006264 001002 A 4173        JAP     *+6                                                  06 04173
006265 006272 R
006266 005211 A 4174        CPA                                                          06 04174
006267 057000 I 4175        STA     JPFL                                                 06 04175
006270 002000 A 4176        JMPM    OSR     OUTPUT IF FORMAT                             06 04176
006271 004257 R
006272 002000 A 4177        CALL*   DOT     DO TERMINATION                               06 04177
006273 110631 R
006274 001000 A 4178        JMP     STC2                                                 06 04178
006275 006242 R
006276 017000 I 4179 STC6   LDA     RL      PROCESS 'HF' LOGICAL-IF WITH GO-TO           06 04179
006277 140464 A 4180        SUB     THREE                                                06 04180
006300 057000 I 4181        STA     RL                                                   06 04181
006301 005012 A 4182        TAB                                                          06 04182
006302 010432 A 4183        LDA     KJMP                                                 06 04183
006303 002000 A 4184        CALL    DWS     POINT AT BCS CALL                            06 04184
006304 004703 R
006305 017000 I 4185        LDA     JPFL+2                                               06 04185
006306 120466 A 4186        ADD     TWO                                                  06 04186
006307 002000 A 4187        CALL    DAB     RELATIONAL WITH JMP                          06 04187
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006310 003716 R
006311 027000 I 4188          LDB     RL                                                    06 04188
006312 005122 A 4189          IBR                                                           06 04189
006313 005122 A 4190          IBR                                                           06 04190
006314 067000 I 4191          STB     RL                                                    06 04191
006315 010432 A 4192          LDA     KJMP                                                  06 04192
006316 002000 A 4193          CALL    DWS             REPOSITION LOCATION COUNTER           06 04193
006317 004703 R
006320 017000 I 4194          LDA     JPFL+1          GO-TO POINTER                         06 04194
006321 057000 I 4195          STA     I                                                     06 04195
006322 005001 A 4196          TZA                                                           06 04196
006323 057000 I 4197          STA     LIF                                                   06 04197
006324 057000 I 4198          STA     JPFL+1                                                06 04198
006325 057000 I 4199          STA     JPFL+2                                                06 04199
006326 002000 A 4200          CALL    DUT             MAKE TRUE-JMP PARAMETER               06 04200
006327 004320 R
006330 001000 A 4201          JMP     STC5                                                  06 04201
006331 006220 R
               4202           EJECT                                                         06 04202
               4203 ********************************************************************** 06 04203
               4204 *                                                                    * 06 04204
               4205 *              S T A T E M E N T   I N P U T ( S T I )               * 06 04205
               4206 *                                                                    * 06 04206
               4207 * FUNCTION: TO START PROCESSING OF A STATEMENT. STI HANDLES BRANCHES * 06 04207
               4208 *           FROM PREVIOUS STATEMENT, ABORTING THEM IF BRANCH IS TO   * 06 04208
               4209 *           THE CURRENT STATEMENT. IT ALSO PROCESSES THE LABEL FIELD * 06 04209
               4210 *           (COLS. 1-5).                                             * 06 04210
               4211 *                                                                    * 06 04211
               4212 * ENTRY: JPFL+1 HOLDS ASSN TABLE PTR TO LABEL OF TARGET BRANCH FROM  * 06 04212
               4213 *          PREVIOUS STATEMENT(0 IF NONE).                            * 06 04213
               4214 *                                                                    * 06 04214
               4215 * EXIT : TO STATEMENT SCAN ROUTINE(STS).                            * 06 04215
               4216 *         FIRST SOURCE LINE OF STATEMENT LISTED.                     * 06 04216
               4217 *         TC=0                                                       * 06 04217
               4218 *         JPFL+1=0                                                   * 06 04218
               4219 *         IF STATEMENT NUMBER PRESENT:                               * 06 04219
               4220 *          STATEMENT NUMBER ENTERED IN ASSIGNMENT TABLE.             * 06 04220
               4221 *          STNB=XRPT=POINTER TO STMT NO. IN ASSN TABLE.              * 06 04221
               4222 *         IF JPFL+1 .NE. 0:                                          * 06 04222
               4223 *          IF JPFL+1 .NE. STNB                                       * 06 04223
               4224 *           A 'JMP (JPFL+1)' IS OUTPUT                               * 06 04224
               4225 *           JPFL=0(PATH FLAG.SAYS CONTROL CANT DROP THRU TO CURR STMT) * 06 04225
               4226 *                                                                    * 06 04226
               4227 * ERRORS: TER6 IF ILLEGAL STATEMENT NUMBER FIELD.                   * 06 04227
               4228 *         ER10 IF STATEMENT NUMBER MULTIPLY DEFINED.                 * 06 04228
               4229 *                                                                    * 06 04229
               4230 ********************************************************************** 06 04230
006332 005001 A 4232 STI      TZA                                                           06 04232
006333 057000 I 4233          STA     STNB            CLEAR STATEMENT NUMBER FLAG           06 04233
006334 057000 I 4234          STA     ITFL            CLEAR DO-TERMINATION FLAG             06 04234
006335 057000 I 4235          STA     LIF             CLEAR LOGICAL IF FLAG                 06 04235
006336 002000 A 4236 STI1     CALL    ZEB             BLANK ERROR BUFFER ERBF               06 04236
006337 007722 R
006340 002000 A 4237          CALL    SLST            LIST SOURCE LINE                      06 04237
006341 006140 R
006342 002000 A 4238          CALL    IDI             INPUT CHAR, FLAG DIGIT                06 04238
006343 001533 R
006344 001002 A 4239          JAP     STI2            CHECK FOR DIGIT                       06 04239
006345 006364 R
               4240 ********************************************                          06 04240
               4241 * FIRST(NON-BLANK) CHAR IS NUMERIC AND IN COLS. 1-5. *                 06 04241
               4242 * PROCESS STATEMENT NUMBER.                          *                 06 04242
               4243 ********************************************                          06 04243
006346 002000 A 4244          CALL    RCH             SET SCAN TO REREAD FIRST DIGIT        06 04244
006347 005110 R
006350 002000 A 4245          CALL    ISN             INPUT STATEMENT NUMBER                06 04245
006351 003026 R
006352 017000 I 4246          LDA     AT              GET ADDRESS TYPE                      06 04246
006353 005311 A 4247          DAR                     AT=1 MEANS STATEMENT NO. ALREADY DEFINED 06 04247
006354 002010 A 4248          JAZM    ER10            ERROR ER10/MULTIPLE DEF OF STATEMENT NO./ 06 04248
006355 000342 R
006356 017000 I 4249          LDA     I               GET ASSN TABLE PTR TO STMT NO. ENTRY  06 04249
006357 057000 I 4250          STA     STNB            STORE IN STNB                         06 04250
006360 002000 A 4251          CALL    PTR                                                   06 04251
006361 005013 R
006362 005301 A 4252          DECR    1               TURN X-POINTER OFF                    06 04252
006363 057000 I 4253          STA     XRPT                                                  06 04253
               4254 ********************************************                          06 04254
               4255 * PROCESS JUMPS FROM PREVIOUS STATEMENT *                             06 04255
               4256 ********************************************                          06 04256
006364 017000 I 4257 STI2     LDA     JPFL+1          GET ASSN TABLE PTR TO JUMP STATEMENT NO. 06 04257
006365 001010 A 4258          JAZ     STI13           NO JUMPS                              06 04258
006366 006372 R
006367 002000 A 4259          CALL    STI20                                                 06 04259
006370 006403 R
006371 057000 I 4260          STA     JPFL            SET NO CONTROL FALL THRU FROM PRIOR STMT. 06 04260
006372 027000 I 4261 STI13    LDB     TC              SAVE TERMINATING CHARACTER            06 04261
006373 057000 I 4262          STA     TC              CLEAR TC                              06 04262
006374 005021 A 4263          TBA                                                           06 04263
006375 006140 A 4264          SUBI    0376                                                  06 04264
006376 000376 A
```

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006377 001004 A 4265          JAN     TER6        ERROR TER6/ILLEGAL STATEMENT NO. FIELD/     06 04265
006400 000347 R
006401 001000 A 4266          JMP     STS         EXIT TO STATEMENT SCAN                      06 04266
006402 006534 R
                4267 *        PROCESS JUMPS                                                   06 04267
006403 000000 A 4268 STI20    ENTRY                                                           06 04268
006404 027000 I 4269          LDB     JPFL+3      S2                                          06 04269
006405 001020 A 4270          JBZ     STI10+1     SIMPLE JUMP                                 06 04270
006406 006517 R
006407 147000 I 4271          SUB     JPFL+2      S1                                          06 04271
006410 001016 A 4272          JANZ    STI4        S1.NE.S3                                    06 04272
006411 006426 R
006412 017000 I 4273 STI3     LDA     JPFL+1      S3                                          06 04273
006413 057000 I 4274          STA     I                                                       06 04274
006414 147000 I 4275          SUB     JPFL+3      S2                                          06 04275
006415 001010 A 4276          JAZ     STI10       S2=S3                                       06 04276
006416 006516 R
006417 017000 I 4277          LDA     JPFL+3      S2                                          06 04277
006420 147000 I 4278          SUB     STNB                                                    06 04278
006421 001016 A 4279          JANZ    STI9        S2.NE.NEXT                                  06 04279
006422 006513 R
006423 014034 A 4280          LDA     STI5                                                    06 04280
006424 001000 A 4281          JMP     STI6        JANZ - S3                                   06 04281
006425 006472 R
006426 017000 I 4282 STI4     LDA     $PCW                                                    06 04282
006427 154001 A 4283          ANA     *+2                                                     06 04283
006430 006140 A 4284          SUBI    060                                                     06 04284
006431 000060 A
006432 001016 A 4285          JANZ    STI45       NOT 'F','H'                                 06 04285
006433 006455 R
006434 005021 A 4286          TBA                 S2                                          06 04286
006435 147000 I 4287          SUB     JPFL+2      S1                                          06 04287
006436 001016 A 4288          JANZ    STI45       S1.NE.S2                                    06 04288
006437 006455 R
006440 017000 I 4289          LDA     JPFL+1      S3                                          06 04289
006441 147000 I 4290          SUB     STNB                                                    06 04290
006442 001010 A 4291          JAZ     STI45       S3.EQ.NEXT                                  06 04291
006443 006455 R
006444 017000 I 4292          LDA     JPFL+1      S3                                          06 04292
006445 057000 I 4293          STA     I                                                       06 04293
006446 006010 A 4294          LDAI    FLJAG                                                   06 04294
006447 105125 A
006450 002000 A 4295          CALL    DDB         (JAG - S3)                                  06 04295
006451 003725 R
006452 017000 I 4296          LDA     JPFL+2      S1                                          06 04296
006453 001000 A 4297          JMP     STI10+1                                                 06 04297
006454 006517 R
006455 017000 I 4298 STI45    LDA     JPFL+2      S1                                          06 04298
006456 057000 I 4299          STA     I                                                       06 04299
006457 147000 I 4300          SUB     STNB                                                    06 04300
006460 001016 A 4301 STI5     JANZ    STI7        S1.NE.NEXT                                  06 04301
006461 006476 R
006462 005021 A 4302          TBA                 (A)=S2                                      06 04302
006463 147000 I 4303          SUB     JPFL+1      S3                                          06 04303
006464 002016 A 4304          JANZM   STI8        (JAZ - S2) IF S2.NE.S3                      06 04304
006465 006504 R
006466 017000 I 4305          LDA     JPFL+1      S3                                          06 04305
006467 057000 I 4306          STA     I                                                       06 04306
006470 006010 A 4307          LDAI    01002                                                   06 04307
006471 001002 A
006472 002000 A 4308 STI6     CALL    DDB         JAP - S3, JANZ - S3                         06 04308
006473 003725 R
006474 001000 A 4309          JMP     STI12                                                   06 04309
006475 006526 R
006476 006010 A 4310 STI7     LDAI    01004                                                   06 04310
006477 001004 A
006500 002000 A 4311          CALL    DDB         JAN - S1                                    06 04311
006501 003725 R
006502 001000 A 4312          JMP     STI3                                                    06 04312
006503 006412 R
006504 000000 A 4313 STI8     ENTRY                                                           06 04313
006505 067000 I 4314          STB     I                                                       06 04314
006506 014012 A 4315          LDA     STI11                                                   06 04315
006507 002000 A 4316          CALL    DDB         JAZ - S2                                    06 04316
006510 003725 R
006511 001000 A 4317          JMP*    STI8                                                    06 04317
006512 106504 R
006513 027000 I 4318 STI9     LDB     JPFL+3                                                  06 04318
006514 002000 A 4319          JANM    STI8        (JAZ - S2)                                  06 04319
006515 006504 R
006516 017000 I 4320 STI10    LDA     JPFL+1      S3                                          06 04320
006517 057000 I 4321          STA     I                                                       06 04321
006520 147000 I 4322          SUB     STNB                                                    06 04322
006521 001010 A 4323 STI11    JAZ     STI12       S3 = NEXT                                   06 04323
006522 006526 R
006523 010430 A 4324          LDA     KJMP                                                    06 04324
006524 002000 A 4325          CALL    DDB         JMP - S3                                    06 04325
006525 003725 R
006526 005001 A 4326 STI12    TZA                                                             06 04326
006527 057000 I 4327          STA     JPFL+1                                                  06 04327
006530 057000 I 4328          STA     JPFL+2                                                  06 04328
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006531 057000 I 4329          STA     JPFL+3                                                    06 04329
006532 001000 A 4330          JMP*    STI20           EXIT                                      06 04330
006533 106403 R
                4331          EJECT                                                             06 04331
                4332 ********************************************************************     06 04332
                4333 *                                                                  *     06 04333
                4334 *                  S T A T E M E N T   S C A N ( S T S )           *     06 04334
                4335 *                                                                  *     06 04335
                4336 * FUNCTION: STS IS THE INITIAL SCAN OF THE SOURCE STATEMENT PROPER.  *     06 04336
                4337 *           IT IS CALLED BY STI AFTER THE LABEL FIELD IS PROCESSED,*     06 04337
                4338 *           AND BY IFF AFTER A LOGICAL IF HAS BEEN IDENTIFIED. ITS *     06 04338
                4339 *           FUNCTION IS TO IDENTIFY THE THREE STATEMENT TYPES WHICH*     06 04339
                4340 *           ARE NOT UNIQUELY IDENTIFIED BY A LEADING WORD:         *     06 04340
                4341 *                                                                  *     06 04341
                4342 *              DO STATEMENTS('...=OP,')                            *     06 04342
                4343 *              REPLACEMENT STATEMENTS:' =...'                      *     06 04343
                4344 *                                     'NAME=...'                   *     06 04344
                4345 *                                     'ARRAY NAME...=...'          *     06 04345
                4346 *              STATEMENT FUNCTIONS: NON-ARRAY NAME...=...'         *     06 04346
                4347 *                                                                  *     06 04347
                4348 * ENTRY: NO SPECIAL CONDITIONS                                     *     06 04348
                4349 *                                                                  *     06 04349
                4350 * EXIT : TO SID IF STATEMENT NOT OF THREE ABOVE TYPES             *     06 04350
                4351 *         TO DOP IF DO STATEMENT                                   *     06 04351
                4352 *         TO ASTM IF PSUEDO-ACCUMULATOR REPLACEMENT STMT(' =...')  *     06 04352
                4353 *         TO AST IF OTHER REPLACEMENT STATEMENT                    *     06 04353
                4354 *         TO STF IF STATEMENT FUNCTION                             *     06 04354
                4355 *                                                                  *     06 04355
                4356 *         IF STATEMENT FUNCTION OR REPLACEMENT STATEMENT(EXCEPT    *     06 04356
                4357 *          FOR TYPE ' =...'), FNS IS CALLED AT LEVEL 3 IF THIS IS  *     06 04357
                4358 *          THE FIRST NON-SPECIFICATION STATEMENT. WHETHER FIRST OR  *     06 04358
                4359 *          NOT, INA IS CALLED BEFORE EXIT TO INPUT/ASSIGN THE      *     06 04359
                4360 *          REPLACEMENT OR STATEMENT FUNCTION NAME.                 *     06 04360
                4361 *                                                                  *     06 04361
                4362 ********************************************************************     06 04362
                4364 ********************                                                      06 04364
                4365 * INITIALIZE SCAN *                                                      06 04365
                4366 ********************                                                      06 04366
006534 014055 A 4367 STS      LDA     STSD                                                      06 04367
006535 057000 I 4368          STA     EOLSW           POINT END-OF-LINE SWITCH AT ROUTINE SID   06 04368
006536 017000 I 4369          LDA     DPB                                                       06 04369
006537 057000 I 4370          STA     I               MAKE VALID ADDRESS POINTER                06 04370
006540 002000 A 4371          CALL    RCCS            SAVE SCAN PARAMETERS                      06 04371
006541 005042 R
006542 005301 A 4372          DECR    1                                                         06 04372
006543 057000 I 4373          STA     T3              SET '(' COUNTER TO -1                     06 04373
006544 057000 I 4374          STA     NAME            SET CHARACTER COUNTER TO -1               06 04374
006545 057000 I 4375          STA     CFPTSW          DISABLE TEST FINAL '.' IN ROUTINE FNO     06 04375
006546 005001 A 4376          TZA                                                               06 04376
006547 057000 I 4377          STA     DFPP            RESET SPECIAL IF FLAG                     06 04377
                4378 **************                                                            06 04378
                4379 * SCAN LOOP *                                                            06 04379
                4380 **************                                                            06 04380
006550 002000 A 4381 STSL     CALL    ICH             INPUT A SOURCE CHARACTER                  06 04381
006551 001214 R
006552 047000 I 4382          INR     NAME            BUMP CHARACTER COUNT                      06 04382
006553 140000 L 4383          SUB     =''('                                                     06 04383
006554 001010 A 4384          JAZ     STSB            CHECK FOR '('                             06 04384
006555 006605 R
006556 005311 A 4385          DAR                                                               06 04385
006557 001010 A 4386          JAZ     STSR            CHECK FOR ')'                             06 04386
006560 006576 R
006561 140464 A 4387          SUB     THREE                                                     06 04387
006562 001010 A 4388          JAZ     STS5                                                      06 04388
006563 006606 R
006564 006140 A 4389          SUBI    021                                                       06 04389
006565 000021 A
006566 001010 A 4390          JAZ     STSE            CHECK FOR '='                             06 04390
006567 006616 R
006570 006120 A 4391          ADDI    026                                                       06 04391
006571 000026 A
006572 001010 A 4392          JAZ     SID             EXIT TO SID ON QUOTE              B.2     06 04392
006573 005246 R
006574 001000 A 4393          JMP     STSL            CHAR NONE OF ABOVE, CONTINUE SCAN         06 04393
006575 006550 R
                4394 **************                                                            06 04394
                4395 * ')' INPUT *                                                           06 04395
                4396 **************                                                            06 04396
006576 017000 I 4397 STSR     LDA     T3                                                PD      06 04397
006577 005311 A 4398          DAR                                                       PD      06 04398
006600 057000 I 4399          STA     T3              RESET PAREN COUNT TO 0-LEVEL (-U) PD      06 04399
006601 002000 A 4400          CALL    ICH             INPUT CHARACTER FOLLOWING ")"     PD      06 04400
006602 001214 R
006603 001000 A 4401          JMP     STS5+2          SKIP CALL TO INN                          06 04401
006604 006610 R
                4402 ********************************************                              06 04402
                4403 * CALL INN TO INPUT OP FOLLOWING ',' OR '(' *                            06 04403
                4404 ********************************************                              06 04404
006605 047000 I 4405 STSB     INR     T3                                                        06 04405
006606 002000 A 4406 STS5     CALL    INN             INPUT OPERAND/OPERATOR                    06 04406
006607 001700 R
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006610 017000 I 4407          LDA     DF                                                          06 04407
006611 001004 A 4408          JAN     SID             EXIT TO ROUTINE SID ON ALPHANUM TERMINATOR  06 04408
006612 005246 R
       006612 R 4409 ST$D     EQU     *-1                                                         06 04409
006613 017000 I 4410          LDA     TC              RELOAD TERMINATOR                           06 04410
006614 001000 A 4411          JMP     STSL+2           AND REENTER SCAN LOOP WITH IT              06 04411
006615 006552 R
                4412 ********************************************************************************* 06 04412
                4413 * AN '=' WAS INPUT.STATEMENT MUST BE REPLACEMENT,DO, OR STATEMENT FUN *          06 04413
                4414 *       STATEMENT MAY ALSO BE READ/WRITE WITH END/ERR OPTIONS         PD        06 04414
                4415 ********************************************************************************* 06 04415
006616 017000 I 4416 STSE     LDA     T3                                                          PD  06 04416
006617 001002 A 4417          JAP     SID             READ/WRITE                                  06 04417
006620 005246 R
006621 006010 A 4418          LDAI    STS2                                                        PD  06 04418
006622 006630 R
006623 057000 I 4419          STA     EOLSW           POINT END-OF-LINE SWITCH AT STS2            06 04419
006624 005001 A 4420          TZA                                                                 06 04420
006625 057000 I 4421          STA     CFPTSW          ENABLE FINAL '.' TEST IN ROUTINE FND        06 04421
                4422 ************************                                                    06 04422
                4423 * INPUT OP FOLLOWING '=' *                                                   06 04423
                4424 ************************                                                    06 04424
006626 002000 A 4425          CALL    INN             INPUT OPERAND/OPERATOR                      06 04425
006627 001700 R
006630 017000 I 4426 STS2     LDA     TC                                                          06 04426
006631 054006 A 4427          STA     STS3            SAVE TERMINATOR AFTER OP                    06 04427
006632 002000 A 4428          CALL    PCC             RESTORE SCAN PARAMETERS                     06 04428
006633 005057 R
                4429 ********************************************************************************* 06 04429
                4430 * TEST FOR PSUEDO-ACCUMULATOR REPLACEMENT STATEMENT= ' =EXPRESSION' *          06 04430
                4431 ********************************************************************************* 06 04431
006634 017000 I 4432          LDA     NAME                                                        06 04432
006635 001010 A 4433          JAZ     STS6            ASTM IF NO CHARACTERS BEFOR '='             06 04433
006636 006671 R
                4434 ************************                                                    06 04434
                4435 * TEST FOR DO STATEMENT *                                                    06 04435
                4436 ************************                                                    06 04436
006637 006010 A 4437          LDAI    0               RELOAD TERMINATOR AFTER '=OP'               06 04437
006640 000000 A
       006640 R 4438 STS3     EQU     *-1                                                         06 04438
006641 140000 L 4439          SUB     =','                                                        06 04439
006642 001010 A 4440          JAZ     STS7            DO PROCESSOR                                06 04440
006643 006675 R
                4441 ************************************                                        06 04441
                4442 * REPLACEMENT OR STATEMENT FUNCTION *                                        06 04442
                4443 ************************************                                        06 04443
006644 027000 I 4444          LDB     SPFL                                                        06 04444
006645 005122 A 4445          IBR                                                           C.1   06 04445
006646 004142 A 4446          LCRB    2                                                     C.1   06 04446
006647 010464 A 4447          LDA     THREE           CHECK IF THIS IS FIRST NON-SPECIFICATION    06 04447
006650 002020 A 4448          JBZM    FNS              STATEMENT;IF SO, CALL FNS AT LEVEL 3       06 04448
006651 000572 R
                4449 ********************************************************************************* 06 04449
                4450 * INPUT/ASSIGN NAME OF VARIABLE,ARRAY, OR STATEMENT FUNCTION *                 06 04450
                4451 ********************************************************************************* 06 04451
006652 002000 A 4452          CALL    INA             INPUT NAME                                  06 04452
006653 001657 R
006654 017000 I 4453          LDA     TC              GET TERMINATOR                              06 04453
006655 140000 L 4454          SUB     ='='                                                        06 04454
006656 001010 A 4455          JAZ     STS8            AST PROCESSOR                               06 04455
006657 006702 R
006660 017000 I 4456          LDA     IU                                                          06 04456
006661 140422 A 4457          SUB     K2              IS NAME AN ARRAY ?                          06 04457
006662 001010 A 4458          JAZ     STS8            AST PROCESSOR                               06 04458
006663 006702 R
006664 006020 A 4459          LDBI    STF                                                         06 04459
006665 010645 R
006666 010464 A 4460          LDA     THREE                                                       06 04460
006667 001000 A 4461          JMP     STS9                                                        06 04461
006670 006705 R
006671 006020 A 4462 STS6     LDBI    ASTM                                                        06 04462
006672 010624 R
006673 001000 A 4463          JMP     STS8+2                                                      06 04463
006674 006704 R
006675 006020 A 4464 STS7     LDBI    DOP                                                         06 04464
006676 010630 R
006677 010423 A 4465          LDA     FOUR                                                        06 04465
006700 001000 A 4466          JMP     STS9                                                        06 04466
006701 006705 R
006702 006020 A 4467 STS8     LDBI    AST                                                         06 04467
006703 010623 R
006704 010467 A 4468          LDA     SEVEN                                                       06 04468
006705 067000 I 4469 STS9     STB     STSN            SET PROCESSOR ADDRESS                       06 04469
006706 001000 A 4470          JMP     SID2                                                        06 04470
006707 005305 R
                4471          EJECT                                                               06 04471
                4472 ********************************************************************************* 06 04472
                4473 *                                                                           06 04473
                4474 *           T E S T...O V E R F L O W                                       06 04474
                4475 *                                                                           06 04475
                4476 * FUNCTION: TO TEST FOR DATA POOL SPACE AVAILABLE AND                        06 04476
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                    4477 *          OUTPUTTING TRIADS OR CALLING TER3                                    06 04477
                    4478 *                                                                               06 04478
                    4479 * ENTRY: NO SPECIAL CONDITIONS                                                  06 04479
                    4480 *                                                                               06 04480
                    4481 * EXIT: RETURN OR TER3                                                          06 04481
                    4482 *                                                                               06 04482
                    4483 ***************************************************************************** 06 04483
006710 000000 A     4484 TOF    ENTRY                                                                    06 04484
006711 017000 I     4485        LDA     JT                                                               06 04485
006712 147000 I     4486        SUB     TT                                                               06 04486
006713 001010 A     4487        JAZ     TER3          NO TRIADS TO OUTPUT                                06 04487
006714 000352 R
006715 002010 A     4488        JAZM*   OTR                                                            06 04488
006716 110640 R
006717 017000 I     4489        LDA     OP                                                               06 04489
006720 140000 L     4490        SUB     ='='                                                             06 04490
006721 001010 A     4491        JAZ*    TOF           LOOP ENDED - RETURN TO PROGRAM                     06 04491
006722 106710 R
006723 017000 I     4492        LDA     IT                                                               06 04492
006724 147000 I     4493        SUB     JT                                                               06 04493
006725 001010 A     4494        JAZ*    TOF           ALL TRIADS DUMPED                                  06 04494
006726 106710 R
006727 017000 I     4495        LDA     IT                                                               06 04495
006730 057000 I     4496        STA     JT                                                               06 04496
006731 001000 A     4497        JMP     TER3          IMPROPER LOOP END                                  06 04497
006732 000352 R
                    4498        EJECT                                                                    06 04498
                    4499 ***************************************************************************** 06 04499
                    4500 *                                                                           * 06 04500
                    4501 *                T A G   S U B P R O G R A M ( T S B )                      * 06 04501
                    4502 *                                                                           * 06 04502
                    4503 * FUNCTION: TO LOAD IU AND IM FIELDS IN A SUBPROGRAM NAME ENTRY             * 06 04503
                    4504 *           IN ASSIGNMENT TABLE.                                           * 06 04504
                    4505 *                                                                           * 06 04505
                    4506 * ENTRY: NAME LOADED(AS BY LAX)                                            * 06 04506
                    4507 *                                                                           * 06 04507
                    4508 * EXIT : IU(NAME)=3                                                        * 06 04508
                    4509 *         IF NAME IS ONE OF THE FORTRAN INTRINSIC OR EXTERNAL              * 06 04509
                    4510 *         DOUBLE-PRECISION OR COMPLEX FUNCTION NAMES:                      * 06 04510
                    4511 *              IM(NAME)=4 DOUBLE PRECISION                                 * 06 04511
                    4512 *                      5 COMPLEX                                           * 06 04512
                    4513 *                                                                           * 06 04513
                    4514 ***************************************************************************** 06 04514
006733 000000 A     4516 TSB    ENTRY                                                                    06 04516
006734 017000 I     4517        LDA     IU                                                               06 04517
006735 140464 A     4518        SUB     THREE                                                            06 04518
006736 001010 A     4519        JAZ*    TSB           EXIT IF NAME ALREADY TAGGED AS SUBPROGRAM          06 04519
006737 106733 R
006740 017000 I     4520        LDA     AT                                                               06 04520
006741 140462 A     4521        SUB     K2                                                               06 04521
006742 002016 A     4522        JANZM   NUT           ERROR IF USAGE AND TYPE ASSIGNED                   06 04522
006743 003707 R
006744 057000 I     4523        STA     CL            FORCE MAX-MIN FLAG OFF (CL=0)                      06 04523
006745 010464 A     4524        LDA     THREE                                                            06 04524
006746 057000 I     4525        STA     IU            SET USAGE TO SUBPROGRAM                            06 04525
006747 017000 I     4526        LDA     EL                                                               06 04526
006750 140465 A     4527        SUB     FIVE                                                             06 04527
006751 001004 A     4528        JAN     TSB4          NOT FORCED MODE (1/2 CHARACTERS)                   06 04528
006752 007035 R
006753 006020 A     4529        LDBI    TSBTB                                                            06 04529
006754 007042 R
006755 017000 I     4530 TSB1   LDA     ID                                                               06 04530
006756 146001 A     4531        SUB     1,B                                                              06 04531
006757 001016 A     4532        JANZ    TSB3                                                             06 04532
006760 007021 R
006761 017000 I     4533        LDA     ID+1                                                             06 04533
006762 146002 A     4534        SUB     2,B                                                              06 04534
006763 001016 A     4535        JANZ    TSB3                                                             06 04535
006764 007021 R
006765 017000 I     4536        LDA     EL                                                               06 04536
006766 140466 A     4537        SUB     SIX                                                              06 04537
006767 001004 A     4538        JAN     TSB12         2-WORD ID                                          06 04538
006770 007002 R
006771 016000 A     4539        LDA     0,B                                                              06 04539
006772 001004 A     4540        JAN     TSB3+2        2-WORD ENTRY, 3-WORD ID                            06 04540
006773 007023 R
006774 017000 I     4541        LDA     ID+2                                                             06 04541
006775 146003 A     4542        SUB     3,B                                                              06 04542
006776 001016 A     4543        JANZ    TSB3                                                             06 04543
006777 007021 R
007000 001000 A     4544        JMP     TSB14                                                            06 04544
007001 007005 R
007002 016000 A     4545 TSB12  LDA     0,B                                                              06 04545
007003 001002 A     4546        JAP     TSB3+2        3-WORD ENTRY, 2-WORD ID                            06 04546
007004 007023 R
007005 016000 A     4547 TSB14  LDA     0,B                                                              06 04547
007006 001002 A     4548        JAP     TSB2                                                             06 04548
007007 007012 R
007010 005211 A     4549        CPA
007011 005111 A     4550        IAR                                                                      06 04550
007012 004544 A     4551 TSB2   LLSR    4                                                                06 04551
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007013 057000 I 4552          STA     CL          SET MAX-MIN FLAG                    06 04552
007014 005001 A 4553          TZA                                                     06 04553
007015 004444 A 4554          LLRL    4                                               06 04554
007016 057000 I 4555          STA     IM          SET FORCED MODE                     06 04555
007017 001000 A 4556          JMP     TSB4                                            06 04556
007020 007035 R
007021 001004 A 4557 TSB3     JAN     TSB4        NOT IN TABLE                        06 04557
007022 007035 R
007023 016000 A 4558          LDA     0,B                                             06 04558
007024 003002 A 4559          XAP     TSBTB-1     'IBR' FOR THREE WORD ENTRY          06 04559
007025 007041 R
007026 005021 A 4560          TBA                                                     06 04560
007027 120464 A 4561          ADD     THREE                                           06 04561
007030 005012 A 4562          TAB                                                     06 04562
007031 006140 A 4563          SUBI    TSBTBX                                          06 04563
007032 007465 R
007033 001004 A 4564          JAN     TSB1        LOOP                                06 04564
007034 006755 R
007035 002000 A 4565 TSB4     CALL    SAX         SET SUBPROGRAM PARAMETERS           06 04565
007036 005134 R
007037 001000 A 4566          JMP*    TSB                                             06 04566
007040 106733 R
                      4567          EJECT                                           06 04567
                      4568 ***********************************************************06 04568
                      4569 *       T S B   T A B L E ( T S B T B )                  *06 04569
                      4570 *                                                        *06 04570
                      4571 *                                                        *06 04571
                      4572 * THE TSBTB TABLE CONTAINS 3 OR 4 WORD ENTRIES IN ALPHABETIC ORDER  *06 04572
                      4573 *       WORD-0:   -IM (2-WORD ID) OR +IM (3-WORD ID)    *06 04573
                      4574 *       WORD 2-                                         06 04574
                      4575 *       WORD-2/4: ID FIELD                              *06 04575
                      4576 *                                                        *06 04576
                      4577 ***********************************************************06 04577
007041 005122 A 4579          IBR                                                     06 04579
       007042 R 4580 TSBTB    EQU     *                                               06 04580
007042 177775 A 4581          DATA    -3              2-WORD REAL                     06 04581
007043 140702 A 4582          DATA    'ABS '                                          06 04582
007044 151640 A
007045 000003 A 4583          DATA    +3              3-WORD REAL                     06 04583
007046 140711 A 4584          DATA    'AIMAG'                                         06 04584
007047 146701 A
007050 143640 A
007051 177775 A 4585          DATA    -3              2-WORD REAL                     06 04585
007052 140711 A 4586          DATA    'AINT'                                          06 04586
007053 147324 A
007054 000003 A 4587          DATA    +3              3-WORD REAL                     06 04587
007055 140714 A 4588          DATA    'ALGAMA'                                        06 04588
007056 143701 A
007057 146701 A
007060 177775 A 4589          DATA    -3              2-WORD REAL                     06 04589
007061 140714 A 4590          DATA    'ALOG'                                          06 04590
007062 147707 A
007063 000003 A 4591          DATA    +3              3-WORD REAL                     06 04591
007064 140714 A 4592          DATA    'ALOG10'                                        06 04592
007065 147707 A
007066 130660 A
007067 000023 A 4593          DATA    +19             3-WORD,REAL,MAX-MIN             06 04593
007070 140715 A 4594          DATA    'AMAX0'                                         06 04594
007071 140730 A
007072 130240 A
007073 000023 A 4595          DATA    +19             3-WORD,REAL,MAX-MIN             06 04595
007074 140715 A 4596          DATA    'AMAX1'                                         06 04596
007075 140730 A
007076 130640 A
007077 000023 A 4597          DATA    +19             3-WORD,REAL,MAX-MIN             06 04597
007100 140715 A 4598          DATA    'AMIN0'                                         06 04598
007101 144716 A
007102 130240 A
007103 000023 A 4599          DATA    +19             3-WORD,REAL,MAX-MIN             06 04599
007104 140715 A 4600          DATA    'AMIN1'                                         06 04600
007105 144716 A
007106 130640 A
007107 177775 A 4601          DATA    -3              2-WORD REAL                     06 04601
007110 140710 A 4602          DATA    'AMOD'                                          06 04602
007111 147704 A
007112 000003 A 4603          DATA    +3              3-WORD REAL                     06 04603
007113 140722 A 4604          DATA    'ARCOS'                                         06 04604
007114 141717 A
007115 151640 A
007116 000003 A 4605          DATA    +3              3-WORD REAL                     06 04605
007117 140722 A 4606          DATA    'ARSIN'                                         06 04606
007120 151711 A
007121 147240 A
007122 177775 A 4607          DATA    -3              2-WORD REAL                     06 04607
007123 140724 A 4608          DATA    'ATAN'                                          06 04608
007124 140716 A
007125 000003 A 4609          DATA    +3              3-WORD REAL                     06 04609
007126 140724 A 4610          DATA    'ATAN2'                                         06 04610
007127 140716 A
007130 131240 A
007131 177773 A 4611          DATA    -5              2-WORD COMPLEX                  06 04611
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007132 141701 A 4612          DATA    'CABS'                                          06 04612
007133 141323 A
007134 177773 A 4613          DATA    -5          2-WORD COMPLEX                      06 04613
007135 141703 A 4614          DATA    'CCOS'                                          06 04614
007136 147723 A
007137 177773 A 4615          DATA    -5          2-WORD COMPLEX                      06 04615
007140 141705 A 4616          DATA    'CEXP'                                          06 04616
007141 154320 A
007142 177773 A 4617          DATA    -5          2-WORD COMPLEX                      06 04617
007143 141714 A 4618          DATA    'CLOG'                                          06 04618
007144 147707 A
007145 000005 A 4619          DATA    +5          3-WORD COMPLEX                      06 04619
007146 141715 A 4620          DATA    'CMPLX'                                         06 04620
007147 150314 A
007150 154240 A
007151 000005 A 4621          DATA    +5          3-WORD COMPLEX                      06 04621
007152 141717 A 4622          DATA    'CONJG '                                        06 04622
007153 147312 A
007154 143640 A
007155 177775 A 4623          DATA    -3          2-WORD REAL                         06 04623
007156 141717 A 4624          DATA    'COS '                                          06 04624
007157 151640 A
007160 177775 A 4625          DATA    -3          2-WORD REAL                         06 04625
007161 141717 A 4626          DATA    'COSH'                                          06 04626
007162 151710 A
007163 000003 A 4627          DATA    +3          3-WORD REAL                         06 04627
007164 141717 A 4628          DATA    'COTAN'                                         06 04628
007165 152301 A
007166 147240 A
007167 177773 A 4629          DATA    -5          2-WORD COMPLEX                      06 04629
007170 141723 A 4630          DATA    'CSIN'                                          06 04630
007171 144716 A
007172 000005 A 4631          DATA    +5          3-WORD COMPLEX                      06 04631
007173 141723 A 4632          DATA    'CSQRT'                                         06 04632
007174 150722 A
007175 152240 A
007176 177774 A 4633          DATA    -4          2-WORD DOUBLE PRECISION             06 04633
007177 142301 A 4634          DATA    'DABS'                                          06 04634
007200 141323 A
007201 000004 A 4635          DATA    +4          3-WORD DOUBLE PRECISION             06 04635
007202 142301 A 4636          DATA    'DARCOS'                                        06 04636
007203 151303 A
007204 147723 A
007205 000004 A 4637          DATA    +4          3-WORD DOUBLE PRECISION             06 04637
007206 142301 A 4638          DATA    'DARSIN'                                        06 04638
007207 151323 A
007210 144716 A
007211 000004 A 4639          DATA    +4          3-WORD DOUBLE PRECISION             06 04639
007212 142301 A 4640          DATA    'DATAN'                                         06 04640
007213 152301 A
007214 147240 A
007215 000004 A 4641          DATA    +4          3-WORD DOUBLE PRECISION             06 04641
007216 142301 A 4642          DATA    'DATAN2'                                        06 04642
007217 152301 A
007220 147262 A
007221 177774 A 4643          DATA    -4          2-WORD DOUBLE PRECISION             06 04643
007222 142302 A 4644          DATA    'DBLE'                                          06 04644
007223 146305 A
007224 177774 A 4645          DATA    -4          2-WORD DOUBLE PRECISION             06 04645
007225 142303 A 4646          DATA    'DCOS'                                          06 04646
007226 147723 A
007227 000004 A 4647          DATA    +4          3-WORD DOUBLE PRECISION             06 04647
007230 142303 A 4648          DATA    'DCOSH'                                         06 04648
007231 147723 A
007232 144240 A
007233 000004 A 4649          DATA    +4          3-WORD DOUBLE PRECISION             06 04649
007234 142303 A 4650          DATA    'DCOTAN'                                        06 04650
007235 147724 A
007236 140716 A
007237 177774 A 4651          DATA    -4          2-WORD DOUBLE PRECISION             06 04651
007240 142304 A 4652          DATA    'DDIM'                                          06 04652
007241 144715 A
007242 177774 A 4653          DATA    -4          2-WORD DOUBLE PRECISION             06 04653
007243 142305 A 4654          DATA    'DERF'                                          06 04654
007244 151306 A
007245 000004 A 4655          DATA    +4          3-WORD DOUBLE PRECISION             06 04655
007246 142305 A 4656          DATA    'DERFC'                                         06 04656
007247 151306 A
007250 141640 A
007251 177774 A 4657          DATA    -4          2-WORD DOUBLE PRECISION             06 04657
007252 142305 A 4658          DATA    'DEXP'                                          06 04658
007253 154320 A
007254 000004 A 4659          DATA    +4          3-WORD DOUBLE PRECISION             06 04659
007255 142306 A 4660          DATA    'DFLOAT'                                        06 04660
007256 146317 A
007257 140724 A
007260 000004 A 4661          DATA    +4          3-WORD DOUBLE PRECISION             06 04661
007261 142307 A 4662          DATA    'DGAMMA'                                        06 04662
007262 140715 A
007263 146701 A
007264 177775 A 4663          DATA    -3          2-WORD REAL                         06 04663
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007265 142311 A 4664          DATA    'DIM '                                                  06 04664
007266 146640 A
007267 177774 A 4665          DATA    -4          2-WORD DOUBLE PRECISION                     06 04665
007270 142311 A 4666          DATA    'DINT'                                                  06 04666
007271 147324 A
007272 000004 A 4667          DATA    +4          3-WORD DOUBLE PRECISION                     06 04667
007273 142314 A 4668          DATA    'DLGAMA'                                                06 04668
007274 143701 A
007275 146701 A
007276 177774 A 4669          DATA    -4          2-WORD DOUBLE PRECISION                     06 04669
007277 142314 A 4670          DATA    'DLOG'                                                  06 04670
007300 147707 A
007301 000004 A 4671          DATA    +4          3-WORD DOUBLE PRECISION                     06 04671
007302 142314 A 4672          DATA    'DLOG10'                                                06 04672
007303 147707 A
007304 130660 A
007305 000024 A 4673          DATA    +20         3-WORD,DOUBLE-PRECISION,MAX-MIN             06 04673
007306 142315 A 4674          DATA    'DMAX1'                                                 06 04674
007307 140730 A
007310 130640 A
007311 000024 A 4675          DATA    +20         3-WORD,DOUBLE-PRECISION,MAX-MIN             06 04675
007312 142315 A 4676          DATA    'DMIN1'                                                 06 04676
007313 144716 A
007314 130640 A
007315 177774 A 4677          DATA    -4          2-WORD DOUBLE PRECISION                     06 04677
007316 142315 A 4678          DATA    'DMOD'                                                  06 04678
007317 147704 A
007320 000004 A 4679          DATA    +4          3-WORD DOUBLE PRECISION                     06 04679
007321 142323 A 4680          DATA    'DSIGN'                                                 06 04680
007322 144707 A
007323 147240 A
007324 177774 A 4681          DATA    -4          2-WORD DOUBLE PRECISION                     06 04681
007325 142323 A 4682          DATA    'DSIN'                                                  06 04682
007326 144716 A
007327 000004 A 4683          DATA    +4          3-WORD DOUBLE PRECISION                     06 04683
007330 142323 A 4684          DATA    'DSINH'                                                 06 04684
007331 144716 A
007332 144240 A
007333 000004 A 4685          DATA    +4          3-WORD DOUBLE PRECISION                     06 04685
007334 142323 A 4686          DATA    'DSQRT'                                                 06 04686
007335 150722 A
007336 152240 A
007337 177774 A 4687          DATA    -4          2-WORD DOUBLE PRECISION                     06 04687
007340 142324 A 4688          DATA    'DTAN'                                                  06 04688
007341 140716 A
007342 000004 A 4689          DATA    +4          3-WORD DOUBLE PRECISION                     06 04689
007343 142324 A 4690          DATA    'DTANH'                                                 06 04690
007344 140716 A
007345 144240 A
007346 177775 A 4691          DATA    -3          2-WORD REAL                                 06 04691
007347 142722 A 4692          DATA    'ERF '                                                  06 04692
007350 143240 A
007351 177775 A 4693          DATA    -3          2-WORD REAL                                 06 04693
007352 142722 A 4694          DATA    'ERFC'                                                  06 04694
007353 143303 A
007354 177775 A 4695          DATA    -3          2-WORD REAL                                 06 04695
007355 142730 A 4696          DATA    'EXP '                                                  06 04696
007356 150240 A
007357 000003 A 4697          DATA    +3          3-WORD REAL                                 06 04697
007360 143314 A 4698          DATA    'FLOAT'                                                 06 04698
007361 147701 A
007362 152240 A
007363 000003 A 4699          DATA    +3          3-WORD REAL                                 06 04699
007364 143701 A 4700          DATA    'GAMMA'                                                 06 04700
007365 146715 A
007366 140640 A
007367 177776 A 4701          DATA    -2          2-WORD INTEGER                              06 04701
007370 144306 A 4702          DATA    'HFIX'                                                  06 04702
007371 144730 A
007372 177776 A 4703          DATA    -2          2-WORD INTEGER                              06 04703
007373 144701 A 4704          DATA    'IABS'                                                  06 04704
007374 141323 A
007375 177776 A 4705          DATA    -2          2-WORD INTEGER                              06 04705
007376 144704 A 4706          DATA    'IDIM'                                                  06 04706
007377 144715 A
007400 000002 A 4707          DATA    +2          3-WORD INTEGER                              06 04707
007401 144704 A 4708          DATA    'IDINT'                                                 06 04708
007402 144716 A
007403 152240 A
007404 177776 A 4709          DATA    -2          2-WORD INTEGER                              06 04709
007405 144706 A 4710          DATA    'IFIX'                                                  06 04710
007406 144730 A
007407 177776 A 4711          DATA    -2          2-WORD INTEGER                              06 04711
007410 144716 A 4712          DATA    'INT '                                                  06 04712
007411 152240 A
007412 000002 A 4713          DATA    +2          3-WORD INTEGER                              06 04713
007413 144723 A 4714          DATA    'ISIGN'                                                 06 04714
007414 144707 A
007415 147240 A
007416 177756 A 4715          DATA    -18         2-WORD,INTEGER,MAX-MIN                      06 04715
007417 146701 A 4716          DATA    'MAX0'                                                  06 04716
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007420 154260 A
007421 177756 A 4717          DATA    -18             2-WORD,INTEGER,MAX-MIN                  06 04717
007422 146701 A 4718          DATA    'MAX1'                                                  06 04718
007423 154261 A
007424 177756 A 4719          DATA    -18             2-WORD,INTEGER,MAX-MIN                  06 04719
007425 146711 A 4720          DATA    'MIN0'                                                  06 04720
007426 147260 A
007427 177756 A 4721          DATA    -18             2-WORD,INTEGER,MAX-MIN                  06 04721
007430 146711 A 4722          DATA    'MIN1'                                                  06 04722
007431 147261 A
007432 177776 A 4723          DATA    -2              2-WORD INTEGER                          06 04723
007433 146717 A 4724          DATA    'MOD '                                                  06 04724
007434 142240 A
007435 177775 A 4725          DATA    -3              2-WORD REAL                             06 04725
007436 151305 A 4726          DATA    'REAL'                                                  06 04726
007437 140714 A
007440 177775 A 4727          DATA    -3              2-WORD REAL                             06 04727
007441 151711 A 4728          DATA    'SIGN'                                                  06 04728
007442 143716 A
007443 177775 A 4729          DATA    -3              2-WORD REAL                             06 04729
007444 151711 A 4730          DATA    'SIN '                                                  06 04730
007445 147240 A
007446 177775 A 4731          DATA    -3              2-WORD REAL                             06 04731
007447 151711 A 4732          DATA    'SINH'                                                  06 04732
007450 147310 A
007451 177775 A 4733          DATA    -3              2-WORD REAL                             06 04733
007452 151716 A 4734          DATA    'SNGL'                                                  06 04734
007453 143714 A
007454 177775 A 4735          DATA    -3              2-WORD REAL                             06 04735
007455 151721 A 4736          DATA    'SQRT'                                                  06 04736
007456 151324 A
007457 177775 A 4737          DATA    -3              2-WORD REAL                             06 04737
007460 152301 A 4738          DATA    'TAN '                                                  06 04738
007461 147240 A
007462 177775 A 4739          DATA    -3              2-WORD REAL                             06 04739
007463 152301 A 4740          DATA    'TANH'                                                  06 04740
007464 147310 A
       007465 R 4741 TSBTBX   EQU     *                                                       06 04741
                4742          EJECT                                                           06 04742
                4743 ***********************************************************************06 04743
                4744 *                                                                     *06 04744
                4745 *              T E S T   T E R M I N A T O R ( T S T )                *06 04745
                4746 *                                                                     *06 04746
                4747 * FUNCTION: TO TEST THAT TC = A GIVEN VALUE                           *06 04747
                4748 *                                                                     *06 04748
                4749 * ENTRY:  TEST VALUE IN A                                            *06 04749
                4750 *         TERMINATOR IN TC                                           *06 04750
                4751 *                                                                     *06 04751
                4752 * EXIT :  RETURN WITH A=0 IF TC=A                                    *06 04752
                4753 *                                                                     *06 04753
                4754 * ERRORS: TER24 IF TC .NE. A                                         *06 04754
                4755 *                                                                     *06 04755
                4756 ***********************************************************************06 04756
007465 000000 A 4758 TST       ENTRY                                                       06 04758
007466 144721 A 4759           SUB     TC                                                  06 04759
007467 001010 A 4760           JAZ*    TST             NORMAL RETURN IF A=TC               06 04760
007470 107465 R
007471 001000 A 4761           JMP     TER24            ILLEGAL TERMINATOR                 06 04761
007472 000325 R
                4762           EJECT                                                       06 04762
                4763 ***********************************************************************06 04763
                4764 *                                                                     *06 04764
                4765 *                  T A G   V A R I A B L E ( T V R )                  *06 04765
                4766 *                                                                     *06 04766
                4767 * FUNCTION:  TO DEFINE AN ASSIGNMENT TABLE ENTRY AS A SINGLE         *06 04767
                4768 *             INTERNAL ITEM BY SETTING IU=1                          *06 04768
                4769 *                                                                     *06 04769
                4770 * ENTRY:  I POINTS TO ASSIGNMENT TABLE ENTRY                          *06 04770
                4771 *                                                                     *06 04771
                4772 * EXIT :  IMMEDIATE RETURN IF IU=1                                   *06 04772
                4773 *          IU SET TO 1 IF IU .NE. 1 AT ENTRY                          *06 04773
                4774 *          TVR CALLS NUT WHICH OUTPUTS ERROR ER2 IF IU .NE. 0 OR 1    *06 04774
                4775 *                                                                     *06 04775
                4776 ***********************************************************************06 04776
007473 000000 A 4778 TVR       ENTRY                                                       06 04778
007474 014573 A 4779           LDA     IU              GET IU                              06 04779
007475 005311 A 4780           DAR                                                         06 04780
007476 001010 A 4781           JAZ*    TVR             EXIT IF IU=1 ALREADY                06 04781
007477 107473 R
007500 002000 A 4782           CALL    NUT             CHECK IU=0(ITEM NOT ARRAY OR EXTERNAL)06 04782
007501 003707 R
007502 005101 A 4783           INCR    1                                                   06 04783
007503 054564 A 4784           STA     IU                                                  06 04784
007504 002000 A 4785           CALL    SAX             SET IU(I)=1 IN TABLE ENTRY          06 04785
007505 005134 R
007506 001000 A 4786           JMP*    TVR                                                 06 04786
007507 107473 R
                4787           EJECT                                                       06 04787
                4788 ***********************************************************************06 04788
                4789 *                                                                     *06 04789
                4790 *          W R I T E   O B J E C T   R E C O R D ( W R O T )          *06 04790
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                    4791 *                                                                                 * 06 04791
                    4792 * FUNCTION: TO OUTPUT A RECORD OF OBJECT TEXT FROM OBJECT BUFFER OBUF              * 06 04792
                    4793 *           TO BO AND GO FILES.                                                   * 06 04793
                    4794 *                                                                                 * 06 04794
                    4795 * ENTRY: OBUF+1 POINTS TO LAST WORD STORED IN OBUF                                 * 06 04795
                    4796 *        BIT 1 OF $PCW SET IF BO OUTPUT TO BE SUPPRESSED                         * 06 04796
                    4797 *        BIT 0 OF V$JCFG SET IF GO OUTPUT ENABLED                                * 06 04797
                    4798 *                                                                                 * 06 04798
                    4799 * EXIT : X POINTS TO OBUF+2                                                      * 06 04799
                    4800 *        RECORD CONTROL WORD UPDATED:                                            * 06 04800
                    4801 *                                                                                 * 06 04801
                    4802 *         BITS 0-7: RECORD NUMBER: BUMPED BY 1 MOD 256                           * 06 04802
                    4803 *         BIT 12  : SET TO INDICATE NOT STARTING RECORD                          * 06 04803
                    4804 *                                                                                 * 06 04804
                    4805 ***********************************************************************************  06 04805
007510 000000 A     4807 WROT   ENTRY                                                                        06 04807
007511 005002 A     4808        TZB                    CLEAR B                                               06 04808
007512 037000 I     4809        LDX     OBUF+1         POINT X AT LAST DATA WORD IN BUFFER                   06 04809
007513 067000 I     4810        STB     OBUF+1         CLEAR CHECKSUM WORD                                   06 04810
                    4811 ***************************************                                            06 04811
                    4812 * CLEAR UNUSED PORTION OF OBJECT BUFFER TO ZERO *                                  06 04812
                    4813 ***************************************                                            06 04813
007514 005145 A     4814 WRO10  INCR    045            BUMP POINTER X                                        06 04814
007515 006140 A     4815        SUBI    OBUF+60                                                              06 04815
007516 021142 R
007517 001010 A     4816        JAZ     WRO20+3        END OF BUFFER ?                                       06 04816
007520 007527 R
007521 065000 A     4817        STB     0,X            NO, STORE ZERO                                        06 04817
007522 001000 A     4818        JMP     WRO10          LOOP BACK                                             06 04818
007523 007514 R
                    4819 ********************                                                               06 04819
                    4820 * COMPUTE CHECKSUM *                                                              06 04820
                    4821 ********************                                                               06 04821
007524 005021 A     4822 WRO20  TBA                    GET EXCLUSIVE OR CHECKSUM IN A                        06 04822
007525 135000 A     4823        ERA     0,X            EXCLUSIVE OR IN NEXT WORD                             06 04823
007526 005012 A     4824        TAB                    RESTORE CHECKSUM IN B                                 06 04824
007527 005345 A     4825        DECR    045            BACK UP POINTER                                       06 04825
007530 006140 A     4826        SUBI    OBUF           CHECK IF BACKED PAST START OF BUFFER                  06 04826
007531 021046 R
007532 001002 A     4827        JAP     WRO20          LOOP UNTIL FINISHED                                   06 04827
007533 007524 R
007534 067000 I     4828        STB     OBUF+1         STORE CHECKSUM IN WORD 1                              06 04828
                    4829 ****************************                                                       06 04829
                    4830 * TEST FOR OBJECT BLOCKING *                                                      06 04830
                    4831 ****************************                                                       06 04831
007535 014405 A     4832        LDA     GOBLFL         GET GO BLOCKING FLAG                                  06 04832
007536 130421 A     4833        ERA     ONE                                                                  06 04833
007537 150055 A     4834        ANA     V$JCFG                                                               06 04834
007540 150421 A     4835        ANA     ONE                                                                  06 04835
007541 004241 A     4836        LRLA    1                                                                    06 04836
007542 054156 A     4837        STA     WROTT          SET BIT 1 IN FLAG WORD IF GO RMD                      06 04837
007543 006037 A     4838        LDXE    WROGO+5        POINT X AT GO FCB                                     06 04838
007544 007705 R
007545 014400 A     4839        LDA     $PCW                                                                 06 04839
007546 004341 A     4840        LSRA    1              GET BO DISABLE FLAG                                   06 04840
007547 114372 A     4841        ORA     BOBLFL         MERGE WITH BO BLOCKING FLAG                           06 04841
007550 130421 A     4842        ERA     ONE                                                                  06 04842
007551 150421 A     4843        ANA     ONE                                                                  06 04843
007552 001010 A     4844        JAZ     *+4            IS BO RMD ?                                           06 04844
007553 007556 R
007554 006037 A     4845        LDXE    WROBO+5        YES. POINT X AT BO FCB                                06 04845
007555 007664 R
007556 114142 A     4846        ORA     WROTT          MERGE WITH FLAG WORD                                  06 04846
007557 054141 A     4847        STA     WROTT                                                                06 04847
007560 001010 A     4848        JAZ     WRO30          IS THERE ANY OBJECT BLOCKING ?                        06 04848
007561 007615 R
007562 014402 A     4849        LDA     BOBLCN         YES                                                   06 04849
007563 114450 A     4850        OPA     GOBLCN                                                               06 04850
007564 001010 A     4851        JAZ     *+3                                                                  06 04851
007565 007567 R
007566 014005 A     4852        LDA     WRO25                                                                06 04852
007567 125001 A     4853        ADD     1,X            ADD BASE ADDRESS                                      06 04853
007570 005014 A     4854        TAX                    POINT X AT BLOCKING BUFFER                            06 04854
007571 006020 A     4855        LDBI    OBUF                                                                 06 04855
007572 021046 R
007573 006010 A     4856        LDAI    80                                                                   06 04856
007574 000074 A
       007574 R     4857 WRO25  EQU     *-1                                                                  06 04857
007575 002000 A     4858        CALL    MOVE           MOVE OBJECT RECORD FROM OBUF                          06 04858
007576 003606 R
007577 014365 A     4859        LDA     BOBLCN                                                               06 04859
007600 114433 A     4860        ORA     GOBLCN                                                               06 04860
007601 005111 A     4861        IAR                    BUMP BLOCKING COUNTER                                 06 04861
007602 150421 A     4862        ANA     ONE            MOD 2                                                 06 04862
007603 005012 A     4863        TAB                                                                          06 04863
007604 014114 A     4864        LDA     WROTT                                                                06 04864
007605 004256 A     4865        LRLA    14                                                                   06 04865
007606 001002 A     4866        JAP     *+3            IS GO BLOCKED ?                                       06 04866
007607 007611 R
007610 064423 A     4867        STB     GOBLCN         YES. STORE COUNT                                      06 04867
007611 004241 A     4868        LRLA    1                                                                    06 04868
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007612 001002 A 4869          JAP     *+3         IS BO BLOCKED ?                                  06 04869
007613 007615 R
007614 064350 A 4870          STB     BOBLCN      YES. STORE COUNT                                 06 04870
                4871 **************                                                                 06 04871
                4872 * OUTPUT BO *                                                                 06 04872
                4873 **************                                                                 06 04873
007615 014330 A 4874 WR030    LDA     $PCW                                                         06 04874
007616 150422 A 4875          ANA     TWO                                                          06 04875
007617 001016 A 4876          JANZ    WR040       IS BO OUTPUT ENABLED ?                           06 04876
007620 007631 R
007621 014320 A 4877          LDA     BOBLFL      YES                                              06 04877
007622 001016 A 4878          JANZ    WR035       IS BO RMD ?                                      06 04878
007623 007627 R
007624 014340 A 4879          LDA     BOBLCN      YES                                              06 04879
007625 001016 A 4880          JANZ    WR040       IS BLOCK FULL ?                                  06 04880
007626 007631 R
007627 002000 A 4881 WR035    CALL    WROBO       YES. OUTPUT BLOCK                                06 04881
007630 007657 R
                4882 **************                                                                 06 04882
                4883 * OUTPUT GO *                                                                 06 04883
                4884 **************                                                                 06 04884
007631 010055 A 4885 WR040    LDA     V$JCFG                                                       06 04885
007632 150421 A 4886          ANA     ONE                                                          06 04886
007633 001010 A 4887          JAZ     WR050       IS GO ENABLED ?                                  06 04887
007634 007645 R
007635 014305 A 4888          LDA     GOBLFL      YES                                              06 04888
007636 001016 A 4889          JANZ    WR045       IS GO RMD ?                                      06 04889
007637 007643 R
007640 014373 A 4890          LDA     GOBLCN      YES                                              06 04890
007641 001016 A 4891          JANZ    WR050       IS BLOCK FULL ?                                  06 04891
007642 007645 R
007643 002000 A 4892 WR045    CALL    WROGO       YES. OUTPUT BLOCK                                06 04892
007644 007700 R
                4893 ********************************                                           06 04893
                4894 * UPDATE RECORD CONTROL WORD *                                             06 04894
                4895 ********************************                                           06 04895
007645 017000 I 4896 WR050    LDA     OBUF        GET RECORD CONTROL WORD                          06 04896
007646 005111 A 4897          IAR                 INCREMENT IT                                     06 04897
007647 150463 A 4898          ANA     BM377       MASK OFF ALL BUT RECORD NUMBER FIELD             06 04898
007650 006110 A 4899          ORAI    074400      OR IN NON-FIRST RECORD CONTROL WORD              06 04899
007651 074400 A
007652 057000 I 4900          STA     OBUF        RESTORE RECORD CONTROL WORD                      06 04900
007653 006030 A 4901          LDXI    OBUF+2      POINT X AT FIRST DATA WORD                       06 04901
007654 021050 R
007655 001000 A 4902          JMP*    WROT        EXIT                                             06 04902
007656 107510 R
                4903 ************************                                                   06 04903
                4904 * WRITE BO SUBROUTINE *                                                     06 04904
                4905 ************************                                                   06 04905
007657 000080 A 4906 WROBO    ENTR                                                                 06 04906
                4907          WRITE   BLFCB,7,0,0 WRITE/BO/WAIT/BINARY                             06 04907
007660 006505 A
007661 000404 A
007662 100000 A
007663 000407 A
007664 010072 R
007665 000000 A
007666 000000 A
                4908          STAT    WROBO+1,ABORT,ABORT,ABORT,ABORT                              06 04908
007667 006505 A
007670 000373 A
007671 007660 R
007672 000355 R
007673 000355 R
007674 000355 R
007675 000355 R
007676 001000 A 4909          JMP*    WROBO       EXIT                                             06 04909
007677 107657 R
                4910 ************************                                                   06 04910
                4911 * WRITE GO SUBROUTINE *                                                     06 04911
                4912 ************************                                                   06 04912
007700 000000 A 4913 WROGO    ENTR                                                                 06 04913
                4914          WRITE   GLFCB,9,0,0 WRITE/GO/WAIT/BINARY                             06 04914
007701 006505 A
007702 000404 A
007703 100000 A
007704 000411 A
007705 010104 R
007706 000000 A
007707 000000 A
                4915          STAT    WROGO+1,ABORT,ABORT,ABORT,ABORT                              06 04915
007710 006505 A
007711 000373 A
007712 007701 R
007713 000355 R
007714 000355 R
007715 000355 R
007716 000355 R
007717 001000 A 4916          JMP*    WROGO       EXIT                                             06 04916
007720 107700 R
007721          4917 WROTT    BSS     1           BLOCKING FLAGS                                   06 04917
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                    4918          EJECT                                                                    06 04918
                    4919 ********************************************************************************** 06 04919
                    4920 *                                                                                * 06 04920
                    4921 *                  Z E R O   E R R O R   B U F F E R ( Z E B )                    * 06 04921
                    4922 *                                                                                * 06 04922
                    4923 * FUNCTION: TO LOAD THE 12-CHARACTER ERROR BUFFER ERBF WITH BLANKS               * 06 04923
                    4924 *                                                                                * 06 04924
                    4925 * ENTRY: NO SPECIAL CONDITIONS                                                   * 06 04925
                    4926 *                                                                                * 06 04926
                    4927 * EXIT : ALL REGS SAVED BUT A                                                    * 06 04927
                    4928 *                                                                                * 06 04928
                    4929 ********************************************************************************** 06 04929
                    4930 *                                                                                  06 04930
007722 000000 A     4931 ZEB     ENTRY                                                                       06 04931
007723 010000 L     4932         LDA      ='  '          GET BLANK WORD                                     06 04932
007724 054015 A     4933         STA      ERBF           BLANK WORD 0                                       06 04933
007725 054015 A     4934         STA      ERBF+1         WORD 1                                             06 04934
007726 054015 A     4935         STA      ERBF+2         WORD 2                                             06 04935
007727 054015 A     4936         STA      ERBF+3         WORD 3                                             06 04936
007730 054015 A     4937         STA      ERBF+4         WORD 4                                             06 04937
007731 054015 A     4938         STA      ERBF+5         WORD 5                                             06 04938
007732 001000 A     4939         JMP*     ZEB            EXIT                                               06 04939
007733 107722 R
                    4940          EJECT                                                                    06 04940
                    4941 ********************************************************************************** 06 04941
                    4942 *                                                                                * 06 04942
                    4943 * I/O BUFFER, VARIABLE BLOCK, AND TRANSFER VECTOR DEFINITIONS                    * 06 04943
                    4944 *                                                                                * 06 04944
                    4945 ********************************************************************************** 06 04945
         007734 R   4947 VARBLO EQU      *                                                                  06 04947
                    4949 ************************                                                          06 04949
                    4950 * ERROR MESSAGE BUFFER *                                                          06 04950
                    4951 ************************                                                          06 04951
007734 120305 A     4953         DATA     ' ERROR  '                                                       06 04953
007735 151322 A
007736 147722 A
007737 120240 A
007740 120240 A     4954         DATA     '    '         ASCII ERROR NUMBER                                06 04954
007741 120240 A
007742              4955 ERBF    BSS      6              12-CHAR SOURCE TEXT BUFFER                        06 04955
007750              4956         BSS      1              WORKING CELL FOR SHIFTING TEXT INTO ERBF          06 04956
                    4958 ****************************                                                      06 04958
                    4959 * COMPLETION MESSAGE BUFFER *                                                     06 04959
                    4960 ****************************                                                      06 04960
007751 120240 A     4962 NERR    DATA     '    '         TOTAL ERROR COUNT                                 06 04962
007752 120240 A
007753 120305 A     4963         DATA     ' ERRORS COMPILATION COMPLETE'                                    06 04963
007754 151322 A
007755 147722 A
007756 151640 A
007757 141717 A
007760 146720 A
007761 144714 A
007762 140724 A
007763 144717 A
007764 147240 A
007765 141717 A
007766 146725 A
007767 146305 A
007770 152305 A
                    4964 ********************************************************** 06 04964
                    4965 * SPECIAL BUFFER FOR OCTAL LISTINGS, MAPS, ETC.          * 06 04965
                    4966 ********************************************************** 06 04966
007771 120240 A     4968         DATA     '                    '                                           06 04968
007772 120240 A
007773 120240 A     '   .  .  .'
007774 120240 A
007775 120240 A
007776 120240 A
007777 120240 A
010000 120240 A                  .
010001 120240 A
010002              4969 SLOT    BSS      20                                                                06 04969
                    4971 ************************                                                          06 04971
                    4972 * LISTING TITLE BUFFER *                                                          06 04972
                    4973 ************************                                                          06 04973
010026 130720 A     4975 TITL    DATA     '1PAGE '                                                          06 04975
010027 140707 A
010030 142640 P
010031 120240 A     4976 TITP    DATA     '   0  '          PAGE NUMBER                                     06 04976
010032 120260 A
010033 120240 A
010034 120240 A     4977 TITD    DATA     '          '      DATE                                            06 04977
010035 120240 A
010036 120240 A
010037 120240 A
010040 120240 A
010041 120240 A     4978 TITJ    DATA     '          '      JOB NAME                                        06 04978
010042 120240 A
010043 120240 A
010044 120240 A
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010045 120240 A
                    4979          IFF     VORTEX-2                                                    06 04979
                    4980          DATA    'VORTXII    '                                               06 04980
                    4981          IFF     VORTEX-1                                                    06 04981
010046 153317 A     4982          DATA    'VORTEX     '                                               06 04982
010047 151324 A
010050 142730 A
010051 120240 A
010052 120240 A
010053 143324 A     4983          DATA    'FTN IV(G) '                                                06 04983
010054 147240 A
010055 144726 A
010056 124307 A
010057 124640 A
010060 120240 A     4984 TITN     DATA    '          '                                                06 04984
010061 120240 A
010062 120240 A
010063 120240 A
010064 120240 A     4985          DATA    '  '                                                        06 04985
010065 120240 A     4986 TITM     DATA    '     HOURS'                                                06 04986
010066 120240 A
010067 120310 A
010070 147725 A
010071 151323 A
       010072 R     4987 TITQ     EQU     *                                                       D.106 04987
                    4989 **************************                                                  06 04989
                    4990 * FILE CONTROL BLOCKS (FCB) *                                               06 04990
                    4991 **************************                                                  06 04991
                    4993 BLFCB    FCB     120,*,3,,'BD',' ',' '                                       06 04993
010072 000170 A
010073 010072 R
010074 001400 A
010075 000000 A
010076 000000 A
010077 000000 A
010100 000000 A
010101 141317 A
010102 120240 A
010103 120240 A
                    4994 GLFCB    FCB     120,*,3,,'GD',' ',' '                                       06 04994
010104 000170 A
010105 010104 R
010106 001400 A
010107 000000 A
010110 000000 A
010111 000000 A
010112 000000 A
010113 143717 A
010114 120240 A
010115 120240 A
                    4995 LLFCB    FCB     120,*,3,,'LD',' ',' '                                       06 04995
010116 000170 A
010117 010116 R
010120 001400 A
010121 000000 A
010122 000000 A
010123 000000 A
010124 000000 A
010125 146317 A
010126 120240 A
010127 120240 A
                    4996 PLFCB    FCB     120,*,3,,'PI',' ',' '                                       06 04996
010130 000170 A
010131 010130 R
010132 001400 A
010133 000000 A
010134 000000 A
010135 000000 A
010136 000000 A
010137 150311 A
010140 120240 A
010141 120240 A
                    4997          EJEC                                                                06 04997
                    4998 ********************************************************************************06 04998
                    4999 *                                                                              *06 04999
                    5000 *            C O M P I L E R   V A R I A B L E   B L O C K                     *06 05000
                    5001 *                                                                              *06 05001
                    5002 ********************************************************************************06 05002
                    5004 ********************************                                            06 05004
                    5005 * FIXED ON LOADING BY ROUTINE FORT *                                          06 05005
                    5006 ********************************                                            06 05006
010142 000001 A     5007 BOBLFL   DATA    1               BD BLOCKING FLAG                            06 05007
010143 000001 A     5008 GOBLFL   DATA    1               GO BLOCKING FLAG                            06 05008
010144 000001 A     5009 LOBLFL   DATA    1               LO BLOCKING FLAG                            06 05009
010145 000001 A     5010 PIBLFL   DATA    1               PI BLOCKING FLAG                            06 05010
010146              5011 $PCW     BSS     1               COMPILER CONTROL FLAGS                      06 05011
010147              5012 $ECW     BSS     1               ERROR CONTROL WORD                          06 05012
010150 021142 R     5013 DPB      PZE     BLBF1           START ADDRESS OF AVAILABLE MEMORY           06 05013
010151              5014 DPX      BSS     1               END ADDRESS OF AVAIL CORE                   06 05014
                    5016 ********************************                                            06 05016
                    5017 * CLEARED FOR EACH COMPILATION *                                            06 05017
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              5018 ********************************                           06 05018
010152 R 5020 VBLOBG EQU    DPX+1       START OF CLEARED VARIABLES               06 05020
010152 R 5021 AF     EQU    VBLOBG      ADDRESS FIELD                         01 06 05021
010153 R 5022 AIFW   EQU    AF+1        SCAN FORWARD I POINTER                01 06 05022
010154 R 5023 AS     EQU    AIFW+1      ARRAY SUBSCRIPTS                      07 06 05023
010163 R 5024 AT     EQU    AS+7        ADDRESS TYPE                          01 06 05024
010164 R 5025 BDF    EQU    AT+1        BLOCK DATA FLAG                       01 06 05025
010165 R 5026 BOBLCN EQU    BDF+1       BO BLOCKING FLAG                      01 06 05026
010166 R 5027 CF     EQU    BOBLCN+1    SCAN COMPLIMENT FLAG                  01 06 05027
010167 R 5028 CFPTSW EQU    CF+1        FINAL POINT CHECK SWITCH              01 06 05028
010170 R 5029 CL     EQU    CFPTSW+1                                          01 06 05029
010171 R 5030 CLOP   EQU    CL+1        LIST OUTPUT PACK COUNT                01 06 05030
010172 R 5031 CMFL   EQU    CLOP+1      COMMON FLAGS                          01 06 05031
010173 R 5032 CNP    EQU    CMFL+1      COMMON NAME POINTER                   01 06 05032
010174 R 5033 D      EQU    CNP+1       DO POINTER                            01 06 05033
010175 R 5034 DF     EQU    D+1         DELIMITER FLAG                        01 06 05034
010176 R 5035 DFPP   EQU    DF+1        FLOATING POINT DISABLE FLAG           01 06 05035
010177 R 5036 DH     EQU    DFPP+1      DO LIMIT POINTER                      01 06 05036
010200 R 5037 DI     EQU    DH+1        DO INCREMENT POINTER                  01 06 05037
010201 R 5038 DPCA   EQU    DI+1        DATA POOL CONTSANTS - I-POINTER FOR:     06 05038
              5039 *                          1,2,0,4,0.0,0D0,A$C,SQRT,IFIX,FLOAT    06 05039
              5040 *                        ,-1,DFLOAT                               06 05040
010215 R 5041 DR     EQU    DPCA+12     DO RETURN ADDRESS                        06 05041
010216 R 5042 DS     EQU    DR+1                                              01 06 05042
010217 R 5043 DSAV   EQU    DS+1        DT SAVE FOR RD/WR PROCESSING          01 06 05043
010220 R 5044 DT     EQU    DSAV+1      DO TOP POINTER                        01 06 05044
010221 R 5045 DTFL   EQU    DT+1        DO TERMINATION FLAG                   02 06 05045
010223 R 5046 DV     EQU    DTFL+2      DO VARIABLE POINTER                   01 06 05046
010224 R 5047 EC     EQU    DV+1        ERROR COUNT                           01 06 05047
010225 R 5048 EH     EQU    EC+1        EXPRESSION HIERARCHYS                 02 06 05048
010227 R 5049 EHBK   EQU    EH+2        SCAN BACKWARD EXPRESSION HEIRARCHY    01 06 05049
010230 R 5050 EL     EQU    EHBK+1      ENTRY LENGTH                          01 06 05050
010231 R 5051 EXAD   EQU    EL+1        EXECUTEABLE ADDRESS                   01 06 05051
010232 R 5052 F      EQU    EXAD+1      ALTERNATE I POINTER                   01 06 05052
010233 R 5053 FFPFL  EQU    F+1         FLOATING POINT PROCESSOR FLAG         01 06 05053
010234 R 5054 GOBLCN EQU    FFPFL+1     GO BLOCKING COUNT                     01 06 05054
010235 R 5055 HCC    EQU    GOBLCN+1    HOLLERITH COLUMN COUNTER              01 06 05055
010236 R 5056 I      EQU    HCC+1       ASSIGNMENT TABLE POINTER              01 06 05056
010237 R 5057 ID     EQU    I+1         IDENTIFICATION                        04 06 05057
010243 R 5058 IM     EQU    ID+4        ITEM MODE                             01 06 05058
010244 R 5059 INBP   EQU    IM+1        INPUT BUFFER POINTER                  01 06 05059
010245 R 5060 IOFL   EQU    INBP+1      I/O FLAG                              01 06 05060
010246 R 5061 IP     EQU    IOFL+1      ARRAY POINTERS                        09 06 05061
010257 R 5062 IS     EQU    IP+9        ARRAY DIMENSIONS                      08 06 05062
010267 R 5063 IT     EQU    IS+8        ASSIGNMENT TOP POINTER                01 06 05063
010270 R 5064 IU     EQU    IT+1        ITEM USAGE                            01 06 05064
010271 R 5065 J      EQU    IU+1        TRIAD POINTER                         01 06 05065
010272 R 5066 JPFL   EQU    J+1         JUMP FLAGS                            04 06 05066
010276 R 5067 JT     EQU    JPFL+4      TRIAD TOP POINTER                     01 06 05067
010277 R 5068 K      EQU    JT+1        EXPRESSION POINTER                    01 06 05068
010300 R 5069 KT     EQU    K+1         EXPRESSION TOP POINTER                01 06 05069
010301 R 5070 LF     EQU    KT+1        LOCATION FIELD                        01 06 05070
010302 R 5071 LIF    EQU    LF+1        LOGICAL IF FLAG                       01 06 05071
010303 R 5072 LLOP   EQU    LIF+1       NO. OF LINES LEFT ON PAGE             01 06 05072
010304 R 5073 MAXOPC EQU    LLOP+1      MAXIMUM FPP OPERATION COUNT           01 06 05073
010305 R 5074 MDTB   EQU    MAXOPC+1    OPERAND IMPLICIT MODE TABLE           26 06 05074
010340 R 5075 MF     EQU    MDTB+27     MODE FLAG                                06 05075
010341 R 5076 MM     EQU    MF+1        MAX/MIN LIST FLAF                     01 06 05076
010342 R 5077 MR     EQU    MM+1        MULTIPLY REGISTERS                    02 06 05077
010344 R 5078 NAME   EQU    MR+2        SUBROUTINE GENERATION NAME            01 06 05078
010345 R 5079 ND     EQU    NAME+1      NUMBER OF DIMENSIONS                  01 06 05079
010346 R 5080 NF     EQU    ND+1        NEGATION FLAG                         01 06 05080
010347 R 5081 NFFW   EQU    NF+1        SCAN FORWARD NEGATION FLAG            01 06 05081
010350 R 5082 NS     EQU    NFFW+1      NUMBER OF SUBSCRIPTS                  01 06 05082
010351 R 5083 NT     EQU    NS+1        NAME TAG                              01 06 05083
010352 R 5084 NTFL   EQU    NT+1        NO TAG-USAGE FLAG                     01 06 05084
010353 R 5085 OP     EQU    NTFL+1      OPERATION                             01 06 05085
010354 R 5086 OPBK   EQU    OP+1        SCAN BACKWARD OPERATION               01 06 05086
010355 R 5087 OPCNT  EQU    OPBK+1      OPERATION COUNT                       01 06 05087
010356 R 5088 OPW    EQU    OPCNT+1     OUTPUT PACK WORD                      01 06 05088
010357 R 5089 OITFL  EQU    OPW+1       OUTPUT-ITEM FLAG                      01 06 05089
010360 R 5090 O1     EQU    OITFL+1     LEFT OPERAND                          01 06 05090
010361 R 5091 O2     EQU    O1+1        RIGHT OPERAND                         01 06 05091
010362 R 5092 PC     EQU    O2+1        PACK CONTROL                          04 06 05092
010366 R 5093 PIBLCN EQU    PC+4        PI BLOCKING COUNT                     01 06 05093
010367 R 5094 QFL    EQU    PIBLCN+1    QUOTE FLAG                            01 06 05094
010370 R 5095 RL     EQU    QFL+1       RELATIVE PROGRAM LOCATIONS            02 06 05095
010372 R 5096 SBFL   EQU    RL+2        SUBPROGRAM FLAGS                      02 06 05096
010375 R 5097 SF     EQU    SBFL+3      STORAGE FLAG                             06 05097
010376 R 5098 SPFL   EQU    SF+1        SPECIFICATION FLAG                    01 06 05098
010377 R 5099 STFFL  EQU    SPFL+1      STATEMENT FUNCTION FLAG               01 06 05099
010400 R 5100 STNB   EQU    STFFL+1     STATEMENT NUMBER                      01 06 05100
010401 R 5101 STSW   EQU    STNB+1      STATEMENT SWITCH                      01 06 05101
010402 R 5102 SSP    EQU    STSW+1      SPECIFICATION STACK POINTERS          05 06 05102
010407 R 5103 SXF    EQU    SSP+5       COMPLEX FLAG                          01 06 05103
010410 R 5104 TC     EQU    SXF+1       TERM CHARACTER/ CHARACTER IMAGE       02 06 05104
010412 R 5105 TERF   EQU    TC+2        TERMINATING ERROR FLAG                01 06 05105
010413 R 5106 TM     EQU    TERF+1      TRIAD MODE                            01 06 05106
010414 R 5107 TSFL   EQU    TM+1        TEMPORARY STORAGE FLAG                01 06 05107
010415 R 5108 TU     EQU    TSFL+1      TRIAD USE                             01 06 05108
010416 R 5109 TO     EQU    TU+1        TEMPORARY STORAGE                     01 06 05109
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010417  R 5110 T1      EQU     T0+1          TEMPORARY STORAGE                                  01 06 05110
010420  R 5111 T2      EQU     T1+1          TEMPORARY STORAGE                                  01 06 05111
010421  R 5112 T2IN    EQU     T2+1                                                             01 06 05112
010422  R 5113 T3      EQU     T2IN+1        TEMPORARY STORAGE                                  01 06 05113
010423  R 5114 T4      EQU     T3+1          TEMPORARY STORAGE                                  01 06 05114
010424  R 5115 T5      EQU     T4+1          TEMPORARY STORAGE                                  01 06 05115
010425  R 5116 T6      EQU     T5+1          TEMPORARY STORAGE                                  01 06 05116
010426  R 5117 T7      EQU     T6+1          TEMPORARY STORAGE                                  01 06 05117
010427  R 5118 T8      EQU     T7+1          TEMPORARY STORAGE                                  01 06 05118
010430  R 5119 T9      EQU     T8+1          TEMPORARY STORAGE                                  01 06 05119
010431  R 5120 XRPT    EQU     T9+1          OBJECT X-REGISTER POINTER                          01 06 05120
010433  R 5121 VBLOND  EQU     XRPT+2        VARIABLE BLOCK END                                    06 05121
          5122         EJECT                                                                    06 05122
          5123 ********************************************************************************** 06 05123
          5124 *                                                                                * 06 05124
          5125 * TRANSFER VECTOR FOR FORTRAN INITIALIZE (NF0) ONLY                              * 06 05125
          5126 *                                                                                * 06 05126
          5127 ********************************************************************************** 06 05127
010152         5129         ORG     AF                                                          06 05129
010152 001000  A 5131         JMP     ERRX                                                        06 05131
010153 000472  R
010154 001400  R 5132         DATA    EXIT+7                                                      06 05132
010155 001412  R 5133         DATA    EXCLGO+7                                                    06 05133
010156 001314  R 5134         DATA    ICRDPI+4                                                    06 05134
010157 007664  R 5135         DATA    WRDBO+5                                                     06 05135
010160 007705  R 5136         DATA    WRDGO+5                                                     06 05136
010161 003456  R 5137         DATA    WRDLO+5                                                     06 05137
010162 003451  R 5138         DATA    WRDLO                                                       06 05138
          5139         EJECT                                                                    06 05139
          5140 ********************************************************************************** 06 05140
          5141 *                                                                                * 06 05141
          5142 *          C O M P I L E R   T R A N S F E R   V E C T O R                       .* 06 05142
          5143 *                                                                                * 06 05143
          5144 ********************************************************************************** 06 05144
010433         5146         ORG     VBLOND                                                      06 05146
          5148 *       T O - C O M P I L E R                                                    * 06 05148
010433 000000  R 5150         DATA    ASI           ASSIGN ITEM                                   06 05150
010434 000175  R 5151         DATA    ASS           ASSIGN SPECIAL                                06 05151
010435 000220  R 5152         DATA    CAN           CALL NAME                                     06 05152
010436 000206  R 5153         DATA    CBA           CONVERT BINARY TO ASCII                       06 05153
010437 000252  R 5154         DATA    CCR           COMMA OR C/R TEST                             06 05154
010440 006162  R 5155         DATA    CRT           C/R TEST                                      06 05155
010441 000260  R 5156         DATA    CTS           COMMA TEST                                    06 05156
010442 000266  R 5157         DATA    DEK           DEKREMENT K                                   06 05157
010443 000274  R 5158         DATA    DFT           DEFINE AF,AT                                  06 05158
010444 000307  R 5159         DATA    DSM           DEFINE STATEMENT MODE                         06 05159
010445 001270  R 5160         DATA    EOLSW                                                       06 05160
010446 000353  R 5161         DATA    ER1                                                         06 05161
010447 000352  R 5162         DATA    ER2           USAGE ERROR                                   06 05162
010450 000351  R 5163         DATA    ER3           MODE ERROR                                    06 05163
010451 000346  R 5164         DATA    ER6           COMMON BASE LOWERED                           06 05164
010452 000345  R 5165         DATA    ER7           ILLEGAL EQUIVALENCE GROUP                     06 05165
010453 000344  R 5166         DATA    ER8                                                         06 05166
010454 000341  R 5167         DATA    ER11                                                        06 05167
010455 000340  R 5168         DATA    ER12                                                        06 05168
010456 000337  R 5169         DATA    ER13                                                        06 05169
010457 000336  R 5170         DATA    ER14                                                        06 05170
010460 000335  R 5171         DATA    ER15          TRUNCATED VALUE ERROR                         06 05171
010461 000334  R 5172         DATA    ER16          STATEMENT OUT OF ORDER                        06 05172
010462 000333  R 5173         DATA    ER17          MORE THAN 29 COMMON REGIONS                   06 05173
010463 000332  R 5174         DATA    ER18          NON-COMMON DATA ERROR                         06 05174
010464 000330  R 5175         DATA    ER20          DO INDEX NOT REFERENCED ERROR                 06 05175
010465 000327  R 5176         DATA    ER21                                                        06 05176
010466 000326  R 5177         DATA    ER22          ARRAY NAME PREVIOUSLY DECLARED                06 05177
010467 000324  R 5178         DATA    ER24                                                        06 05178
010470 000500  R 5179         DATA    EXA           EXAMINE NEXT CHARACTER                        06 05179
010471 000507  R 5180         DATA    EXL           EXCHANGE LINKS                                06 05180
010472 000646  R 5181         DATA    FNS1          ENTRY TO FMS                                  06 05181
010473 001012  R 5182         DATA    FORT1                                                       06 05182
010474 001017  R 5183         DATA    GSE           GENERATE SUBPROGRAM ENTRANCE                  06 05183
010475 001163  R 5184         DATA    IAC                                                         06 05184
010476 001214  R 5185         DATA    ICH           INPUT CHARACTER                               06 05185
010477 001254  R 5186         DATA    ICO           INPUT COLUMN                                  06 05186
010500 001273  R 5187         DATA    ICORNL                                                      06 05187
010501 001217  R 5188         DATA    ICPD                                                        06 05188
010502 001216  R 5189         DATA    ICRR                                                        06 05189
010503 001220  R 5190         DATA    ICSI          INPUT SOURCE CONTROL SWITCH                   06 05190
010504 001533  R 5191         DATA    IDI           INPUT DIGIT                                   06 05191
010505 001546  R 5192         DATA    IHW           INPUT HOLLERITH WORD                          06 05192
010506 001625  R 5193         DATA    IIV           INPUT INTEGER VARIABLE                        06 05193
010507 001642  R 5194         DATA    ILB           INITIALIZE LIST BUFFER                        06 05194
010510 006160  R 5195         DATA    ILT           ILLEGAL DO TERMINATION                        06 05195
010511 001657  R 5196         DATA    INA           INPUT NAME                                    06 05196
010512 001667  R 5197         DATA    INI           INPUT ITEM                                    06 05197
010513 001700  R 5198         DATA    INN           INPUT (DO NOT ASSIGN)                         06 05198
010514 003005  R 5199         DATA    INS           INPUT NORMAL STATEMENT NUMBER                 06 05199
010515 003017  R 5200         DATA    INT           INTEGER TEST                                  06 05200
010516 003026  R 5201         DATA    ISN           INPUT STATEMENT NUMBER                        06 05201
010517 003104  R 5202         DATA    IVA           INPUT VARIABLE                                06 05202
010520 003115  R 5203         DATA    IVC           INPUT INTEGER VARIABLE/CONSTANT               06 05203
010521 003157  R 5204         DATA    IWI           WORDS/ITEM                                    06 05204
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 010522  003166  R  5205  DATA    LAX       LOAD ASSIGNMENT DATA
 010523  003351  R  5206  DATA    LDX       LOAD DO
 010524  003367  R  5207  DATA    LEX       LOAD EXPRESSION
 010525  003406  R  5208  DATA    LIST      LIST A LINE
 010526  003506  R  5209  DATA    LOCT
 010527  003526  R  5210  DATA    LTX       LOAD TRIADS
 010530  003606  R  5211  DATA    MOVE      MOVE ALPHA DATA
 010531  003624  R  5212  DATA    MXL       MAKE EXIT LABEL
 010532  003716  R  5213  DATA    OAB       OUTPUT ABSOLUTE
 010533  003725  R  5214  DATA    OCB
 010534  003736  R  5215  DATA    ODS       OUTPUT DATA STRING
 010535  004100  R  5216  DATA    ONEM      OUTPUT NAME
 010536  004230  R  5217  DATA    OPK       OUTPUT PACK
 010537  004250  R  5218  DATA    ORE       OUTPUT RELATIVE
 010540  004257  R  5219  DATA    OSR       OUTPUT STRING RELATIVE
 010541  004266  R  5220  DATA    OTJ       OUTPUT JUMP
 010542  004320  R  5221  DATA    OUT       OUTPUT OPERATOR/OPERAND
 010543  004671  R  5222  DATA    OWD
 010544  004703  R  5223  DATA    OWS       OUTPUT WORDS
 010545  004747  R  5224  DATA    PDS       PACK DATA STRING
 010546  004770  R  5225  DATA    PEB       PACK ERROR BUFFER
 010547  005013  R  5226  DATA    PTR       PURGE TRIADS
 010550  005036  R  5227  DATA    PTS       '<' TEST
 010551  005057  R  5228  DATA    RCC       RESTORE SCAN PARAMETERS
 010552  005042  R  5229  DATA    RCCS      SAVE SCAN PARAMETERS
 010553  005110  R  5230  DATA    RCH       REREAD CHARACTER
 010554  005116  R  5231  DATA    RIO       RIGHT INPUT OPERATOR
 010555  005134  R  5232  DATA    SAX       STORE ASSIGNMENT DATA
 010556  005216  R  5233  DATA    SDX       STORE DO
 010557  005420  R  5234  DATA    SIDTB1    END OF MODE-SETTING IN SIDTB
 010560  005670  R  5235  DATA    SIS       STATEMENT IDENTIFICATION SCAN
 010561  006075  R  5236  DATA    SLIT
 010562  006117  R  5237  DATA    SLOP      SPECIAL LIST OUTPUT
 010563  006163  R  5238  DATA    STC       STATEMENT COMPLETION
 010564  006336  R  5239  DATA    STI1      ENTRY TO STI
 010565  006153  R  5240  DATA    STN       ILLEGAL DO TER./NO CONTROL CONTINUE
 010566  006534  R  5241  DATA    STS       STATEMENT SCAN
 010567  000354  R  5242  DATA    TER1      CONSTRUCTION ERROR
 010570  000353  R  5243  DATA    TER2      NOT IN SUBPROGRAM ERROR
 010571  000352  R  5244  DATA    TER3      DATA POOL FULL ERROR
 010572  000351  R  5245  DATA    TER4      ILLEGAL STATEMENT
 010573  000350  R  5246  DATA    TER5
 010574  000346  R  5247  DATA    TER7
 010575  000345  R  5248  DATA    TER8
 010576  000344  R  5249  DATA    TER9      IMPROPER DO NEST ERROR
 010577  000343  R  5250  DATA    TER11     ITEM NOT OPERAND
 010600  000342  R  5251  DATA    TER12     ITEM NOT FUNCTION
 010601  000340  R  5252  DATA    TF913
 010602  000337  R  5253  DATA    TFN14     SUBSCRIPT VARIABLE NOT DUMMY
 010603  000336  R  5254  DATA    TFN15
 010604  000334  R  5255  DATA    TFN17     FUNCTION STATEMENT HAS NO PARAMETERS
 010605  000333  R  5256  DATA    TFN18
 010606  000332  R  5257  DATA    TFN19
 010607  000331  R  5258  DATA    TFN20
 010610  000325  R  5259  DATA    TFN24
 010611  000323  R  5260  DATA    TFN26     SUBSCRIPT NOT INTEGER CONSTANT
 010612  006710  R  5261  DATA    TOS       TEXT OVERFLOW
 010613  006733  R  5262  DATA    TSP       TAG SUBPROGRAM
 010614  007465  R  5263  DATA    TXT       CHARACTER TEST
 010615  007473  R  5264  DATA    TVR       TAG VARIABLE
 010616  007657  R  5265  DATA    VPOB0
 010617  007700  R  5266  DATA    VPOS0
 010620  007510  R  5267  DATA    WORDT
 010621  007720  R  5268  DATA    ZERO      ZERO ERROR BUFFER
                 5270  *         C O M P I L E R                                *
 010622  R  5272  V       EQU     *
 010622  R  5274  START   EQU     V         INITIALIZE
 010622  R  5275  ASP     EQU     V
 010622  R  5276  ASSI    EQU     V         ASSIGN
 010622  R  5277  END     EQU     V         TERMINATION
 010622  R  5278  FOR     EQU     V         FORMAT
 010623  R  5279  V       EQU     V+1
 010623  R  5280  BGN     EQU     V
 010623  R  5281  AST     EQU     V         ASSIGNMENT STATEMENT
 010623  R  5282  ENDX    EQU     V
 010624  R  5283  V       EQU     V+1
 010624  R  5284  BLD     EQU     V         BLOCK DATA
 010624  R  5285  ASTM    EQU     V         REGISTER ASSIGNMENT
 010625  R  5286  V       EQU     V+1
 010625  R  5287  CMN     EQU     V         COMMON
 010625  R  5288  BSP     EQU     V         BACKSPACE
 010626  R  5289  V       EQU     V+1
 010626  R  5290  DAT     EQU     V         DATA
 010626  R  5291  CAL     EQU     V         CALL
 010627  R  5292  V       EQU     V+1
 010627  R  5293  DMN     EQU     V         DIMENSION
 010627  R  5294  DEC     EQU     V         DECODE
 010630  R  5295  V       EQU     V+1
 010630  R  5296  EQU     EQU     V         EQUIVALENCE
 010630  R  5297  DOP     EQU     V         DO STATEMENT
 010631  R  5298  V       EQU     V+1
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010631 R 5299 EXT     SET     V                EXTERNAL                                06 05299
010631 R 5300 DOT     SET     V                                                        06 05300
010632 R 5301 V       SET     V+1                                                      06 05301
010632 R 5302 FUN     SET     V                FUNCTION                                06 05302
010632 R 5303 EFI     SET     V                END-FILE                                06 05303
010633 R 5304 V       SET     V+1                                                      06 05304
010633 R 5305 IMP     SET     V                IMPLICIT                                06 05305
010633 R 5306 ENC     SET     V                ENCODE                                  06 05306
010634 R 5307 V       SET     V+1                                                      06 05307
010634 R 5308 MOD     SET     V                MODE DEFINITION                         06 05308
010634 R 5309 FND     SET     V                                                        06 05309
010635 R 5310 V       SET     V+1                                                      06 05310
010635 R 5311 NAM     SET     V                NAME                                    06 05311
010635 R 5312 DEF     SET     V                DEFINE FILE                             06 05312
010636 R 5313 V       SET     V+1                                                      06 05313
010636 R 5314 SUB     SET     V                SUBROUTINE                              06 05314
010636 R 5315 GOT     SET     V                GO TO                                   06 05315
010637 R 5316 V       SET     V+1                                                      06 05316
010637 R 5317 TIPR    SET     V                TITLE                                   06 05317
010637 R 5318 IFP     SET     V                IF STATEMENT                            06 05318
010640 R 5319 V       SET     V+1                                                      06 05319
010640 R 5320 ENT     SET     V                ENTRY                                   06 05320
010640 R 5321 DTR     SET     V                                                        06 05321
010641 R 5322 V       SET     V+1                                                      06 05322
010641 R 5323 PSE     SET     V                PAUSE                                   06 05323
010642 R 5324 V       SET     V+1                                                      06 05324
010642 R 5325 RED     SET     V                READ                                    06 05325
010643 R 5326 V       SET     V+1                                                      06 05326
010643 R 5327 RET     SET     V                RETURN                                  06 05327
010644 R 5328 V       SET     V+1                                                      06 05328
010644 R 5329 REW     SET     V                REWIND                                  06 05329
010645 R 5330 V       SET     V+1                                                      06 05330
010645 R 5331 STF     SET     V                STATEMENT FUNCTION                      06 05331
010646 R 5332 V       SET     V+1                                                      06 05332
010646 R 5333 STP     SET     V                STOP                                    06 05333
010647 R 5334 V       SET     V+1                                                      06 05334
010647 R 5335 WRT     SET     V                WRITE                                   06 05335
010650 R 5336 V       SET     V+1                                                      06 05336
         5337         EJECT                                                          06 05337
010150 A 5338 OVERSZ  SET     4200             MAXIMUM OVERLAY SIZE                    06 05338
000027 A 5339 TFVCSZ  SET     V-START+1                                                06 05339
000666 A 5340 VARBLS  SET     *-VARBLO         VARIABLE BLOCK SIZE                     06 05340
         5341 ****************                                                       06 05341
         5342 * I/O BUFFERS *                                                        06 05342
         5343 ****************                                                       06 05343
020773 R 5345 $BUF    EQU     *+OVERSZ+1                                               06 05345
021046 R 5346 OBUF    EQU     $BUF+43          OBJECT BUFFER                           06 05346
021142 R 5347 BLBF1   EQU     OBUF+60          BLOCKING BUFFER 1                       06 05347
001005 R 5348         END     FORT                                                     06 05348
ENTRY NAMES
001005 R FORT
EXTERNAL NAMES
000000 E BOFCB   000000 E GOFCB   000000 E LOFCB   000000 E PIFCB
000000 E SIFCB   000000 E V$EXEC 000000 E V$IOC   000000 E V$IOST
SYMBOLS
000020 A $BIT    020773 R $BUF    010147 R $ECW    010146 R $PCW
000355 R ABORT   010152 R AF      010153 R AIFW    010154 R AS
000000 R ASI     000063 R ASI0    000067 R ASI05   000145 R ASI1
000161 R ASI2    000170 R ASI3    000174 R ASI4    000051 R ASIC
000050 R ASII    000002 R ASIL    000040 R ASIM    000056 R ASIX
000123 R ASIY    000140 R ASIZ    010622 R ASP     000175 R ASS
010622 R ASSI    010623 R AST     010624 R ASTM    010162 R AT
000002 A B       010164 R BDF     010623 R BGN     021142 R BLBF1
010624 R BLD     010072 R BLFCB   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
010165 R BOBLCN  010142 R BORLFL  000000 E BOFCB   000421 A BR0
000442 A BR1     000453 A BR10    000431 A BR11    000455 A BR12
000456 A BR13    000457 A BR14    000460 A BR15    000443 A BR2
000444 A BR3     000445 A BR4     000446 A BR5     000447 A BR6
000450 A BR7     000451 A BR8     000452 A BR9     000421 A BS0
000422 A BS1     000433 A BS10    000434 A BS11    000435 A BS12
000436 A BS13    000437 A BS14    000440 A BS15    000423 A BS2
000424 A BS3     000425 A BS4     000426 A BS5     000427 A BS6
000430 A BS7     000431 A BS8     000432 A BS9     010625 R BSP
010626 R CAL     000220 R CAN     000251 R CANT    000206 R CDA
000252 R CCR     010166 R CF      010167 R CFPTSW  010170 R CL
010171 R CLOP    010172 R CMFL    010625 R CMN     010173 R CNP
000162 R CRT     000260 R CTS     010174 R D       010626 R DAT
010627 R DEC     010635 R DEF     000266 R DEK     010175 R DF
010176 R DFPP    000274 R DFT     010177 R DH      010200 R DI
010627 R DMN     010630 R DOP     010631 R DOT     010150 R DPB
010201 R DPCA    010151 R DPX     010215 R DR      010216 R DS
010217 R DSAV    000307 R DSM     000303 R DSM1    010220 R DT
010221 R DTFL    010223 R DV      010224 R EC      010632 R EFI
010225 R EH      010227 R EHBK    000424 A EIGHT   010230 R EL
010633 R ENC     010622 R END     010623 R ENDX    010634 R ENT
001270 R EOLSW   010630 R EOU     000354 R ER0     000353 R ER1
000342 R ER10    000341 R ER11    000340 R ER12    000337 R ER13
000336 R ER14    000335 R ER15    000334 R ER16    000333 R ER17
000332 R ER18    000331 R ER19    000352 R ER2     000330 R ER20
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000327 R ER21    000326 R ER22    000325 R ER23    000324 R ER24
000323 R ER25    000322 R ER26    000351 R ER3     000350 R ER4
000347 R ER5     000346 R ER6     000345 R ER7     000344 R ER8
000343 R ER9     007742 R ERBF    000370 R ERR0    000424 R ERR2
000427 R ERR3    000373 R ERR4    000428 R ERRR    000477 R ERRS
000472 R ERRX    000300 R EXA     010231 R EXAD    001403 R EXCLGO
001415 R EXCLLO  001371 R EXIT    000507 R EXL     010631 R EXT
010232 R F       105035 A F$DDI   105027 A F$DDI1  105036 A F$SEI
105503 A FADDD   105410 A FADDS   105535 A FDIVD   105401 A FDIVS
010233 R FFPFL   105400 A FFPOP   000465 A FIVE    105621 A FIX
105226 A FLAIF   105522 A FLDD    105032 A FLDI    105420 A FLDS
105167 A FLIOP   105123 A FLJAG   105024 A FLREL   105425 A FLT
105037 A FMOVI   105506 A FMULD   105413 A FMULS   010634 R FNB
000521 R FNO     000572 R FNS     000627 R FNS0    000614 R FNS05
000621 R FNS07   000646 R FNS1    000666 R FNS2    000701 R FNS3
000560 R FNS4    000720 R FNS5    000786 R FNS6    000742 R FNS7
000752 R FNS8    000763 R FNS9    000550 R FNSA    000544 R FNSB
000760 R FNSH    010622 R FOP     001005 R FORT    001012 R FORT1
000423 A FOUP    105187 A FSQRT   105710 A FSTD    105033 A FSTI
105600 A FSTS    105043 A FSUBD   105450 A FSUBS   010632 R FUN
010104 R GLFCB   010234 R GOBLCN  010143 R GOBLFL  000000 E GOFCB
010636 R GOT     001017 R GSE     001026 R GSE1    001040 R GSE15
001055 R GSE2    001114 R GSE3    001122 R GSE4    001147 R GSE5
010235 R HCC     010236 R I       001160 R IAC     001171 R IAC1
011203 R IAC2    001214 R ICH     001241 R ICH0    001256 R ICH1
001331 R ICMV    001254 R ICO     001261 R ICO0    001462 R ICO10
001305 R ICO2    001500 R ICO20   001511 R ICO30   001352 R ICO4
001420 R ICO5    001357 R ICO6    001513 R ICOLBA  001277 R ICOLP1
001274 R ICOLP2  001424 R ICOLP3  001426 R ICOLP4  001547 R ICOLP8
001273 R ICORNL  001217 R ICRD    001310 R ICRDPI  001206 R ICRS
001216 R ICRR    001220 R ICS     010607 R ID      001503 R IDI
010637 R IFP     001545 R IHW     001511 R IHW1    001622 R IHW2
001625 R IIV     001642 R ILB     001546 R ILB1    001660 R ILT
010243 R IM      010633 R IMP     001657 R INA     010244 R INBP
001667 R INI     001700 R INN     002005 R INN10   002073 R INN16
001765 R INN2    002105 R INN20   002132 R INN21   002140 R INN2E
002152 R INN24   002176 R INN25   002211 R INN30   002224 R INN32
002227 R INN34   002004 R INN4    002247 R INN40   002252 R INN42
002302 R INN50   002303 R INN52   002307 R INN54   002074 R INN6
002315 R INN60   002410 R INN62   002425 R INN70   002464 R INN72
002512 R INN73   002517 R INN75   002542 R INN77   002775 R INNBE
002742 R INNCA   002673 R INND10  002606 R INNDB   002622 R INNDP1
002610 R INNDBL  002647 R INNDLM  002650 R INNDBT  002640 R INNDBX
002574 R INNDE   002651 R INNDEX  002421 R INNEO   002600 R INNESF
002601 R INNIF   001703 R INNL1   001726 R INNL2   002055 R INNL3
002353 R INNL4   002653 R INNM10  002612 R INNPF   002713 R INNPM
002714 R INNRM1  002602 R INNRP   002604 R INNSF   002605 R INNT
002562 R INNX    002565 R INNY    002776 R INO     003005 R INS
003017 R INT     010245 R IOFL    012246 R IP      010257 R IS
003026 R ISN     003040 R ISN1    003033 R ISN2    003064 R ISN3
010267 R IT      010270 R IU      003161 R IVA     003115 R IVC
003157 R IWI     003176 R IWI1    010271 R J       010272 R JPFL
010276 R JT      010277 R K       000430 R K10     000471 R K12
000472 R K17     000422 R K2      000426 R K20     000477 R K37
000423 R K4      000406 R K8      000433 R K7F     004399 R KP4P
004370 R KIXR    000432 R KJMP    011000 R KT      003136 R LAX
002307 R LAX2    003017 R LAX3    003047 R LAX4    003223 R LAX5
003347 R LAX6    003344 R LAX7    005760 R LAXA    003264 R LAXB
003262 R LAXC    000300 R LC      000850 R LCJP    003331 R LDX
003367 R LEX     010301 R LF      000416 R LHW     010302 R LIF
003431 R LIS10   003406 R LIST    000470 R LIST12  003413 R LISTCT
003476 R LISTHD  003501 R LISTLP  003430 R LISTOT  003545 R LIST1
010116 R LLFCB   010300 R LLOP    011411 R LOBLFL  003415 R LOOP
003506 R LOOT    003000 R LOOP9   011351 R LT      003511 R MAB
003603 R MAB1    003552 R MI      011224 R MJMPC   010224 R MJTB
010340 R MF      010341 R MM      011004 R MOD     005 R MOD1
003610 R MOVEL   003623 R MP      011002 R MP      000 R MP1
000500 A MTE     000441 A MTW0    000454 A MUL     010535 R NAM
010344 R NAME    010345 R ND      000461 A NEG     003771 R NERR
010346 R NF      010347 R NFFW    000470 A NINE    003700 R NERM
003656 R NRM1    003667 R NRM2    000476 A NRM3    011000 R NS
010351 R NT      010352 R NTFL    003707 R NUT     011000 R O1
010361 R O2      003716 R OAB     002116 R OBUF    003715 R OCB
003736 R ODS     003746 R ODS1    003753 R ODS5    004000 R ODS6
004023 R ODS4    004041 R ODS42   003764 R ODS7    004001 R OFFL
004061 R ODS7    004070 R ODS9    003775 R OFLG    011000 R OFLL
000421 A ONE     004100 R ONE0    004000 R ONE1    004121 R ONE2
004133 R ONE3    004222 R ONE4    004014 R ONE5    004100 R ONE8
004171 R ONEV    004274 R ONEV    004000 R OP      011000 R OPB
010355 R OPCNT   004233 R OPCR    003777 R OPT     011000 R OPW
004250 R ORC     004257 R ORP     004000 R OUT1    011040 R OUT2
004320 R OUT     004357 R OUT1    004000 R OUT2    004404 R OUT3
004506 R OUT4    004514 R OUT5    004000 R OUT6    004000 R OUT7
004556 R OUT8    004566 R OUT9    004000 R OUT9A   004000 R OUT9B
004611 R OUT9L   004626 R OUTA    004000 R OUTAF   004400 R OUTB
004545 R OUTC    004650 R OUTD    004000 R OUTDEC  004000 R OUTE
004500 R OUTF    004470 R OUTG    004000 R OUTH    004000 R OUTI
004453 R OUTJ    004501 R OVC1    004000 R OVE2    004000 R OVER
010150 A OVERS2  004000 R OWB     004000 R OWS     004000 R OWS1
004710 R OWS8    010000 R PC      004000 R PCC     004000 R PDS
004763 R PDS_0   004000 R PE      004000 R PEB10   010000 R PIBLCN
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010145 R PIBLFL 000000 E PIFCB  010130 R PLFCB  010641 R PSE
005013 R PTR    005027 R PTR1   005034 R PTS    010367 R QFL
005057 R RCC    005063 R RCC1   005066 R RCC2   005071 R RCC3
005076 R RCC4   005101 R RCC5   005042 R RCCS   005110 R RCH
010642 R RED    010643 R RET    010644 R REW    000463 A RHW
005116 R RID    010370 R RL     005134 R SAX    005212 R SAX10
005202 R SAX5   010372 R SBFL   005216 R SDX    005232 R SDX1
000467 A SEVEN  010375 R SF     005246 R SID    005271 R SID1
005305 R SID2   005313 R SIDTB  005420 R SIDTB1 005666 R SIDTBX
000000 E SIFCB  005670 R SIS    005677 R SIS1   006043 R SIS10
006045 R SIS11  006057 R SIS12  006063 R SIS13  006067 R SIS14
005707 R SIS2   005713 R SIS3   005722 R SIS4   005743 R SIS5
005762 R SIS6   005773 R SIS7   005776 R SIS8   006003 R SIS9
000466 A SIX    006075 R SLIT   006106 R SLIT1  006117 R SLOP
006132 R SLOP1  006135 R SLOP2  010002 R SLOT   006140 R SLST
010376 R SPFL   010402 R SSP    010622 R START  006163 R STC
006213 R STC0   006226 R STC1   006242 R STC2   006246 R STC3
006261 R STC4   006220 R STC5   006276 R STC6   010645 R STF
010377 R STFFL  006332 R STI    006336 R STI1   006516 R STI10
006521 R STI11  006526 R STI12  006372 R STI13  006364 R STI2
006403 R STI20  006412 R STI3   006426 R STI4   006455 R STI45
006460 R STI5   006472 R STI6   006476 R STI7   006504 R STI8
006513 R STI9   006153 R STN    010400 R STNB   010646 R STP
006534 R STS    006630 R STS2   006640 R STS3   006606 R STS5
006671 R STS6   006675 R STS7   006702 R STS8   006705 R STS9
006605 R STSB   006612 R STSD   006616 R STSE   006550 R STSL
006576 R STSR   010401 R STSW   010636 R SUB    010407 R SXF
010416 R T0     010417 R T1     010420 R T2     000771 R T2FN
010421 R T2IN   010422 R T3     010423 R T4     010424 R T5
010425 R T6     010426 R T7     010427 R T8     010430 R T9
010410 R TC     000471 A TEN    000355 R TER0   000354 R TER1
000343 R TER10  000342 R TER11  000341 R TER12  000340 R TER13
000337 R TER14  000336 R TER15  000335 R TER16  000334 R TER17
000333 R TER18  000332 R TER19  000353 R TER2   000331 R TER20
000330 R TER21  000327 R TER22  000326 R TER23  000325 R TER24
000324 R TER25  000323 R TER26  000352 R TER3   000351 R TER4
000350 R TER5   000347 R TER6   000346 R TER7   000345 R TER8
000344 R TER9   010412 R TERF   000027 A TFVCSZ 000464 A THREE
010637 R TIPR   010034 R TITD   010041 R TITJ   010026 R TITL
010065 R TITM   010060 R TITN   010031 R TITP   010072 R TITQ
010413 R TM     006710 R TOF    006733 R TSB    006755 R TSB1
007002 R TSB12  007005 R TSB14  007012 R TSB2   007021 R TSB3
007035 R TSB4   007042 R TSBTB  007465 R TSBTBX 010414 R TSFL
007465 R TST    010415 R TU     007473 R TVR    000422 A TWO
010650 R V      000360 A V$CTAD 000070 A V$DATE 000355 A V$DSTB
000000 E V$EXEC 000000 E V$IOC  000000 E V$IOST 000412 A V$JOB
000055 A V$JCFG 000056 A V$JFCB 000050 A V$JNAM 000054 A V$LCNT
000317 A V$LLUP 000345 A V$LMNT 000400 A V$LUT1 000401 A V$LUT2
000402 A V$LUT3 000417 A V$STSZ 000357 A V$TKSZ 007734 R VARBLO
000666 A VARBLS 010152 R VBLODG 010423 R VBLOND 000001 A VORTEX
007574 R WR025  007514 R WR010  007504 R WR020  007615 R WR030
007627 R WR035  007631 R WR040  007643 R WR045  007645 R WR050
007657 R WR060  007700 R WR06D  003451 R WROLD  007510 R WROT
007721 R WROTT  010647 R WRT    000001 A X      010431 R XRPT
007722 R ZEB    000420 A ZERO
  0 ERRORS ASSEMBLY COMPLETE
```

```
434   $BIT      590
  0   AF        526   781   997
513   ASI       616   655   708
569   ASI0      564
573   ASI05     571   572   578
617   ASI1      570   585
626   ASI2      609
631   ASI3      547   556
630   ASI4      630
561   ASIC      521
557   ASII      528
518   ASIL      559
551   ASIM      529   555
565   ASIX      575   586   593   595   597   621   625
601   ASIY      584   632
613   ASIZ      604   606
  0   ASP      1044
650   ASS       656
  0   AT        531   782   792
435   B         551   552   557   574  1010
142   BM17      479   562   566
148   BM1777    149
143   BM37      481
146   BM377     482
  0   BOFCB     420
110   BR0       474
 97   BS3       477
 98   BS4       480
103   BS9       483
693   CAN       713
714   CANT      707   711
670   CBA       677   872
  0   CFPTSW    991
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0	CL	525	954	957					
0	COMP	10							
0	CRT	734	909						
742	CTS	745							
759	DEK	763							
780	DFT	784	1005						
0	DPB	514							
791	DSM	798	1002						
788	DSM1	794							
0	EC	803	804	805	806	807	808	809	810	811
		812	813	814	815	816	817	818	819	820
		821	822	823	824	825	826	827	828	829
		859	866	871	883	889				
136	EIGHT	1016								
0	EJEC	11								
0	EL	527	534	538	541	544	563	577	696	
0	ENDX	896								
0	ENTR	12								
0	EOLSW	901								
829	ER0	855	858							
828	ER1	854								
819	ER10	845								
818	ER11	844								
817	ER12	843								
816	ER13	842								
815	ER14	841								
814	ER15	840								
813	ER16	839								
812	ER17	838								
811	ER18	837								
810	ER19	624	836							
827	ER2	853								
809	ER20	835								
808	ER21	834								
807	ER22	833								
806	ER23	832								
805	ER24	831								
804	ER25	830								
826	ER3	852								
825	ER4	851								
824	ER5	797	850							
823	ER6	849								
822	ER7	848								
821	ER8	847								
820	ER9	846								
0	ERBF	870	873	874						
867	ERR0	863								
887	ERR2	862	892							
889	ERR3	864								
870	ERR4	888								
885	ERRR	856								
915	ERRS	890	893							
931	EXA	934								
0	EXAD	1053								
0	EXIT	894	914							
951	EXL	959								
0	F	952								
456	FFPOP	457	458	459	460	461	462	463	464	465
		466	467	468	469	470				
133	FIVE	695								
980	FNO	983	990	992						
1035	FNS0	1025								
1027	FNS05	1023								
1030	FNS07	1026								
1045	FNS1	1041								
1057	FNS2	1037								
0	FNS3	1051								
0	FNS5	1038								
0	FNS6	1047								
0	FNS7	1052								
0	FNS8	1056								
0	FNS9	1058								
0	FORT	412								
132	FOUR	475	880	912						
0	GOFCB	421								
0	I	518	554	567	706	712	956	1007	1020	
0	IAC	985								
0	ICH	907	910							
0	ICO	899								
0	ICO0	898								
0	ICORNL	900								
0	ID	574	701	702						
0	IDI	932								
0	IM	592	602	615	652	704	788	795		
0	IT.	520	543	545	905					
0	IU	596	607	629	633	651	698			
0	J	537	539							
0	JPFL	1055	1057							
0	JT	532	540	542	544	906				
0	K	760	762							
473	K2	530	603	761	793					

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177454  R   286 JT      EQU     JPFL+4          TRIAD TOP POINTER                                01 10 00286
177455  R   287 K       EQU     JT+1            EXPRESSION POINTER                               01 10 00287
177456  R   288 KT      EQU     K+1             EXPRESSION TOP POINTER                           01 10 00288
177457  R   289 LF      EQU     KT+1            LOCATION FIELD                                   01 10 00289
177460  R   290 LIF     EQU     LF+1            LOGICAL IF FLAG                                  01 10 00290
177461  R   291 LLOP    EQU     LIF+1           NO. OF LINES LEFT ON PAGE                        01 10 00291
177462  R   292 MAXOPC  EQU     LLOP+1          MAXIMUM FPP OPERATION COUNT                      01 10 00292
177463  R   293 MDTB    EQU     MAXOPC+1        OPERAND IMPLICIT MODE TABLE                      26 10 00293
177516  R   294 MF      EQU     MDTB+27         MODE FLAG                                           10 00294
177517  R   295 MM      EQU     MF+1            MAX/MIN LIST FLAF                                01 10 00295
177520  R   296 MR      EQU     MM+1            MULTIPLY REGISTERS                               02 10 00296
177522  R   297 NAME    EQU     MR+2            SUBROUTINE GENERATION NAME                       01 10 00297
177523  R   298 ND      EQU     NAME+1          NUMBER OF DIMENSIONS                             01 10 00298
177524  R   299 NF      EQU     ND+1            NEGATION FLAG                                    01 10 00299
177525  R   300 NFFW    EQU     NF+1            SCAN FORWARD NEGATION FLAG                       01 10 00300
177526  R   301 NS      EQU     NFFW+1          NUMBER OF SUBSCRIPTS                             01 10 00301
177527  R   302 NT      EQU     NS+1            NAME TAG                                         01 10 00302
177530  R   303 NTFL    EQU     NT+1            NO TAG-USAGE FLAG                                01 10 00303
177531  R   304 OP      EQU     NTFL+1          OPERATION                                        01 10 00304
177532  R   305 OPBK    EQU     OP+1            SCAN BACKWARD OPERATION                          01 10 00305
177533  R   306 OPCNT   EQU     OPBK+1          OPERATION COUNT                                  01 10 00306
177534  R   307 OPW     EQU     OPCNT+1         OUTPUT PACK WORD                                 01 10 00307
177535  R   308 OITFL   EQU     OPW+1           OUTPUT-ITEM FLAG                                 01 10 00308
177536  R   309 O1      EQU     OITFL+1         LEFT OPERAND                                     01 10 00309
177537  R   310 O2      EQU     O1+1            RIGHT OPERAND                                    01 10 00310
177540  R   311 PC      EQU     O2+1            PACK CONTROL                                     04 10 00311
177544  R   312 PIBLCN  EQU     PC+4            PI BLOCKING COUNT                                01 10 00312
177545  R   313 QFL     EQU     PIBLCN+1        QUOTE FLAG                                       01 10 00313
177546  R   314 RL      EQU     QFL+1           RELATIVE PROGRAM LOCATIONS                       02 10 00314
177550  R   315 SBFL    EQU     RL+2            SUBPROGRAM FLAGS                                 02 10 00315
177553  R   316 SF      EQU     SBFL+3          STORAGE FLAG                                        10 00316
177554  R   317 SPFL    EQU     SF+1            SPECIFICATION FLAG                               01 10 00317
177555  R   318 STFFL   EQU     SPFL+1          STATEMENT FUNCTION FLAG                          01 10 00318
177556  R   319 STNB    EQU     STFFL+1         STATEMENT NUMBER                                 01 10 00319
177557  R   320 STSW    EQU     STNB+1          STATEMENT SWITCH                                 01 10 00320
177560  R   321 SSP     EQU     STSW+1          SPECIFICATION STACK POINTERS                     05 10 00321
177565  R   322 SXF     EQU     SSP+5           COMPLEX FLAG                                     01 10 00322
177566  R   323 TC      EQU     SXF+1           TERM CHARACTER/ CHARACTER IMAGE                  02 10 00323
177570  R   324 TERF    EQU     TC+2            TERMINATING ERROR FLAG                           01 10 00324
177571  R   325 TM      EQU     TERF+1          TRIAD MODE                                       01 10 00325
177572  R   326 TSFL    EQU     TM+1            TEMPORARY STORAGE FLAG                           01 10 00326
177573  R   327 TU      EQU     TSFL+1          TRIAD USE                                        01 10 00327
177574  R   328 T0      EQU     TU+1            TEMPORARY STORAGE                                01 10 00328
177575  R   329 T1      EQU     T0+1            TEMPORARY STORAGE                                01 10 00329
177576  R   330 T2      EQU     T1+1            TEMPORARY STORAGE                                01 10 00330
177577  R   331 T2IN    EQU     T2+1                                                             01 10 00331
177600  R   332 T3      EQU     T2IN+1          TEMPORARY STORAGE                                01 10 00332
177601  R   333 T4      EQU     T3+1            TEMPORARY STORAGE                                01 10 00333
177602  R   334 T5      EQU     T4+1            TEMPORARY STORAGE                                01 10 00334
177603  R   335 T6      EQU     T5+1            TEMPORARY STORAGE                                01 10 00335
177604  R   336 T7      EQU     T6+1            TEMPORARY STORAGE                                01 10 00336
177605  R   337 T8      EQU     T7+1            TEMPORARY STORAGE                                01 10 00337
177606  R   338 T9      EQU     T8+1            TEMPORARY STORAGE                                01 10 00338
177607  R   339 XRPT    EQU     T9+1            OBJECT X-REGISTER POINTER                        01 10 00339
177611  R   340 VBLOND  EQU     XRPT+2          END OF CLEARED VARIABLES                            10 00340
            341         EJECT                                                                    10 00341
            342 ********************************************************************************* 10 00342
            343 *                                                                               * 10 00343
            344 *          C O M P I L E R   T R A N S F E R   V E C T O R                      * 10 00344
            345 *                                                                               * 10 00345
            346 ********************************************************************************* 10 00346
            348 *       T O - C O M P I L E R                                                   * 10 00348
077611  R   350 V       SET     VBLOND-0100000                                                   10 00350
077611  R   352 ASI     EQU     V               ASSIGN ITEM                                      10 00352
077612  R   353 V       SET     V+1                                                              10 00353
077612  R   354 ASS     EQU     V               ASSIGN SPECIAL                                   10 00354
077613  R   355 V       SET     V+1                                                              10 00355
077613  R   356 CAN     SET     V               "ALL NAME                                        10 00356
077614  R   357 V       SET     V+1                                                              10 00357
077614  R   358 CBA     SET     V               CONVERT BINARY TO ASCII                          10 00358
077615  R   359 V       SET     V+1                                                              10 00359
077615  R   360 CCR     EQU     V               COMMA OR C/R TEST                                10 00360
077616  R   361 V       SET     V+1                                                              10 00361
077616  R   362 CRT     EQU     V               C/R TEST                                         10 00362
077617  R   363 V       SET     V+1                                                              10 00363
077617  R   364 CTS     EQU     V               COMMA TEST                                       10 00364
077620  R   365 V       SET     V+1                                                              10 00365
077620  R   366 DEK     SET     V               DEKREMENT K                                      10 00366
077621  R   367 V       SET     V+1                                                              10 00367
077621  R   368 DFT     EQU     V               DEFINE AF,AT                                     10 00368
077622  R   369 V       SET     V+1                                                              10 00369
077622  R   370 DSM     SET     V               DEFINE STATEMENT MODE                            10 00370
077623  R   371 V       SET     V+1                                                              10 00371
077623  R   372 EQLSW   SET     V                                                                10 00372
077624  R   373 V       SET     V+1                                                              10 00373
077624  R   374 ER1     SET     V                                                                10 00374
077625  R   375 V       SET     V+1                                                              10 00375
077625  R   376 ER2     EQU     V               USAGE ERROR                                      10 00376
077626  R   377 V       SET     V+1                                                              10 00377
077626  R   378 ER3     EQU     V               MODE ERROR                                       10 00378
077627  R   379 V       SET     V+1                                                              10 00379
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```
                    1 *NEW FORTRAN - OVERLAY 0                                                  10 00001
                    2 COMPL   OPSY    COMP                                                       10 00002
                    3 EJECT   OPSY    EJEC                                                       10 00003
                    4 ENTRY   OPSY    ENTR                                                       10 00004
                    5 MERGE   OPSY    MERG                                                       10 00005
                    6 SPACE   OPSY    SPAC                                                       10 00006
                    7         TITLE   V$FOR0                                                     10 00007
                    8         EJEC                                                               10 00008
                    9 *********************************************************************** 10 00009
                   10 *                                                                          10 00010
                   11 ***       JOB PROCESSOR LOW CORE EQUATES                                ** 10 00011
                   12 *                                                                          10 00012
                   13 *********************************************************************** 10 00013
000050 A           15 LCJP    EQU     050                                                        10 00015
000050 A           16 V$JNAM  EQU     LCJP            JCP NAME                                   10 00016
000054 A           17 V$LCNT  EQU     LCJP+4          LINE COUNT                                 10 00017
000055 A           18 V$JCFG  EQU     LCJP+5          JCP FLAGS                                  10 00018
                   19 *                               BIT 2-0   = LOAD AND GO FLAGS              10 00019
                   20 *                               BIT  3    = DUMP FLAG  1=DUMP, 0=NO DUMP   10 00020
                   21 *                               BIT 9-4   = UNUSED                         10 00021
                   22 *                               BIT 15-10 = BG EXTRA CORE BLOCKS TO ALLOC  10 00022
000056 A           24 V$JFCB  EQU     LCJP+6          JCP FILE CONTROL BLOCK                     10 00024
000070 A           25 V$DATE  EQU     LCJP+16         JCP DATA RECORD                            10 00025
                   26         EJEC                                                               10 00026
                   27 *********************************************************************** 10 00027
                   28 *                                                                          10 00028
                   29 ****      LOW CORE DESCRIPTION                                         *** 10 00029
                   30 *                                                                          10 00030
                   31 *********************************************************************** 10 00031
000300 A           33 LC      EQU     0300                                                       10 00033
000317 A           34 V$LLUP  EQU     LC+15           LOC. OF LAST UNPROTECTED WORD              10 00034
000345 A           35 V$LUNT  EQU     LC+37           ADDR. OF LOGICAL UNIT NAME TABLE           10 00035
000355 A           36 V$DSTB  EQU     LC+45           BASE ADDR. FOR DST BLOCK                   10 00036
000357 A           37 V$TKSZ  EQU     LC+47           RMD TRACK SIZE                             10 00037
000360 A           38 V$CTAD  EQU     LC+48           BASE ADDR. FOR CONTROLLER ADDR. TABLE      10 00038
000400 A           39 V$LUT1  EQU     LC+64           START LUN ADDR FOR JCP/OPCOM ASSIGNABLE    10 00039
000401 A           40 V$LUT2  EQU     LC+65           START LUN ADDR FOR UNASSIGNABLE            10 00040
000402 A           41 V$LUT3  EQU     LC+66           START LUN ADDR FOR OPCOM ASSIGNABLE        10 00041
000412 A           42 V$JCB   EQU     LC+74           ALL SYSTEM BACKGROUND PROGRAMS AND JCP USE 10 00042
                   43 *                               THIS SYSTEM BUFFER TO READ DIRECTIVES AND  10 00043
                   44 *                               SOURCE RECORDS IN.                         10 00044
000417 A           45 V$STSZ  EQU     LC+79           ACTURAL SECTOR SIZE                        10 00045
                   46         EJEC                                                               10 00046
                   47 *********************************************************************** 10 00047
                   48 *                                                                          10 00048
                   49 ****      MASK TABLE DESCRIPTION                                       *** 10 00049
                   50 *                                                                          10 00050
                   51 *********************************************************************** 10 00051
000420 A           53 MT      SET     0420                                                       10 00053
000420 A           54 ZERO    EQU     MT              ZERO WORD                                  10 00054
000421 A           55 BS0     EQU     MT+1            BIT MASK CONTENTS 000001                   10 00055
000422 A           56 BS1     EQU     MT+2                              000002                   10 00056
000423 A           57 BS2     EQU     MT+3                              000004                   10 00057
000424 A           58 BS3     EQU     MT+4                              000010                   10 00058
000425 A           59 BS4     EQU     MT+5                              000020                   10 00059
000426 A           60 BS5     EQU     MT+6                              000040                   10 00060
000427 A           61 BS6     EQU     MT+7                              000100                   10 00061
000430 A           62 BS7     EQU     MT+8                              000200                   10 00062
000431 A           63 BS8     EQU     MT+9                              000400                   10 00063
000432 A           64 BS9     EQU     MT+10                             001000                   10 00064
000433 A           65 BS10    EQU     MT+11                             002000                   10 00065
000434 A           66 BS11    EQU     MT+12                             004000                   10 00066
000435 A           67 BS12    EQU     MT+13                             010000                   10 00067
000436 A           68 BS13    EQU     MT+14                             020000                   10 00068
000437 A           69 BS14    EQU     MT+15                             040000                   10 00069
000440 A           70 BS15    EQU     MT+16                            0100000                   10 00070
000441 A           71 BR0     EQU     MT+17           BIT MASK CONTENTS  0177776                 10 00071
000442 A           72 BR1     EQU     MT+18                              0177775                 10 00072
000443 A           73 BR2     EQU     MT+19                              0177773                 10 00073
000444 A           74 BR3     EQU     MT+20                              0177767                 10 00074
000445 A           75 BR4     EQU     MT+21                              0177757                 10 00075
000446 A           76 BR5     EQU     MT+22                              0177737                 10 00076
000447 A           77 BR6     EQU     MT+23                              0177677                 10 00077
000450 A           78 BR7     EQU     MT+24                              0177577                 10 00078
000451 A           79 BR8     EQU     MT+25                              0177377                 10 00079
000452 A           80 BR9     EQU     MT+26                              0176777                 10 00080
000453 A           81 BR10    EQU     MT+27                              0175777                 10 00081
000454 A           82 BR11    EQU     MT+28                              0173777                 10 00082
000455 A           83 BR12    EQU     MT+29                              0167777                 10 00083
000456 A           84 BR13    EQU     MT+30                              0157777                 10 00084
000457 A           85 BR14    EQU     MT+31                              0137777                 10 00085
000460 A           86 BR15    EQU     MT+32                              0077777                 10 00086
000461 A           87 NEG     EQU     MT+33           SET ALL BITS                               10 00087
000462 A           88 LHW     EQU     MT+34           LEFT HALF WORD MASK 0177400                10 00088
000463 A           89 RHW     EQU     MT+35           RIGHT HALF WORD MASK    0377               10 00089
000421 A           90 ONE     EQU     MT+1            CONTAINS NUMBER  1                         10 00090
000422 A           91 TWO     EQU     MT+2            CONTAINS NUMBER  2                         10 00091
000464 A           92 THREE   EQU     MT+36           CONTAINS NUMBER  3                         10 00092
000423 A           93 FOUR    EQU     MT+3            CONTAINS NUMBER  4                         10 00093
000465 A           94 FIVE    EQU     MT+37           CONTAINS NUMBER  5                         10 00094
000466 A           95 SIX     EQU     MT+38           CONTAINS NUMBER  6                         10 00095
```

475	K4	1000	1046	1050					
476	K6	984							
482	K77	908							
0	KT	535							
0	LAX	601	1008						
72	LC	73	74	75	76	77	78	79	80	81
		84							
54	LCJP	55	56	57	63	64			
0	LIST	876							
0	LOFCB	422							
0	MADS	878							
0	MERG	13							
92	MT	93	94	95	96	97	98	99	100	101
		102	103	104	105	106	107	108	109	110
		111	112	113	114	115	116	117	118	119
		120	121	122	123	124	125	126	127	128
		129	130	131	132	133	134	135	136	137
		138	139	140	141	142	143	144	145	146
		147	148						
0	NERR	877							
0	NT	582	654	705					
0	NTFL	608	614						
0	ODB	710							
129	ONE	1022	1042						
0	OSR	999							
0	OVER	1011	1028	1043					
0	PDS	903							
0	PIFCB	423							
0	PTR	1029							
0	RCH	897	933						
0	RL	1003							
0	SAX	631	783	789					
135	SEVEN	591	1032						
0	SIFCB	424							
134	SIX	476							
0	SPAC	14							
0	SPFL	605	622	1036	1039	1045	1049		
0	STNB	1059							
0	STSW	733	895						
0	T2FN	1001	1009	1010	1015	1017	1018	1030	1033	1034
		1035	1048						
0	T8	1006	1021						
0	TC	626	732	981	986	987			
138	TEN	478	673						
856	TER0	857							
840	TER16	993							
0	TERF	904							
131	THREE	569	619	623	697	1024			
0	TOF	536							
0	TSB	628							
0	TST	744							
130	TWO	473	1027						
0	V$EXEC	425							
0	V$FORT	15							
0	V$IOC	426							
0	V$IOST	427							
57	V$JCFG	879	881	911	913				
436	X	561	565	573	583	617	953	955	958

```
                190          EJECT                                                        10 00190
                191 *************************************************************************** 10 00191
                192 *                                                                     * 10 00192
                193 * I/O BUFFER, VARIABLE BLOCK, AND TRANSFER VECTOR DEFINITIONS         * 10 00193
                194 *                                                                     * 10 00194
                195 *************************************************************************** 10 00195
010150 A        197 OVERSZ SET       4200          MAXIMUM OVERLAY SIZE                   10 00197
000027 A        198 TFVCSZ SET       027           FROM-COMPILER TRANSFER VECTOR SIZE     10 00198
000666 A        199 VARBLS SET       0666          VARIABLE BLOCK SIZE                    10 00199
177112 R        200 VARBLO EQU       *-VARBLS      VARIABLE BLOCK START ADDRESS           10 00200
177120 R        202 ERBF   EQU       VARBLO+06     ERROR BUFFER                           10 00202
177127 R        203 HERR   EQU       VARBLO+015    ERROR COUNT                            10 00203
177160 R        204 SLOT   EQU       VARBLO+0046   SPECIAL LIST BUFFER                    10 00204
177204 R        205 TITL   EQU       VARBLO+0072   TITLE BUFFER                           10 00205
177207 R        206 TITP   EQU       VARBLO+0075        TITLE PAGE NUMBER                 10 00206
177212 R        207 TITD   EQU       VARBLO+0100        TITLE DATE                        10 00207
177217 R        208 TITJ   EQU       VARBLO+0105        TITLE JOB NAME                    10 00208
177236 R        209 TITN   EQU       VARBLO+0124   TITLE NAME                             10 00209
177243 R        210 TITM   EQU       VARBLO+0131        TIME                              10 00210
177250 R        211 TITQ   EQU       VARBLO+0136        END                               10 00211
177250 R        212 BLFCB  EQU       VARBLO+0136   BO FCB                                 10 00212
177262 R        213 GLFCB  EQU       VARBLO+0150   GO FCB                                 10 00213
177274 R        214 LLFCB  EQU       VARBLO+0162   LO FCB                                 10 00214
177306 R        215 PLFCB  EQU       VARBLO+0174   PI FCB                                 10 00215
                216          EJEC                                                         10 00216
                217 *************************************************************************** 10 00217
                218 *                                                                     * 10 00218
                219 *          C O M P I L E R   V A R I A B L E   B L O C K              * 10 00219
                220 *                                                                     * 10 00220
                221 *************************************************************************** 10 00221
                223 *******************************                                        10 00223
                224 * FIXED ON LOADING BY ROUTINE FORT *                                   10 00224
                225 *******************************                                        10 00225
177320 R        226 BOBLFL EQU       VARBLO+0206   BO BLOCKING FLAG                       10 00226
177321 R        227 GOBLFL EQU       VARBLO+0207   GO BLOCKING FLAG                       10 00227
177322 R        228 LOBLFL EQU       VARBLO+0210   LO BLOCKING FLAG                       10 00228
177323 R        229 PIBLFL EQU       VARBLO+0211   PI BLOCKING FLAG                       10 00229
177324 R        230 $PCW   EQU       VARBLO+0212   COMPILER CONTROL FLAGS                 10 00230
177325 R        231 $ECW   EQU       VARBLO+0213   ERROR CONTROL WORD                     10 00231
177326 R        232 DPB    EQU       VARBLO+0214   AVAILABLE CORE START ADDRESS           10 00232
177327 R        233 DPX    EQU       VARBLO+0215   AVAILABLE CORE END ADDRESS             10 00233
                235 *******************************                                        10 00235
                236 * CLEARED FOR EACH COMPILATION *                                       10 00236
                237 *******************************                                        10 00237
177330 R        239 VBLOBG EQU       DPX+1         START OF CLEARED VARIABLES             10 00239
177330 R        240 AF     EQU       VBLOBG        ADDRESS FIELD                       01 10 00240
177331 R        241 AIFW   EQU       AF+1          SCAN FORWARD I POINTER              01 10 00241
177332 R        242 AS     EQU       AIFW+1        ARRAY SUBSCRIPTS                    07 10 00242
177341 R        243 AT     EQU       AS+7          ADDRESS TYPE                        01 10 00243
177342 R        244 BDF    EQU       AT+1          BLOCK DATA FLAG                     01 10 00244
177343 R        245 BOBLCN EQU       BDF+1         BO BLOCKING FLAG                    01 10 00245
177344 R        246 CF     EQU       BOBLCN+1      SCAN COMPLIMENT FLAG                01 10 00246
177345 R        247 CFPTSW EQU       CF+1          FINAL POINT CHECK SWITCH            01 10 00247
177346 R        248 CL     EQU       CFPTSW+1                                          01 10 00248
177347 R        249 CLOP   EQU       CL+1          LIST OUTPUT PACK COUNT              01 10 00249
177350 R        250 CMFL   EQU       CLOP+1        COMMON FLAGS                        01 10 00250
177351 R        251 CNP    EQU       CMFL+1        COMMON NAME POINTER                 01 10 00251
177352 R        252 D      EQU       CNP+1         DO POINTER                          01 10 00252
177353 R        253 DF     EQU       D+1           DELIMITER FLAG                      01 10 00253
177354 R        254 DFPP   EQU       DF+1          FLOATING POINT DISABLE FLAG         01 10 00254
177355 R        255 DH     EQU       DFPP+1        DO LIMIT POINTER                    01 10 00255
177356 R        256 DI     EQU       DH+1          DO INCREMENT POINTER                01 10 00256
177357 R        257 DPCA   EQU       DI+1          DATA POOL CONTSANTS - I-POINTER FOR:   10 00257
                258 *                                1,2,0,4,0.0,0DD,A$C,SQRT,IFIX,FLOAT  10 00258
                259 *                               ,-1,DFLOAT                            10 00259
177373 R        260 DR     EQU       DPCA+12       DO RETURN ADDRESS                      10 00260
177374 R        261 DS     EQU       DR+1                                              01 10 00261
177375 R        262 DSAV   EQU       DS+1          DT SAVE FOR RD/WR PROCESSING        01 10 00262
177376 R        263 DT     EQU       DSAV+1        DO TOP POINTER                      01 10 00263
177377 R        264 DTFL   EQU       DT+1          DO TERMINATION FLAG                 02 10 00264
177401 R        265 DV     EQU       DTFL+2        DO VARIABLE POINTER                 01 10 00265
177402 R        266 EC     EQU       DV+1          ERROR COUNT                         01 10 00266
177403 R        267 EH     EQU       EC+1          EXPRESSION HIERARCHYS               02 10 00267
177405 R        268 EHBK   EQU       EH+2          SCAN BACKWARD EXPRESSION HEIRARCHY  01 10 00268
177406 R        269 EL     EQU       EHBK+1        ENTRY LENGTH                        01 10 00269
177407 R        270 EXAD   EQU       EL+1          EXECUTEABLE ADDRESS                 01 10 00270
177410 R        271 F      EQU       EXAD+1        ALTERNATE I POINTER                 01 10 00271
177411 R        272 FFPFL  EQU       F+1           FLOATING POINT PROCESSOR FLAG       01 10 00272
177412 R        273 GOBLCN EQU       FFPFL+1       GO BLOCKING COUNT                   01 10 00273
177413 R        274 HCC    EQU       GOBLCN+1      HOLLERITH COLUMN COUNTER            01 10 00274
177414 R        275 I      EQU       HCC+1         ASSIGNMENT TABLE POINTER            01 10 00275
177415 R        276 ID     EQU       I+1           IDENTIFICATION                      04 10 00276
177421 R        277 IM     EQU       ID+4          ITEM MODE                           01 10 00277
177422 R        278 INBP   EQU       IM+1          INPUT BUFFER POINTER                01 10 00278
177423 R        279 IOFL   EQU       INBP+1        I/O FLAG                            01 10 00279
177424 R        280 IP     EQU       IOFL+1        ARRAY POINTERS                      09 10 00280
177435 R        281 IS     EQU       IP+9          ARRAY DIMENSIONS                    08 10 00281
177445 R        282 IT     EQU       IS+8          ASSIGNMENT TOP POINTER              01 10 00282
177446 R        283 IU     EQU       IT+1          ITEM USAGE                          01 10 00283
177447 R        284 J      EQU       IU+1          TRIAD POINTER                       01 10 00284
177450 R        285 JPFL   EQU       J+1           JUMP FLAGS                          04 10 00285
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000467 A    96 SEVEN   EQU     MT+39          CONTAINS NUMBER  7                          10 00096
000424 A    97 EIGHT   EQU     MT+4           CONTAINS NUMBER  8                          10 00097
000470 A    98 NINE    EQU     MT+40          CONTAINS NUMBER  9                          10 00098
000471 A    99 TEN     EQU     MT+41          CONTAINS NUMBER 10                          10 00099
000421 A   100 BM1     EQU     MT+1           BIT MASK WORD 00001                         10 00100
000464 A   101 BM3     EQU     MT+36          BIT MASK WORD  00003                        10 00101
000467 A   102 BM7     EQU     MT+39          BIT MASK WORD  00007                        10 00102
000472 A   103 BM17    EQU     MT+42          BIT MASK WORD  00017                        10 00103
000473 A   104 BM37    EQU     MT+43          BIT MASK WORD  00037                        10 00104
000474 A   105 BM77    EQU     MT+44          BIT MASK WORD  00077                        10 00105
000475 A   106 BM177   EQU     MT+45          BIT MASK WORD  00177                        10 00106
000463 A   107 BM377   EQU     MT+35          BIT MASK WORD  00377                        10 00107
000476 A   108 BM777   EQU     MT+46          BIT MASK WORD  00777                        10 00108
000477 A   109 BM1777  EQU     MT+47          BIT MASK WORD  01777                        10 00109
000500 A   110 MTE     EQU     BM1777+1                                                FF 10 00110
           111         EJECT                                                              10 00111
           112 ********************************************************************** 10 00112
           113 *                                                                    * 10 00113
           114 *     P   R   O   G   R   A   M       C   O   N   T   R   O   L    * 10 00114
           115 *                                                                    * 10 00115
           116 *                       B   L   O   C   K                            * 10 00116
           117 *                                                                    * 10 00117
           118 ********************************************************************** 10 00118
           120 ********************************************************************** 10 00120
           121 *                                                                    * 10 00121
           122 *                       E X T E R N A L S                            * 10 00122
           123 *                                                                    * 10 00123
           124 ********************************************************************** 10 00124
           126         EXT     $OFCB          SYSTEM $O FCB                           10 00126
           127         EXT     GOFCB          SYSTEM GO FCB                           10 00127
           128         EXT     LOFCB          SYSTEM LO FCB                           10 00128
           129         EXT     PIFCB          SYSTEM PI FCB                           10 00129
           130         EXT     SIFCB          SYSTEM SI FCB                           10 00130
           131         EXT     V$EMEC         ENTRY TO RTE SERVICES                   10 00131
           132         EXT     V$IOC          ENTRY TO IOC                            10 00132
           133         EXT     V$IOST         ENTRY TO IOC STATUS CALL                10 00133
           134 ********************************************************************** 10 00134
           135 *                                                                    * 10 00135
           136 *                   S Y S T E M   V A R I A B L E S                  * 10 00136
           137 *                                                                    * 10 00137
           138 ********************************************************************** 10 00138
000020 A   140 $BIT    SET     16             SELECT 16-BIT V$N 620 COMPUTER          10 00140
000002 A   141 B       SET     2              B-REGISTER                              10 00141
000001 A   142 X       SET     1              X-REGISTER                              10 00142
           143 *                                                                      10 00143
           144 *                                                                      10 00144
           145 *     PARAMETERS FOR WCS V74 FORTRAN                                   10 00145
           146 *                                                                      10 00146
           147 *                                                                      10 00147
105032 A   148 FLDI    EQU     0105032        FLD BCS OPCODE                          10 00148
105033 A   149 FSTI    EQU     0105033        FST BCS OPCODE                          10 00149
105035 A   150 F$DOI   EQU     0105035        $DO BCS OPCODE                          10 00150
105027 A   151 F$DOI1  EQU     0105027        $DO BCS OPCODE(INCREMENT=1)           FF 10 00151
105036 A   152 F$SEI   EQU     0105036        $SE BCS OPCODE                          10 00152
105037 A   153 FMOVI   EQU     0105037        FMOV BCS INSTRUCTION                    10 00153
105127 A   154 FSQRT   EQU     0105127        FLOATING SQUARE-ROOT BCS INSTRUCTION    10 00154
105024 A   155 FLREL   EQU     0105024        FLOATING RELATIONAL BASE OP-CODE        10 00155
105125 A   156 FLJAG   EQU     0105125        BCS JMP A.GT.0                          10 00156
105226 A   157 FLAIF   EQU     0105226        FLOATING ARITHMETIC-IF OP-CODE          10 00157
105167 A   158 FLIOP   EQU     0105167        BCS SUBSCRIPT OPERATOR                  10 00159
           159 *                                                                  FF 10 00159
           160 * FAST FLOATING-POINT BCS OP CODES                                  FF 10 00160
           161 *                                                                  FF 10 00161
105400 A   162 FFPOP   EQU     0105400        BASIC FFP OP                        FF 10 00162
105503 A   163 FADDD   EQU     FFPOP+0103     DP ADD                              FF 10 00163
105410 A   164 FADDS   EQU     FFPOP+010      SP ADD                              FF 10 00164
105535 A   165 FDIVD   EQU     FFPOP+0135     DP DIVIDE                           FF 10 00165
105401 A   166 FDIVS   EQU     FFPOP+1        SP DIVIDE                           FF 10 00166
105621 A   167 FIX     EQU     FFPOP+0221     FIX FP                              FF 10 00167
105420 A   168 FLDS    EQU     FFPOP+020      LOAD SP                             FF 10 00168
105522 A   169 FLDD    EQU     FFPOP+0122     LOAD DP                             FF 10 00169
105425 A   170 FLT     EQU     FFPOP+025      FLOAT INTEGER                       FF 10 00170
105506 A   171 FMULD   EQU     FFPOP+0106     MULTIPLY DP                         FF 10 00171
105416 A   172 FMULS   EQU     FFPOP+016      MULTIPLY SP                         FF 10 00172
105710 A   173 FSTD    EQU     FFPOP+0310     STORE DP                            FF 10 00173
105600 A   174 FSTS    EQU     FFPOP+0200     STORE SP                            FF 10 00174
105543 A   175 FSUBD   EQU     FFPOP+0143     SUBTRACT DP                         FF 10 00175
105450 A   176 FSUBS   EQU     FFPOP+050      SUBTRACT SP                         FF 10 00176
           177 *                                                                    10 00177
           178 *                                                                    10 00178
000422 A   179 K2      EQU     TWO                                                    10 00179
000441 A   180 MTWO    EQU     2*8                                                    10 00180
000423 A   181 K4      EQU     FOUR                                                   10 00181
000466 A   182 K6      EQU     SIX                                                    10 00182
000424 A   183 K10     EQU     8*8                                                    10 00183
000471 A   184 K12     EQU     TEN                                                    10 00184
000472 A   185 K17     EQU     BM17                                                   10 00185
000425 A   186 K20     EQU     8*4                                                    10 00186
000473 A   187 K37     EQU     BM37                                                   10 00187
000463 A   188 K77     EQU     BM377                                                  10 00188
000432 A   189 KJMP    EQU     8*5                                                    10 00189
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077627 R  380 ER6     EQU     V                 COMMON BASE LOWERED                          10 00380
077630 R  381 V       SET     V+1                                                          10 00381
077630 R  382 ER7     EQU     V                 ILLEGAL EQUIVALENCE GROUP                  10 00382
077631 R  383 V       SET     V+1                                                          10 00383
077631 R  384 ER8     SET     V                                                            10 00384
077632 R  385 V       SET     V+1                                                          10 00385
077632 R  386 ER11    SET     V                                                            10 00386
077633 R  387 V       SET     V+1                                                          10 00387
077633 R  388 ER12    SET     V                                                            10 00388
077634 R  389 V       SET     V+1                                                          10 00389
077634 R  390 ER13    SET     V                                                            10 00390
077635 R  391 V       SET     V+1                                                          10 00391
077635 R  392 ER14    SET     V                                                            10 00392
077636 R  393 V       SET     V+1                                                          10 00393
077636 R  394 ER15    EQU     V                 TRUNCATED VALUE ERROR                      10 00394
077637 R  395 V       SET     V+1                                                          10 00395
077637 R  396 ER16    EQU     V                 STATEMENT OUT OF ORDER                     10 00396
077640 R  397 V       SET     V+1                                                          10 00397
077640 R  398 ER17    EQU     V                 MORE THAN 29 COMMON REGIONS                10 00398
077641 R  399 V       SET     V+1                                                          10 00399
077641 R  400 ER18    EQU     V                 NON-COMMON DATA ERROR                      10 00400
077642 R  401 V       SET     V+1                                                          10 00401
077642 R  402 ER20    EQU     V                 DO INDEX NOT REFERENCED                    10 00402
077643 R  403 V       SET     V+1                                                          10 00403
077643 R  404 ER21    SET     V                                                            10 00404
077644 R  405 V       SET     V+1                                                          10 00405
077644 R  406 ER22    EQU     V                 ARRAY NAME PREVIOUSLY DECLARED             10 00406
077645 R  407 V       SET     V+1                                                          10 00407
077645 R  408 ER24    SET     V                 .                                          10 00408
077646 R  409 V       SET     V+1                                                          10 00409
077646 R  410 EXA     EQU     V                 EXAMINE NEXT CHARACTER                     10 00410
077647 R  411 V       SET     V+1                                                          10 00411
077647 R  412 EXL     EQU     V                 EXCHANGE LINKS                             10 00412
077650 R  413 V       SET     V+1                                                          10 00413
077650 R  414 FNS.1   EQU     V                 ENTRY TO FNS                               10 00414
077651 R  415 V       SET     V+1                                                          10 00415
077651 R  416 FORT1   SET     V                                                            10 00416
077652 R  417 V       SET     V+1                                                          10 00417
077652 R  418 GSE     EQU     V                 GENERATE SUBPROGRAM ENTRANCE               10 00418
077653 R  419 V       SET     V+1                                                          10 00419
077653 R  420 IAC     SET     V                 INPUT (A) CHARACTERS                       10 00420
077654 R  421 V       SET     V+1                                                          10 00421
077654 R  422 ICH     EQU     V                 INPUT CHARACTER                            10 00422
077655 R  423 V       SET     V+1                                                          10 00423
077655 R  424 ICO     EQU     V                 INPUT COLUMN                               10 00424
077656 R  425 V       SET     V+1                                                          10 00425
077656 R  426 ICORNL  SET     V                                                            10 00426
077657 R  427 V       SET     V+1                                                          10 00427
077657 R  428 ICRD    SET     V                                                            10 00428
077660 R  429 V       SET     V+1                                                          10 00429
077660 R  430 ICRR    SET     V                                                            10 00430
077661 R  431 V       SET     V+1                                                          10 00431
077661 R  432 ICSI    EQU     V                 INPUT SOURCE CONTROL SWITCH                10 00432
077662 R  433 V       SET     V+1                                                          10 00433
077662 R  434 IDI     SET     V                 INPUT DIGIT                                10 00434
077663 R  435 V       SET     V+1                                                          10 00435
077663 R  436 IHW     EQU     V                 INPUT HOLLERITH WORD                       10 00436
077664 R  437 V       SET     V+1                                                          10 00437
077664 R  438 IIV     EQU     V                 INPUT INTEGER VARIABLE                     10 00438
077665 R  439 V       SET     V+1                                                          10 00439
077665 R  440 ILB     SET     V                 INITIALIZE LIST BUFFER                     10 00440
077666 R  441 V       SET     V+1                                                          10 00441
077666 R  442 ILT     EQU     V                 ILLEGAL DO TERMINATION/CONTROL CONTINUE    10 00442
077667 R  443 V       SET     V+1                                                          10 00443
077667 R  444 INA     EQU     V                 INPUT NAME                                 10 00444
077670 R  445 V       SET     V+1                                                          10 00445
077670 R  446 INI     EQU     V                 INPUT ITEM                                 10 00446
077671 R  447 V       SET     V+1                                                          10 00447
077671 R  448 INN     EQU     V                 INPUT (DO NOT ASSIGN)                      10 00448
077672 R  449 V       SET     V+1                                                          10 00449
077672 R  450 INS     SET     V                 INPUT NORMAL STATEMENT NUMBER              10 00450
077673 R  451 V       SET     V+1                                                          10 00451
077673 R  452 INT     EQU     V                 INTEGER TEST                               10 00452
077674 R  453 V       SET     V+1                                                          10 00453
077674 R  454 ISN     SET     V                 INPUT STATEMENT NUMBER                     10 00454
077675 R  455 V       SET     V+1                                                          10 00455
077675 R  456 IVA     EQU     V                 INPUT VARIABLE                             10 00456
077676 R  457 V       SET     V+1                                                          10 00457
077676 R  458 IVC     SET     V                 INPUT INTEGER VARIABLE/CONSTANT            10 00458
077677 R  459 V       SET     V+1                                                          10 00459
077677 R  460 IWI     EQU     V                 WORDS/ITEM                                 10 00460
077700 R  461 V       SET     V+1                                                          10 00461
077700 R  462 LAX     EQU     V                 LOAD ASSIGNMENT DATA                       10 00462
077701 R  463 V       SET     V+1                                                          10 00463
077701 R  464 LDX     SET     V                 LOAD DO                                    10 00464
077702 R  465 V       SET     V+1                                                          10 00465
077702 R  466 LEX     SET     V                 LOAD EXPRESSION                            10 00466
077703 R  467 V       SET     V+1                                                          10 00467
077703 R  468 LIST    EQU     V                 LIST A LINE                                10 00468
077704 R  469 V       SET     V+1                                                          10 00469
077704 R  470 LOCT    SET     V                                                            10 00470
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077705 R  471 V       SET   V+1                                                  10 00471
077705 R  472 LTX     SET   V      LOAD TRIADS                                   10 00472
077706 R  473 V       SET   V+1                                                  10 00473
077706 R  474 MOVE    EQU   V      MOVE ALPHA DATA                               10 00474
077707 R  475 V       SET   V+1                                                  10 00475
077707 R  476 MXL     EQU   V      MAKE EXIT LABEL                               10 00476
077710 R  477 V       SET   V+1                                                  10 00477
077710 R  478 OAB     EQU   V      OUTPUT ABSOLUTE                               10 00478
077711 R  479 V       SET   V+1                                                  10 00479
077711 R  480 ODB     SET   V      OUTPUT DOUBLE                                 10 00480
077712 R  481 V       SET   V+1                                                  10 00481
077712 R  482 ODS     SET   V      OUTPUT DATA STRING                            10 00482
077713 R  483 V       SET   V+1                                                  10 00483
077713 R  484 ONEN    EQU   V      OUTPUT NAME                                   10 00484
077714 R  485 V       SET   V+1                                                  10 00485
077714 R  486 OPK     SET   V      OUTPUT PACK                                   10 00486
077715 R  487 V       SET   V+1                                                  10 00487
077715 R  488 ORE     SET   V      OUTPUT RELATIVE                               10 00488
077716 R  489 V       SET   V+1                                                  10 00489
077716 R  490 OSR     SET   V      OUTPUT STRING RELATIVE                        10 00490
077717 R  491 V       SET   V+1                                                  10 00491
077717 R  492 OTJ     EQU   V      OUTPUT JUMP                                   10 00492
077720 R  493 V       SET   V+1                                                  10 00493
077720 R  494 OUT     SET   V      OUTPUT OPERATOR/OPERAND                       10 00494
077721 R  495 V       SET   V+1                                                  10 00495
077721 R  496 OWD     SET   V      OUTPUT WORD                                   10 00496
077722 R  497 V       SET   V+1                                                  10 00497
077722 R  498 OWS     EQU   V      OUTPUT WORDS                                  10 00498
077723 R  499 V       SET   V+1                                                  10 00499
077723 R  500 PDS     SET   V      PACK DATA STRING                              10 00500
077724 R  501 V       SET   V+1                                                  10 00501
077724 R  502 PEB     SET   V      PACK ERROR BUFFER                             10 00502
077725 R  503 V       SET   V+1                                                  10 00503
077725 R  504 PTR     SET   V      PURGE TRIADS                                  10 00504
077726 R  505 V       SET   V+1                                                  10 00505
077726 R  506 PTS     EQU   V      *C* TEST                                      10 00506
077727 R  507 V       SET   V+1                                                  10 00507
077727 R  508 RCC     EQU   V      RESTORE SCAN PARAMETERS                       10 00508
077730 R  509 V       SET   V+1                                                  10 00509
077730 R  510 RCCS    EQU   V      SAVE SCAN PARAMETERES                         10 00510
077731 R  511 V       SET   V+1                                                  10 00511
077731 R  512 RCH     EQU   V      REREAD CHARACTER                              10 00512
077732 R  513 V       SET   V+1                                                  10 00513
077732 R  514 RID     EQU   V      RIGHT INPUT OPERATOR                          10 00514
077733 R  515 V       SET   V+1                                                  10 00515
077733 R  516 SAX     EQU   V      STORE ASSIGNMENT DATA                         10 00516
077734 R  517 V       SET   V+1                                                  10 00517
077734 R  518 SDX     SET   V      STORE DO                                      10 00518
077735 R  519 V       SET   V+1                                                  10 00519
077735 R  520 SIDTB1  SET   V      END OF MODE-SETTING IN SIDTB                  10 00520
077736 R  521 V       SET   V+1                                                  10 00521
077736 R  522 SIS     EQU   V      STATEMENT IDENTIFICATION SCAN                 10 00522
077737 R  523 V       SET   V+1                                                  10 00523
077737 R  524 SLIT    SET   V                                                    10 00524
077740 R  525 V       SET   V+1                                                  10 00525
077740 R  526 SLOP    SET   V      SPECIAL LIST OUTPUT                           10 00526
077741 R  527 V       SET   V+1                                                  10 00527
077741 R  528 STC     SET   V      STATEMENT COMPLETION                          10 00528
077742 R  529 V       SET   V+1                                                  10 00529
077742 R  530 STI1    EQU   V      ENTRY TO STI                                  10 00530
077743 R  531 V       SET   V+1                                                  10 00531
077743 R  532 STN     EQU   V      ILLEGAL DO TERM./NO CONTROL CONTINUE          10 00532
077744 R  533 V       SET   V+1                                                  10 00533
077744 R  534 STS     SET   V      STATEMENT SCAN                                10 00534
077745 R  535 V       SET   V+1                                                  10 00535
077745 R  536 TER1    EQU   V      CONSTRUCTION                                  10 00536
077746 R  537 V       SET   V+1                                                  10 00537
077746 R  538 TER2    EQU   V      NOT IN SUBPROGRAM                             10 00538
077747 R  539 V       SET   V+1                                                  10 00539
077747 R  540 TER3    EQU   V      DATA POOL FULL                                10 00540
077750 R  541 V       SET   V+1                                                  10 00541
077750 R  542 TER4    EQU   V      ILLEGAL STATEMENT                             10 00542
077751 R  543 V       SET   V+1                                                  10 00543
077751 R  544 TER5    SET   V                                                    10 00544
077752 R  545 V       SET   V+1                                                  10 00545
077752 R  546 TER7    SET   V                                                    10 00546
077753 R  547 V       SET   V+1                                                  10 00547
077753 R  548 TER8    SET   V                                                    10 00548
077754 R  549 V       SET   V+1                                                  10 00549
077754 R  550 TER9    EQU   V      IMPROPER DO NEST                              10 00550
077755 R  551 V       SET   V+1                                                  10 00551
077755 R  552 TER11   EQU   V      ITEM NOT OPERAND                              10 00552
077756 R  553 V       SET   V+1                                                  10 00553
077756 R  554 TER12   EQU   V      ITEM NOT FUNCTION                             10 00554
077757 R  555 V       SET   V+1                                                  10 00555
077757 R  556 TER13   SET   V                                                    10 00556
077760 R  557 V       SET   V+1                                                  10 00557
077760 R  558 TER14   EQU   V      SUBSCRIPT VARIABLE NOT DUMMY                  10 00558
077761 R  559 V       SET   V+1                                                  10 00559
077761 R  560 TER15   SET   V                                                    10 00560
077762 R  561 V       SET   V+1                                                  10 00561
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000031 057000 I   659          STA     T0              CLEAR BUFFER CHAR COUNT                          10 00659
000032 057000 I   660          STA     T1              CLEAR TERMINATOR FLAG                            10 00660
000033 010317 A   661          LDA     V$LLUP                                                           10 00661
000034 057000 I   662          STA     DPX             SET TOP OF CORE POINTER DPX                      10 00662
                  664 ****************************                                                    10 00664
                  665 * LOAD JOB NAME AND DATE *                                                     10 00665
                  666 ****************************                                                    10 00666
000035 010423 A   667          LDA     FOUR                                                             10 00667
000036 006020 A   668          LDBI    V$JNAM                                                           10 00668
000037 000050 A
000040 006030 A   669          LDXI    TITJ                                                             10 00669
000041 177217 R
000042 002000 A   670          CALL    MOVE                                                             10 00670
000043 077706 R
000044 010423 A   671          LDA     FOUR                                                             10 00671
000045 006020 A   672          LDBI    V$DATE                                                           10 00672
000046 000070 A
000047 006030 A   673          LDXI    TITD                                                             10 00673
000050 177212 R
000051 002000 A   674          CALL    MOVE                                                             10 00674
000052 077706 R
                  675 ********************                                                            10 00675
                  676 * SET UP LO OUTPUT *                                                            10 00676
                  677 ********************                                                            10 00677
000053 006030 A   678          LDXI    LOFCB           POINT X AT SYSTEM LO FCB                         10 00678
000054 000000 E
000055 013005 A   679          LDA     5,X                                                              10 00679
000056 001010 A   680          JAZ     FORTCK          IS SYSTEM LO FCB ACTIVE ?                  C.1   10 00680
000057 000064 R
000060 006077 A   681          SIXE    .WRDLO5                                                          10 00681
000061 077337 R
000062 001000 A   682          JMP     FORTA1                                                     D.1   10 00682
000063 000113 R
000064 002000 A   683 FORTCK  CALL     RMD.5           CHECK IF LO ON RMD                         C.1   10 00683
000065 000707 R
000066 000005 A
000067 006030 A   684          LDXI    LLFCB                                                        D.110 00684
000070 177274 R
000071 001016 A   685          JANZ    FORTA2                                                     D.1   10 00685
000072 000115 R
                  686 FORTOL  OPEN     LLFCB,5,0,1     OPEN/LO/WAIT/LEAVE                               10 00686
000073 006505 A
000074 000404 A
000075 100000 A
000076 013005 A
000077 177274 R
000100 000000 A
000101 000000 A
                  687          STAT    FORTOL,ERRX,FORTA1,ERRX,ERRX                                     10 00687
000102 006505 A
000103 000373 A
000104 000073 R
000105 177330 R
000106 000113 R
000107 177330 R
000110 177330 R
000111 006030 A   688          LDXI    LLFCB                                                        D.110 00688
000112 177274 R
000113 005001 A   689 FORTA1  TZA                                                                   D.1   10 00689
000114 057000 I   690          STA     LOBLFL          SET RMD FLAG                               D.1   10 00690
000115 006020 A   691 FORTA2  LDBI    44                                                           D.110 00691
000116 000054 A
000117 065000 A   692          STB     3,X             SET OUTPUT WORD COUNT TO 44                      10 00692
000120 014427 A   693          LDA     PUTR                                                             10 00693
000121 005311 A   694          DAR                                                                      10 00694
000122 055001 A   695          STA     1,X             LOAD BUFFER ADDRESS INTO FCB                     10 00695
000123 005014 A   696          TAX                                                                D.1   10 00696
000124 010000 L   697          LDA     =' '                                                             10 00697
000125 055000 A   698          STA     0,X             BLANK BUFFER                                     10 00698
000126 005144 A   699          IXR                     BUMP BUFFER POINTER                              10 00699
000127 005322 A   700          DBR                     DROP LOOP COUNTER                                10 00700
000130 001026 A   701          JMNZ    *-3             LOOP TILL DONE                                   10 00701
000131 000125 R
000132 034415 A   702          LDX     BUFA                                                             10 00702
000133 006020 A   703          LDBI    FORTDC+3                                                         10 00703
000134 000637 R
000135 010464 A   704          LDA     THREE                                                            10 00704
000136 002000 A   705          CALL    MOVE            LOAD ERROR MESSAGE ' JC02'                       10 00705
000137 077706 R
                  706 ************************                                                        10 00706
                  707 * SCAN PARAMETER LIST *                                                         10 00707
                  708 ************************                                                        10 00708
000140 017000 I   709 FORTL1  LDA     T0              GET CHAR COUNT                                   10 00709
000141 005002 A   710          TZB                     CLEAR BYTE FLAG                                  10 00710
000142 004541 A   711          LLSR    1               LOAD BYTE FLAG B                                 10 00711
000143 120412 A   712          ADD     V$JCB                                                            10 00712
000144 005014 A   713          TAX                     POINT X AT CHAR IN BUFFER                        10 00713
000145 015000 A   714          LDA     0,X             GET BUFFER WORD                                  10 00714
000146 001026 A   715          JMNZ    *+3             HIGH BYTE ?                                      10 00715
000147 000151 R
000150 004350 A   716          LSRA    8               YES. SHIFT TO LOW                                10 00716
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000151 150463 A  717          ANA     RHW       CLEAR HIGH BYTE                          10 00717
000152 057000 I  718          STA     TC        SAVE CHAR                                10 00718
000153 140000 L  719          SUB     ='  '                                              10 00719
000154 001010 A  720          JAZ     FORTZ1    IGNORE BLANKS                            10 00720
000155 000240 R
000156 017000 I  721          LDA     T1                                                 10 00721
000157 001010 A  722          JAZ     FORT4     LOOKING FOR TERMINATOR ?                 10 00722
000160 000200 R
000161 017000 I  723 FORT2    LDA     TC        YES                                      10 00723
000162 140000 L  724          SUB     =','                                               10 00724
000163 001010 A  725          JAZ     FORTX1    ',' OK                                   10 00725
000164 000233 R
000165 140422 A  726          SUB     TWO                                                10 00726
000166 001010 A  727          JAZ     FORTB     END SCAN ON '.'                          10 00727
000167 000246 R
000170 140472 A  728          SUB     K17                                                10 00728
000171 001010 A  729          JAZ     FORTX1    '=' OK                                   10 00729
000172 000233 R
000173 017000 I  730          LDA     T1                                                 10 00730
000174 001010 A  731          JAZ     FORTZ1    EXIT IF ILLEGAL CHAR                     10 00731
000175 000240 R
000176 002000 A  732          CALL    FORTE     OUTPUT ' JC02' TO SO AND LO          D.1 10 00732
000177 000602 R
000200 006030 A  733 FORT4    LDXI    FORTB1    LOOK FOR PARAMETER                       10 00733
000201 000643 R
000202 017000 I  734 FORTL2   LDA     TC        GET CHAR                                 10 00734
000203 145000 A  735          SUB     0,X       COMPARE AGAINST TABLE                    10 00735
000204 001010 A  736          JAZ     FORT6     EQUAL ?                                  10 00736
000205 000222 R
000206 005145 A  737          INCR    045       NO. BUMP TABLE POINTER                   10 00737
000207 006140 A  738          SUBI    FORTB2    CHECK TABLE END                          10 00738
000210 000654 R
000211 001004 A  739          JAN     FORTL2    LOOP TILL DONE                           10 00739
000212 000202 R
000213 017000 I  740          LDA     T1                                                 10 00740
000214 001004 A  741          JAN     FORTZ1    EXIT IF ILLEGAL CHAR                     10 00741
000215 000240 R
000216 002000 A  742          CALL    FORTE     OUTPUT ' JC02' TO SO AND LO          D.1 10 00742
000217 000602 R
000220 001000 A  743          JMP     FORT2     TEST IF PARAM                            10 00743
000221 000161 R
000222 017000 I  744 FORT6    LDA     $PCW      VALID PARAM - TEST FOR MULTIPLES         10 00744
000223 155011 A  745          ANA     FORTB2-FORTB1,X                                    10 00745
000224 002016 A  746          JANZM   FORTE     OUTPUT ' JC02' TO SO AND LO          D.1 10 00746
000225 000602 R
000226 017000 I  747          LDA     $PCW                                               10 00747
000227 115011 A  748          ORA     FORTB2-FORTB1,X                                    10 00748
000230 057000 I  749          STA     $PCW      SET PARAMETER FLAG IN $PCW               10 00749
000231 001000 A  750          JMP     FORTY1                                             10 00750
000232 000236 R
000233 005001 A  751 FORTX1   IZA               SET FLAG FOR PARAM                       10 00751
000234 001000 A  752          JMP     *+3                                                10 00752
000235 000237 R
000236 005301 A  753 FORTY1   DECR    1         SET FLAG FOR TERMINATOR                  10 00753
000237 057000 I  754          STA     T1                                                 10 00754
000240 047000 I  755 FORTZ1   INR     T0        BUMP BUFFER POINTER                      10 00755
000241 017000 I  756          LDA     T0                                                 10 00756
000242 006140 A  757          SUBI    72        TEST END OF BUFFER                       10 00757
000243 000110 A
000244 001004 A  758          JAN     FORTL1    LOOP TILL DONE                           10 00758
000245 000140 R
000246 017000 I  759 FORTB    LDA     $PCW                                               10 00759
000247 150432 A  760          ANA     BS9                                                10 00760
000250 001010 A  761          JAZ     *+8       IS 'L' PRESENT ?                         10 00761
000251 000260 R
000252 017000 I  762          LDA     $PCW      YES                                      10 00762
000253 150452 A  763          ANA     BR9       CLEAR 'L' BIT                            10 00763
000254 057000 I  764          STA     $PCW                                               10 00764
000255 010055 A  765          LDA     V$JCFG                                             10 00765
000256 110421 A  766          ORA     ONE       SET LOAD/GO FLAG                         10 00766
000257 050055 A  767          STA     V$JCFG                                             10 00767
000260 034267 A  768          LDX     BUFA                                               10 00768
000261 006020 A  769          LDBI    ERBF-6                                             10 00769
000262 177112 R
000263 010465 A  770          LDA     FIVE                                               10 00770
000264 002000 A  771          CALL    MOVE                                               10 00771
000265 077706 R
000266 006010 A  772          LDAI    '  0'                                              10 00772
000267 120260 A
000270 055000 A  773          STA     0,X       SET ERROR NO TO 0                        10 00773
                 774 **********************                                             10 00774
                 775 * SET UP BO OUTPUT *                                              10 00775
                 776 **********************                                             10 00776
000271 017000 I  777          LDA     $PCW                                               10 00777
000272 150422 A  778          ANA     TWO                                                10 00778
000273 001016 A  779          JANZ    FORTC     IS BO DISABLED BY A 'B' ON /FORT ?       10 00779
000274 000363 R
000275 006030 A  780          LDXI    BOFCB     NO                                       10 00780
000276 000000 E
000277 015005 A  781          LDA     5,X                                                10 00781
000300 001010 A  782          JAZ     FORBCK    IS SYSTEM BO FCB ACTIVE ?            C.1 10 00782
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000301 000310 R
000302 006077 A  783          STXE    WRDB05                                          10 00783
000303 077335 R
000304 006077 A  784          STXE    EXIT                                            10 00784
000305 077332 R
000306 001000 A  785          JMP     FORTB4                                          10 00785
000307 000346 R
000310 002000 A  786 FORBCK   CALL    RMD,7           CHECK IF BO ON RMD          C.1 10 00786
000311 000707 R
000312 000007 A
000313 001016 A  787          JANZ    FORTB3          IF NOT                      C.1 10 00787
000314 000333 R
                 788 FORTOB   OPEN    BLFCB,7,0,1     OPEN/BO/WAIT/LEAVE              10 00788
000315 006505 A
000316 000404 A
000317 100000 A
000320 013007 A
000321 177250 R
000322 000000 A
000323 000000 A
                 789          STAT    FORTOB,FORTER,FORTB3,FORTER,FORTER              10 00789
000324 006505 A
000325 000373 A
000326 000315 R
000327 000576 R
000330 000333 R
000331 000576 R
000332 000576 R
000333 006030 A  790 FORTB3   LDXI    BLFCB                                           10 00790
000334 177250 R
000335 015005 A  791          LDA     5,X                                             10 00791
000336 001016 A  792          JANZ    FORTB4          IS BO RMD ?                     10 00792
000337 000346 R
000340 014072 A  793          LDA     FORTC3                                          10 00793
000341 055000 A  794          STA     0,X             SET OUTPUT WORD COUNT TO 60     10 00794
000342 014073 A  795          LDA     OBUFA                                           10 00795
000343 055001 A  796          STA     1,X             LOAD BUFFER ADDRESS INTO FCB    10 00796
000344 001000 A  797          JMP     FORTC           YES                             10 00797
000345 000363 R
000346 005001 A  798 FORTB4   TZA                     BO IS RMD                       10 00798
000347 057000 I  799          STA     BOBLFL          RESET BO BLOCKING FLAG          10 00799
000350 014271 A  800          LDA     FORT12                                          10 00800
000351 055000 A  801          STA     0,X             SET BUFFER SIZE TO 120          10 00801
000352 015002 A  802          LDA     2,X                                             10 00802
000353 150463 A  803          ANA     RHW                                             10 00803
000354 006117 A  804          ORAE    BLFCB+2                                         10 00804
000355 177253 R
000356 055002 A  805          STA     2,X             STORE MODE                      10 00805
000357 017000 I  806          LDA     DPB                                             10 00806
000360 055001 A  807          STA     1,X             STORE BUFFER ADDRESS IN FCB     10 00807
000361 124260 A  808          ADD     FORT12          ALLOCATE BLOCKING BUFFER        10 00808
000362 057000 I  809          STA     DPB                                             10 00809
                 810 **********************                                        10 00810
                 811 * SET UP GO OUTPUT *                                         10 00811
                 812 **********************                                        10 00812
000363 010055 A  813 FORTC    LDA     V$JCFG                                          10 00813
000364 150421 A  814          ANA     ONE                                             10 00814
000365 001010 A  815          JAZ     FORTD           IS 'GO' OPTION ON '/FORT' ?     10 00815
000366 000466 R
000367 006030 A  816          LDXI    GOFCB           YES                             10 00816
000370 000000 E
000371 015005 A  817          LDA     5,X                                             10 00817
000372 001010 A  818          JAZ     FORGCK          IS SYSTEM GO FCB ACTIVE ?   C.1 10 00818
000373 000402 R
000374 006077 A  819          STXE    WRDG05                                          10 00819
000375 077336 R
000376 006077 A  820          STXE    EXCLGO                                          10 00820
000377 077333 R
000400 001000 A  821          JMP     FORTC2                                          10 00821
000401 000442 R
000402 002000 A  822 FORGCK   CALL    RMD,9           CHECK IF GO ON RMD          C.1 10 00822
000403 000707 R
000404 000011 A
000405 001016 A  823          JANZ    FORTC1          IF NOT                      C.1 10 00823
000406 000425 R
                 824 FORTOG   OPEN    GLFCB,9,0,1     OPEN/GO/WAIT/LEAVE              10 00824
000407 006505 A
000410 000404 A
000411 100000 A
000412 013011 A
000413 177262 R
000414 000000 A
000415 000000 A
                 825          STAT    FORTOG,FORTER,FORTC1,FORTER,FORTER              10 00825
000416 006505 A
000417 000373 A
000420 000407 R
000421 000576 R
000422 000425 R
000423 000576 R
000424 000576 R
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000425 006030 A   826 FORTC1 LDXI    GLFCB                                                  10 00826
000426 177262 R
000427 015005 A   827         LDA     5,X                                                    10 00827
000430 001016 A   828         JANZ    FORTC2      IS GO RMD ?                                10 00828
000431 000442 R
000432 006010 A   829         LDAI    60                                                     10 00829
000433 000074 A
       000433 R   830 FORTC3  EQU     *-1                                                    10 00830
000434 055000 A   831         STA     0,X         SET OUTPUT WORD COUNT TO 60                10 00831
000435 006010 A   832         LDAI    OBUF                                                   10 00832
000436 010224 R
       000436 R   833 OBUFA   EQU     *-1         OUTPUT BUFFER ADDRESS                      10 00833
000437 055001 A   834         STA     1,X         LOAD BUFFER ADDRESS INTO FCB               10 00834
000440 001000 A   835         JMP     FORTD                                                  10 00835
000441 000466 R
000442 005001 A   836 FORTC2  TZA                 GO IS RMD                                  10 00836
000443 057000 I   837         STA     GOBLFL      CLEAR GO BLOCKING FLAG                     10 00837
000444 014175 A   838         LDA     FORT12                                                 10 00838
000445 055000 A   839         STA     0,X         SET BUFFER SIZE TO 120                     10 00839
000446 015002 A   840         LDA     2,X                                                    10 00840
000447 150463 A   841         ANA     RHW                                                    10 00841
000450 006117 A   842         ORAE    GLFCB+2                                                10 00842
000451 177264 R
000452 055002 A   843         STA     2,X         STORE MODE                                 10 00843
000453 006027 A   844         LDBE    WROB05      (B)=FCB ADDRESS                            10 00844
000454 077335 R
000455 016001 A   845         LDA     1,B         GET BO BUFFER ADDRESS                      10 00845
000456 055001 A   846         STA     1,X         SET GO BUFFER=BO                           10 00846
000457 017000 I   847         LDA     BOBLFL                                                 10 00847
000460 001010 A   848         JAZ     FORTD       ALREADY BO BLOCKING BUFFER ?               10 00848
000461 000466 R
000462 017000 I   849         LDA     DPB         NO                                         10 00849
000463 055001 A   850         STA     1,X         LOAD GO BUFFER ADDRESS INTO FCB            10 00850
000464 124155 A   851         ADD     FORT12      ALLOCATE BINARY BLOCKING BUFFER            10 00851
000465 057000 I   852         STA     DPB                                                    10 00852
                  853 **********************                                               10 00853
                  854 * SET UP PI INPUT *                                                  10 00854
                  855 **********************                                               10 00855
000466 006030 A   856 FORTD   LDXI    PIFCB                                                  10 00856
000467 000000 E
000470 002000 A   857         CALL    RMD,4                                                  10 00857
000471 000707 R
000472 000004 A
000473 001016 A   858         JANZ    FORTOP      PI NOT A RMD                               10 00858
000474 000517 R
000475 015005 A   859         LDA     5,X                                                    10 00859
000476 001016 A   860         JANZ    FORTD4      IS SYSTEM PI FCB ENABLED ?                 10 00860
000477 000555 R
000500 030400 A   861         LDX     V$LUT1      NO                                         10 00861
000501 015004 A   862         LDA     4,X                                                    10 00862
000502 145002 A   863         SUB     2,X                                                    10 00863
000503 150463 A   864         ANA     SHW                                                    10 00864
000504 006030 A   865         LDXI    SIFCB       POINT X AT SYSTEM SI FCB                   10 00865
000505 000000 E
000506 001016 A   866         JANZ    FORTOP      SI = PI ?                                  10 00866
000507 000517 R
000510 015005 A   867         LDA     5,X         YES                                        10 00867
000511 001010 A   868         JAZ     FORTOP                                                 10 00868
000512 000517 R
000513 006077 A   869         STXE    ICRDPI      SYSTEM PI FCB IS ACTIVE                    10 00869
000514 077334 R
000515 001000 A   870         JMP     FORTD3                                                 10 00870
000516 000544 R
                  871 FORTOP  OPEN    PLFCB,4,0,1 NO. OPEN/PI/WAIT/LEAVE                     10 00871
000517 006505 A
000520 000404 A
000521 100000 A
000522 013004 A
000523 177306 R
000524 000000 A
000525 000000 A
                  872         STAT    FORTOP,ERRX,ERRX,ERRX,ERRX                             10 00872
000526 006505 A
000527 000373 A
000530 000517 R
000531 177330 R
000532 177330 R
000533 177330 R
000534 177330 R
000535 006030 A   873         LDXI    PLFCB                                                  10 00873
000536 177306 R
000537 015005 A   874         LDA     5,X                                                    10 00874
000540 001016 A   875         JANZ    FORTD4      IS PI RMD ?                                10 00875
000541 000555 R
000542 010465 A   876         LDA     FIVE        NO                                         10 00876
000543 055002 A   877         STA     2,X         SET RETRY COUNT=5                          10 00877
000544 006010 A   878 FORTD3  LDAI    40                                                     10 00878
000545 000050 A
000546 055000 A   879         STA     0,X         SET INPUT WORD COUNT TO 40                 10 00879
000547 006010 A   880         LDAI    $BUF                                                   10 00880
000550 010151 R
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000550 R   881 BUFA    EQU     *-1             INPUT BUFFER ADDRESS                          10 00881
000551 120464 A   882          ADD     THREE                                                 10 00882
000552 055001 A   883          STA     1,X     LOAD BUFFER ADDRESS INTO FCB                  10 00883
000553 001000 A   884          JMP*    START   TO COMPILER                                   10 00884
000554 100026 R
000555 005001 A   885 FORTD4   TZA                                                          10 00885
000556 057000 I   886          STA     PIBLFL  RESET BO BLOCKING FLAG                        10 00886
000557 006077 A   887 FORTD6   STXE    ICRDPI  PI IS RMD                                     10 00887
000560 077334 R
000561 014060 A   888          LDA     FORT12                                                10 00888
000562 055000 A   889          STA     0,X     SET BUFFER SIZE TO 120                        10 00889
000563 015002 A   890          LDA     2,X                                                   10 00890
000564 130463 A   891          ANA     RHW                                                   10 00891
000565 006117 A   892          ORAE    PLFCB+2                                               10 00892
000566 177310 R
000567 055002 A   893          STA     2,X     STORE MODE                                    10 00893
000570 017000 I   894          LDA     DPB                                                   10 00894
000571 055001 A   895          STA     1,X     STORE BUFFER ADDRESS IN FCB                   10 00895
000572 124047 A   896          ADD     FORT12  ALLOCATE BLOCKING BUFFER                      10 00896
000573 057000 I   897          STA     DPB                                                   10 00897
000574 001000 A   898          JMP*    START   TO COMPILER                                   10 00898
000575 100026 R
000576 002000 A   899 FORTER   CALL    WRDLO   WRITE ERROR MSG. ON LO                        10 00899
000577 077340 R
000600 001000 A   900          JMP     ERRX    EXIT TO VORTEX RTE                            10 00900
000601 177330 R
               901 ********************                                                     10 00901
               902 * PARAMETER ERROR *                                                     10 00902
               903 ********************                                                     10 00903
000602 000000 A   904 FORTE    ENTR                                                        10 00904
000603 074027 A   905          STX     FORTX   SAVE X                                      10 00905
               906 FORTE1  WRITE   FORTDC,3,0,1  WRITE/COMPLETE/ASCII/SO                   10 00906
000604 006505 A
000605 000404 A
000606 100000 A
000607 010403 A
000610 000634 R
000611 000000 A
000612 000000 A
               907          STAT    FORTE1,ERRX,ERRX,ERRX,ERRX                          10 00907
000613 006505 A
000614 000373 A
000615 000604 R
000616 177330 R
000617 177330 R
000620 177330 R
000621 177330 R
000622 006505 A   908          JSR     VSSOLO,X        TEST SO=LO                          10 00908
000623 000713 R
000624 001010 A   909          JAZ     FORTEX          SO=LO ?                             10 00909
000625 000630 R
000626 002000 A   910          CALL    WRDLO                                               10 00910
000627 077340 R
000630 034002 A   911 FORTEX   LDX     FORTX           RESTORE X                           10 00911
000631 001000 A   912          JMP*    FORTE           EXIT                                10 00912
000632 100602 R
000633            913 FORTX    BSS     1               SAVE X                              10 00913
000634 000003 A   914 FORTDC   DATA    3                                                   10 00914
000635 000637 R   915          DATA    *+2                                                 10 00915
000636 000001 A   916          DATA    1                                                   10 00916
000637 120312 A   917          DATA    ' JC02'         'FORT' ERROR MESSAGE                10 00917
000640 141660 A
000641 131240 A
000642 000170 A   918 FORT12   DATA    120                                                 10 00918
               919 ********************                                                     10 00919
               920 * PARAMETER TABLE *                                                     10 00920
               921 ********************                                                     10 00921
000643 000302 A   922 FORTB1   DATA    0302            B                                   10 00922
000644 000304 A   923          DATA    0304            D                                   10 00923
000645 000306 A   924          DATA    0306            F                                   10 00924
000646 000310 A   925          DATA    0310            H                             FF    10 00925
000647 000314 A   926          DATA    0314            L                                   10 00926
000650 000315 A   927          DATA    0315            M                                   10 00927
000651 000316 A   928          DATA    0316            N                                   10 00928
000652 000317 A   929          DATA    0317            O                                   10 00929
000653 000330 A   930          DATA    0330            X                                   10 00930
000654 000002 A   931 FORTB2   DATA    2               B                                   10 00931
000655 000400 A   932          DATA    0400            D                                   10 00932
000656 000020 A   933          DATA    020             F                                   10 00933
000657 000040 A   934          DATA    040             H                             FF    10 00934
000660 001000 A   935          DATA    01000           L                                   10 00935
000661 000004 A   936          DATA    4               M                                   10 00936
000662 000001 A   937          DATA    1               N                                   10 00937
000663 000010 A   938          DATA    010             O                                   10 00938
000664 000100 A   939          DATA    0100            X                                   10 00939
               940 *                                                                       10 00940
               941 *       THIS ROUTINE DETERMINES IF THE LOGICAL UNIT IS ON A RMD          10 00941
               942 *                                                                       10 00942
               943 *       CALLING SEQUENCE                                                10 00943
               944 *       CALL    RMD,X           X=LUN                                   10 00944
               945 *       RETURN  A REG=0 IF ON RMD                                       10 00945
```

```
                        946 *                                                                                   10 00946
000665 024021 A         948 RMD1    LDB     RMD                                                                 10 00948
000666 016000 A         949         LDA     0,2         LUN PARAM OF CALL                                       10 00949
000667 120400 A         950         ADD     V$LUT1                                                              10 00950
000670 005012 A         951         TAB                                                                         10 00951
000671 016000 A         952         LDA     0,B         GET CURRENT DST ENTRY NO.                               10 00952
000672 150463 A         953         ANA     RHW                                                                 10 00953
000673 005311 A         954         DAR                 CONVERT                                                 10 00954
000674 054015 A         955         STA     RMDA        TO                                                      10 00955
000675 004201 A         956         ASLA    1           DISPLACEMENT                                            10 00956
000676 124013 A         957         ADD     RMDA        IN TABLE                                                10 00957
000677 120355 A         958         ADD     V$DSTB      ADD TABLE BASE                                          10 00958
000700 005012 A         959         TAB                                                                         10 00959
000701 016001 A         960         LDA     1,B         DEVICE NAME                                             10 00960
000702 004350 A         961         LSRA    8           LEFT CHAR                                               10 00961
000703 006140 A         962         SUBI    0304        D ?                                                     10 00962
000704 000304 A
000705 044001 A         963         INR     RMD                                                                 10 00963
000706 001000 A         964         JMP     *           RETURN- A REG=0 IF ON RMD                               10 00964
000707 000706 R
000707                  965 RMD     BES     0           ENTRY                                                   10 00965
000710 001000 A         966         JMP     RMD1                                                                10 00966
000711 000665 R
000712 000000 A         967 RMDA    DATA    0           TEMP STORE                                              10 00967
                        968         EJEC                                                                        10 00968
                        969 *                                                                                   10 00969
                        970 *                           SUBROUTINE TO DETERMINE IF LO LOGICAL                   10 00970
                        971 *                           UNIT AND SO LOGICAL UNIT ARE ASSIGNED                   10 00971
                        972 *                           TO THE SAME DEVICE.                                     10 00972
                        973 *                                                                                   10 00973
                        974 *                           CALLING SEQUENCE:                                       10 00974
                        975 *                                                                                   10 00975
                        976 *                           JSR  V$SOLO,X                                           10 00976
                        977 *                                                                                   10 00977
                        978 *                           ENTRANCE PARAMETERS - NONE                              10 00978
                        979 *                                                                                   10 00979
                        980 *                           RETURN PARAMETER - A REGISTER = ZERO,                   10 00980
                        981 *                              SAME DEVICE.  A REGISTER NOT = ZERO,                 10 00981
                        982 *                              DIFFERENT DEVICES.                                   10 00982
                        983 *                                                                                   10 00983
                        984 *                           B REGISTER IS PRESERVED DURING EXECUTION.               10 00984
                        985 *                                                                                   10 00985
000713 074012 A         986 V$SOLO  STX     SOL01                                                               10 00986
000714 030400 A         987         LDX     V$LUT1                                                              10 00987
000715 015003 A         988         LDA     3,X         GET SO CURRENT                                          10 00988
000716 150463 A         989         ANA     RHW         ASSIGNMENT                                              10 00989
000717 054007 A         990         STA     SOL02                                                               10 00990
000720 015005 A         991         LDA     5,X         GET LO CURRENT                                          10 00991
000721 150463 A         992         ANA     RHW         ASSIGNMENT                                              10 00992
000722 144004 A         993         SUB     SOL02       TAKE DIFFERENCE                                         10 00993
000723 034002 A         994         LDX     SOL01                                                               10 00994
000724 006705 A         995         IJMP    0,X         RETURN                                                  10 00995
000725 000000 A
000726 000000 A         996 SOL01   DATA    0                                                                   10 00996
000727 000000 A         997 SOL02   DATA    0                                                                   10 00997
000730                  998         BSS     BLBF1+120-*                                                         10 00998
                        999         END                                                                         10 00999
ENTRY NAMES
EXTERNAL NAMES
000276 E BOFCB  000370 E GOFCB  000054 E LOFCB  000467 E PIFCB
000505 E SIFCB  000000 E V$EXEC 000000 E V$IOC  000000 E V$IOST
SYMBOLS
000020 A $BIT   010151 R $BUF   177325 R $ECW   177324 R $PCW
177330 R AF     177331 R AIFW   177332 R AS     077611 R ASI
077612 R ASS    177341 R AT     000002 A B      177342 R BDF
010320 R BLBF1  177250 R BLFCB  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
177343 R BOBLCN 177320 R BOBLFL 000276 E BOFCB  000441 A BR0
000442 A BR1    000453 A BR10   000454 A BR11   000455 A BR12
000456 A BR13   000457 A BR14   000460 A BR15   000443 A BR2
000444 A BR3    000445 A BR4    000446 A BR5    000447 A BR6
000450 A BR7    000451 A BR8    000452 A BR9    000421 A BS0
000422 A BS1    000433 A BS10   000434 A BS11   000435 A BS12
000436 A BS13   000437 A BS14   000440 A BS15   000423 A BS2
000424 A BS3    000425 A BS4    000426 A BS5    000427 A BS6
000430 A BS7    000431 A BS8    000432 A BS9    000550 R BUFA
077613 R CAN    077614 R CBA    077615 R CCR    177344 R CF
177345 R CFPISW 177346 R CL     177347 R CLOP   177350 R CMFL
177351 R CNP    077616 R CRT    077617 R CTS    177352 R D
077620 R DEK    177353 R DF     177354 R DFPP   077621 R DFT
177355 R DH     177356 R DI     177326 R DPB    177357 R DPCA
177327 R DPX    177373 R DR     177374 R DS     177375 R DSAV
077622 R DSM    177376 R DT     177377 R DTFL   177401 R DV
177402 R EC     177403 R EH     177405 R EHBK   000424 A EIGHT
177406 R EL     077623 R EOLSW  077624 R ER1    077632 R ER11
077633 R ER12   077634 R ER13   077635 R ER14   077636 R ER15
077637 R ER16   077640 R ER17   077641 R ER18   077625 R ER2
077642 R ER20   077643 R ER21   077644 R ER22   077645 R ER24
077626 R ER3    077627 R ER6    077630 R ER7    077631 R ER8
177120 R ERBF   177330 R ERR   077646 R EXA    177407 R EXAD
```

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077333 R EXCLGO 077332 R EXIT   077647 R EXL    177410 R F
105035 A F$DOI  105027 A F$DOI1 105036 A F$SEI  105503 A FADDD
105410 A FADDS  105535 A FDIVD  105401 A FDIVS  177411 R FFPFL
105400 A FFPOP  000465 A FIVC   105621 A FIX    105226 A FLAIF
105522 A FLDD   105032 A FLDI   105420 A FLDS   105167 A FLIDP
105125 A FLJAG  105024 A FLREL  105425 A FLT    105037 A FMOVI
105506 A FMULD  105416 A FMULS  077630 R FNS1   000310 R FORBCK
000402 R FORGCK 077651 R FORT1  000642 R FORT12 000161 R FORT2
000200 R FORT4  000222 R FORT6  000113 R FORTA1 000115 R FORTA2
000246 R FORTB  000643 R FORTB1 000654 R FORTB2 000333 R FORTB3
000346 R FORTB4 000363 R FORTC  000425 R FORTC1 000442 R FORTC2
000433 R FORTC3 000064 R FORTCK 000466 R FORTD  000544 R FORTD3
000555 R FORTD4 000557 R FORTD6 000634 R FORTDC 000602 R FORTE
000604 R FORTE1 000576 R FORTER 000630 R FORTEX 000140 R FORTL1
000202 R FORTL2 000315 R FORTOB 000407 R FORTOG 000073 R FORTOL
000517 R FORTOP 000633 R FORTX  000233 R FORTX1 000236 R FORTY1
000240 R FORTZ1 000423 A FOUR   105127 A FSQRT  105710 A FSTD
105033 A FSTI   105600 A FSTS   105543 A FSUBD  105450 A FSUBS
177262 R GLFCB  177412 R GOBLCN 177321 R GOBLFL 000370 E GOFCB
077652 R GSE    177413 R HCC    177414 R I      077653 R IAC
077654 R ICH    077655 R ICO    077656 R ICORNL 077657 R ICRD
077334 R ICRDPI 077660 R ICRR   077661 R ICSI   177415 R ID
077662 R IDI    077663 R IHW    077664 R IIV    077665 R ILB
077666 R ILT    177421 R IM     077667 R INA    177422 R INBP
077670 R INI    077671 R INN    077672 R INS    077673 R INT
177423 R IOFL   177424 R IP     177435 R IS     077674 R ISN
177445 R IT     177446 R IU     077675 R IVA    077676 R IVC
077677 R IWI    177447 R J      177450 R JPFL   177454 R JT
177455 R K      000424 A K10    000471 A K12    000472 A K17
000422 A K2     000425 A K20    000473 A K37    000423 A K4
000466 A K6     000463 A K77    000432 A KJMP   177456 R KT
077700 R LAX    000300 A LC     000050 A LCJP   077701 R LDX
077702 R LEX    177457 R LF     000462 A LHW    177460 R LIF
077703 R LIST   177274 R LLFCB  177461 R LLOP   177322 R LOBLFL
077704 R LOCT   000054 E LOFCB  077705 R LTX    177462 R MAXOPC
177463 R MBTB   177516 R MF     177517 R MM     077706 R MOVE
177520 R MR     000420 A MT     000500 A MTE    000441 A MTWO
077707 R MXL    177522 R NAME   177523 R ND     000461 A NEG
177127 R NERR   177524 R NF     177525 R NFFW   000470 A NINE
177526 R NS     177527 R NT     177530 R NTFL   177536 R O1
177537 R O2     077710 R OAB    010224 R OBUF   000436 R OBUFA
077711 R ODB    077712 R ODS    177535 R OITFL  000421 A ONE
077713 R ONEN   177531 R OP     177532 R OPBK   177533 R OPCNT
077714 R OPK    177534 R OPW    077715 R ORE    077716 R OSR
077717 R OTJ    077720 R OUT    010150 A OVERSZ 077721 R OWD
077722 R OWS    177540 R PC     077723 R PDS    077724 R PEB
177544 R PIBLCN 177323 R PIBLFL 000467 E PIFCB  177306 R PLFCB
077725 R PTR    077726 R PTS    177545 R QFL    077727 R RCC
077730 R RCCS   077731 R RCH    000463 A RHW    077732 R RIO
177546 R RL     000707 R RMD    000665 R RMD1   000712 R RMDA
077733 R SAX    177550 R SBFL   077734 R SDX    077330 R SETUP
000467 A SEVEN  177553 R SF     077735 R SIDTB1 000505 E SIFCB
077736 R SIS    000466 A SIX    077737 R SLIT   077740 R SLOP
177160 R SLOT   000726 R SOLO1  000727 R SOLO2  177554 R SPFL
177560 R SSP    000026 R START  077741 R STC    177555 R STFFL
077742 R STI1   077743 R STN    177556 R STNB   077744 R STS
177557 R STSW   177565 R SXF    177574 R T0     177575 R T1
177576 R T2     177577 R T2IN   177600 R T3     177601 R T4
177602 R T5     177603 R T6     177604 R T7     177605 R T8
177606 R T9     177566 R TC     000471 A TEN    077745 R TER1
077755 R TER11  077756 R TER12  077757 R TER13  077760 R TER14
077761 R TER15  077762 R TER17  077763 R TER18  077764 R TER19
077746 R TER2   077765 R TER20  077766 R TER24  077767 R TER26
077747 R TER3   077750 R TER4   077751 R TER5   077752 R TER7
077753 R TER8   077754 R TER9   177570 R TERF   000027 A TFVCSZ
000464 A THREE  177212 R TITD   177217 R TITJ   177204 R TITL
177243 R TITM   177236 R TITN   177207 R TITP   177250 R TITQ
177571 R TM     077770 R TOF    077771 R TSB    177572 R TSFL
077772 R TST    177573 R TU     077773 R TVR    000422 A TWO
000000 R V      000360 A V$CTAD 000070 A V$DATE 000355 A V$DSTB
000000 E V$EXEC 000000 E V$IOC  000000 E V$IOST 000412 A V$JCB
000055 A V$JCFG 000056 A V$JFCB 000050 A V$JNAM 000054 A V$LCNT
000317 A V$LLUP 000345 A V$LUNT 000400 A V$LUT1 000401 A V$LUT2
000402 A V$LUT3 000713 R V$SOLO 000417 A V$STSZ 000357 A V$TKSZ
177112 R VARBLO 000666 A VARBLS 177330 R VBLOBG 177611 R VBLOND
077774 R WROBO  077335 R WROBO5 077775 R WROGO  077336 R WROGO5
077340 R WROLO  077337 R WROLO5 077776 R WROT   000001 A X
177607 R XRPT   077777 R ZEB    000400 A ZERO
  0 ERRORS ASSEMBLY COMPLETE
```

```
  600   $BUF      601   880
  230   $PCW      658   744   747   749   759   762   764   777
  240   AF        241   610
  241   AIFW      242
  242   AS        243
  243   AT        244
  141   B         845   952   960
  244   BDF       245
  602   BLBF1     998
  212   BLFCB     788   790   804
```

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 103   BM17      185
 109   BM1777    110
 104   BM37      187
 107   BM377     188
 245   BOBLCN    246
 226   BOBLFL    799    847
   0   BOFCB     126    780
  71   BR0       180
  60   BR9       763
  58   BS3       183
  59   BS4       186
  64   BS9       189    760
 681   BUFA      693    702    768
 246   CF        247
 247   CFPTSW    248
 248   CL        249
 249   CLOP      250
 250   CMFL      251
 251   CNP       252
   0   COMP        2
 252   D         253
 253   DF        254
 254   DFPP      255
 255   DH        256
 256   DI        257
 232   DPB       806    809    849    852    894    897
 257   DPCA      260
 233   DPX       239    662
 260   DR        261
 261   DS        262
 262   DSAV      263
 263   DT        264
 264   DTFL      265
 265   DV        266
 266   EC        267
 267   EH        268
 268   EHBK      269
   0   EJEC        3
 269   EL        270
   0   ENTR        4
 202   ERBF      769
 612   ERRX      687    687    687    872    872    872    872    900    907
                 907    907    907
 270   EXAD      271
 614   EXCLGO    820
 613   EXIT      784
 271   F         272
 272   FFPFL     273
 162   FFPOP     163    164    165    166    167    168    169    170    171
                 172    173    174    175    176
  94   FIVE      770    876
 786   FORBCK    782
 822   FORGCK    818
 918   FORT12    800    808    838    851    888    896
 723   FORT2     743
 733   FORT4     722
 744   FORT6     736
 689   FORTA1    682    687
 691   FORTA2    685
 759   FORTB     727
 922   FORTB1    733    745    748
 931   FORTB2    738    745    748
 790   FORTB3    787    789
 798   FORTB4    785    792
 813   FORTC     779    797
 826   FORTC1    823    825
 836   FORTC2    821    828
 830   FORTC3    793
 683   FORTCK    680
 856   FORTD     815    835    848
 878   FORTD3    870
 885   FORTD4    860    875
 914   FORTDC    703    906
 904   FORTE     732    742    746    912
 906   FORTE1    907
 899   FORTER    789    789    789    825    825    825
 911   FORTEX    909
 709   FORTL1    758
 734   FORTL2    739
 788   FORTOB    789
 824   FORTOG    825
 686   FORTOL    687
 871   FORTOP    859    866    758    872
 913   FORTX     905    911
 751   FORTX1    725    729
 753   FORTY1    750
 755   FORTZ1    720    731    741
  93   FOUR      181    667    671
 213   GLFCB     824    826    842
 273   GOBLCN    274
 227   GOBLFL    837
```

0	GOFCB	127	816						
274	HCC	275							
275	I	276							
615	ICRDPI	869	887						
276	ID	277							
277	IM	278							
278	INBP	279							
279	IOFL	280							
280	IP	281							
281	IS	282							
282	IT	283							
283	IU	284							
284	J	285							
285	JPFL	286							
286	JT	287							
287	K	288							
185	K17	728							
288	KT	289							
33	LC	34	35	36	37	38	39	40	41
		45							42
15	LCJP	16	17	18	24	25			
289	LF	290							
290	LIF	291							
214	LLFCB	684	686	688					
291	LLOP	292							
228	LOBLFL	690							
0	LOFCB	128	678						
292	MAXOPC	293							
293	MDTB	294							
0	MERG	5							
294	MF	295							
295	MM	296							
474	MOVE	670	674	705	771				
296	MR	297							
53	MT	54	55	56	57	58	59	60	61
		63	64	65	66	67	68	69	70
		72	73	74	75	76	77	78	79
		81	82	83	84	85	86	87	88
		90	91	92	93	94	95	96	97
		99	100	101	102	103	104	105	106
		108	109						
297	NAME	298							
298	ND	299							
299	NF	300							
300	NFFW	301							
301	NS	302							
302	NT	303							
303	NTFL	304							
309	O1	310							
310	O2	311							
601	OBUF	602	832						
833	OBUFA	795							
308	OITFL	309							
90	ONE	766	814						
304	OP	305							
305	OPBK	306							
306	OPCNT	307							
307	OPW	308							
197	OVERSZ	600							
311	PC	312							
312	PIBLCN	313							
229	PIBLFL	886							
0	PIFCB	129	856						
215	PLFCB	871	873	892					
313	QFL	314							
89	RHW	717	803	841	864	891	953	989	992
314	RL	315							
965	RMD	683	786	822	857	948	963		
948	RMD1	966							
967	RMDA	953	957						
315	SBFL	316							
610	SETUP	612	613	614	615	616	617	618	619
316	SF	317							
0	SIFCB	130	865						
95	SIX	182							
996	SOLO1	986	994						
997	SOLO2	990	993						
0	SPAC	6							
317	SPFL	318							
321	SSP	322							
656	START	593	884	898					
318	STFFL	319							
319	STNB	320							
320	STSW	321							
322	SXF	323							
328	T0	329	659	709	755	756			
329	T1	330	660	721	730	740	754		
330	T2	331							
331	T2IN	332							
332	T3	333							
333	T4	334							

334	T5	335							
335	T6	336							
336	T7	337							
337	T8	338							
338	T9	339							
323	TC	324	718	723	734				
99	TEN	184							
324	TERF	325							
198	TFVCSZ	594							
92	THREE	704	882						
207	TITD	673							
208	TITJ	669							
325	TM	326							
326	TSFL	327							
327	TU	328							
91	TWO	179	726	778					
350	V	352	353	354	355	356	357	358	359	360
		361	362	363	364	365	366	367	368	369
		370	371	372	373	374	375	376	377	378
		379	380	381	382	383	384	385	386	387
		388	389	390	391	392	393	394	395	396
		397	398	399	400	401	402	403	404	405
		406	407	408	409	410	411	412	413	414
		415	416	417	418	419	420	421	422	423
		424	425	426	427	428	429	430	431	432
		433	434	435	436	437	438	439	440	441
		442	443	444	445	446	447	448	449	450
		451	452	453	454	455	456	457	458	459
		460	461	462	463	464	465	466	467	468
		469	470	471	472	473	474	475	476	477
		478	479	480	481	482	483	484	485	486
		487	488	489	490	491	492	493	494	495
		496	497	498	499	500	501	502	503	504
		505	506	507	508	509	510	511	512	513
		514	515	516	517	518	519	520	521	522
		523	524	525	526	527	528	529	530	531
		532	533	534	535	536	537	538	539	540
		541	542	543	544	545	546	547	548	549
		550	551	552	553	554	555	556	557	558
		559	560	561	562	563	564	565	566	567
		568	569	570	571	572	573	574	575	576
		577	578	579	580	581	582	583	584	585
		586	587	588	594	600				
25	V$DATE	672								
36	V$DSTB	958								
0	V$EXEC	131								
0	V$FOR0	7								
0	V$IOC	132								
0	V$IOST	133								
42	V$JCB	712								
18	V$JCFG	765	767	813						
16	V$JNAM	668								
34	V$LLUP	661								
39	V$LUT1	861	950	987						
986	V$SOLO	908								
200	VARBLO	202	203	204	205	206	207	208	209	210
		211	212	213	214	215	226	227	228	229
		230	231	232	233					
199	VARBLS	200								
239	VBLOBG	240								
340	VBLOND	350								
616	WRORO5	783	844							
617	WROGO5	819								
619	WROLO	899	910							
618	WROLO5	681								
142	X	679	692	695	698	714	735	745	748	773
		781	791	794	796	801	802	805	807	817
		827	831	834	839	840	843	846	850	859
		862	863	867	874	877	879	883	889	890
		893	895	908	988	991	995			
339	XRPT	340								

```
                 1 *NEW FORTRAN - OVERLAY 1 .                                                10 00001
                 2 COMPL  OPSY    COMP                                                       10 00002
                 3 EJECT  OPSY    EJEC                                                       10 00003
                 4 ENTRY  OPSY    ENTR                                                       10 00004
                 5 MERGE  OPSY    MERG                                                       10 00005
                 6 SPACE  OPSY    SPAC                                                       10 00006
                 7        TITLE   V$FOR1                                                     10 00007
                 8        EJEC                                                               10 00008
                 9 ************************************************************************* 10 00009
                10 *                                                                         10 00010
                11 ***     JOB PROCESSOR LOW CORE EQUATES                                 ** 10 00011
                12 *                                                                         10 00012
                13 ************************************************************************* 10 00013
000050 A        15 LCJP   EQU     050                                                        10 00015
000050 A        16 V$JNAM EQU     LCJP          JCP NAME                                     10 00016
000054 A        17 V$LCNT EQU     LCJP+4        LINE COUNT                                   10 00017
000055 A        18 V$JCFG EQU     LCJP+5        JCP FLAGS                                    10 00018
                19 *                            BIT 2-0   = LOAD AND GO FLAGS                10 00019
                20 *                            BIT  3    = DUMP FLAG  1=DUMP, 0=NO DUMP     10 00020
                21 *                            BIT 9-4   = UNUSED                           10 00021
                22 *                            BIT 15-10 = BG EXTRA CORE BLOCKS TO ALLOC    10 00022
000056 A        24 V$JFCB EQU     LCJP+6        JCP FILE CONTROL BLOCK                       10 00024
000070 A        25 V$DATE EQU     LCJP+16       JCP DATA RECORD                              10 00025
                26        EJEC                                                               10 00026
                27 ************************************************************************* 10 00027
                28 *                                                                         10 00028
                29 ****    LOW CORE DESCRIPTION                                          *** 10 00029
                30 *                                                                         10 00030
                31 ************************************************************************* 10 00031
000300 A        33 LC     EQU     0300                                                       10 00033
000317 A        34 V$LLUP EQU     LC+15         LOC. OF LAST UNPROTECTED WORD                10 00034
000345 A        35 V$LUNT EQU     LC+37         ADDR. OF LOGICAL UNIT NAME TABLE             10 00035
000355 A        36 V$DSTB EQU     LC+45         BASE ADDR. FOR DST BLOCK                     10 00036
000357 A        37 V$TKSZ EQU     LC+47         RMD TRACK SIZE                               10 00037
000360 A        38 V$CTAD EQU     LC+48         BASE ADDR. FOR CONTROLLER ADDR. TABLE        10 00038
000400 A        39 V$LUT1 EQU     LC+64         START LUN ADDR FOR JCP/OPCOM ASSIGNABLE      10 00039
000401 A        40 V$LUT2 EQU     LC+65         START LUN ADDR FOR UNASSIGNABLE              10 00040
000402 A        41 V$LUT3 EQU     LC+66         START LUN ADDR FOR OPCOM ASSIGNABLE          10 00041
000412 A        42 V$JCB  EQU     LC+74         ALL SYSTEM BACKGROUND PROGRAMS AND JCP USE   10 00042
                43 *                            THIS SYSTEM BUFFER TO READ DIRECTIVES AND    10 00043
                44 *                            SOURCE RECORDS IN.                           10 00044
000417 A        45 V$STSZ EQU     LC+79         ACTURAL SECTOR SIZE                          10 00045
                46        EJEC                                                               10 00046
                47 ************************************************************************* 10 00047
                48 *                                                                         10 00048
                49 ****    MASK TABLE DESCRIPTION                                        *** 10 00049
                50 *                                                                         10 00050
                51 ************************************************************************* 10 00051
000420 A        53 MT     SET     0420                                                       10 00053
000420 A        54 ZERO   EQU     MT            ZERO WORD                                    10 00054
000421 A        55 BS0    EQU     MT+1          BIT MASK CONTENTS 000001                     10 00055
000422 A        56 BS1    EQU     MT+2                            000002                     10 00056
000423 A        57 BS2    EQU     MT+3                            000004                     10 00057
000424 A        58 BS3    EQU     MT+4                            000010                     10 00058
000425 A        59 BS4    EQU     MT+5                            000020                     10 00059
000426 A        60 BS5    EQU     MT+6                            000040                     10 00060
000427 A        61 BS6    EQU     MT+7                            000100                     10 00061
000430 A        62 BS7    EQU     MT+8                            000200                     10 00062
000431 A        63 BS8    EQU     MT+9                            000400                     10 00063
000432 A        64 BS9    EQU     MT+10                           001000                     10 00064
000433 A        65 BS10   EQU     MT+11                           002000                     10 00065
000434 A        66 BS11   EQU     MT+12                           004000                     10 00066
000435 A        67 BS12   EQU     MT+13                           010000                     10 00067
000436 A        68 BS13   EQU     MT+14                           020000                     10 00068
000437 A        69 BS14   EQU     MT+15                           040000                     10 00069
000440 A        70 BS15   EQU     MT+16                          0100000                     10 00070
000441 A        71 BR0    EQU     MT+17         BIT MASK CONTENTS  0177776                   10 00071
000442 A        72 BR1    EQU     MT+18                            0177775                   10 00072
000443 A        73 BR2    EQU     MT+19                            0177773                   10 00073
000444 A        74 BR3    EQU     MT+20                            0177767                   10 00074
000445 A        75 BR4    EQU     MT+21                            0177757                   10 00075
000446 A        76 BR5    EQU     MT+22                            0177737                   10 00076
000447 A        77 BR6    EQU     MT+23                            0177677                   10 00077
000450 A        78 BR7    EQU     MT+24                            0177577                   10 00078
000451 A        79 BR8    EQU     MT+25                            0177377                   10 00079
000452 A        80 BR9    EQU     MT+26                            0176777                   10 00080
000453 A        81 BR10   EQU     MT+27                            0175777                   10 00081
000454 A        82 BR11   EQU     MT+28                            0173777                   10 00082
000455 A        83 BR12   EQU     MT+29                            0167777                   10 00083
000456 A        84 BR13   EQU     MT+30                            0157777                   10 00084
000457 A        85 BR14   EQU     MT+31                            0137777                   10 00085
000460 A        86 BR15   EQU     MT+32                            0077777                   10 00086
000461 A        87 NEG    EQU     MT+33         SET ALL BITS                                 10 00087
000462 A        88 LHW    EQU     MT+34         LEFT HALF WORD MASK 0177400                  10 00088
000463 A        89 RHW    EQU     MT+35         RIGHT HALF WORD MASK    0377                 10 00089
000421 A        90 ONE    EQU     MT+1          CONTAINS NUMBER  1                           10 00090
000422 A        91 TWO    EQU     MT+2          CONTAINS NUMBER  2                           10 00091
000464 A        92 THREE  EQU     MT+36         CONTAINS NUMBER  3                           10 00092
000423 A        93 FOUR   EQU     MT+3          CONTAINS NUMBER  4                           10 00093
000465 A        94 FIVE   EQU     MT+37         CONTAINS NUMBER  5                           10 00094
000466 A        95 SIX    EQU     MT+38         CONTAINS NUMBER  6                           10 00095
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000467 A    96 SEVEN   EQU     MT+39          CONTAINS NUMBER  7                                  10 00096
000424 A    97 EIGHT   EQU     MT+4           CONTAINS NUMBER  8                                  10 00097
000470 A    98 NINE    EQU     MT+40          CONTAINS NUMBER  9                                  10 00098
000471 A    99 TEN     EQU     MT+41          CONTAINS NUMBER 10                                  10 00099
000421 A   100 BM1     EQU     MT+1           BIT MASK WORD 00001                                 10 00100
000464 A   101 BM3     EQU     MT+36          BIT MASK WORD  00003                                10 00101
000467 A   102 BM7     EQU     MT+39          BIT MASK WORD  00007                                10 00102
000472 A   103 BM17    EQU     MT+42          BIT MASK WORD  00017                                10 00103
000473 A   104 BM37    EQU     MT+43          BIT MASK WORD  00037                                10 00104
000474 A   105 BM77    EQU     MT+44          BIT MASK WORD  00077                                10 00105
000475 A   106 BM177   EQU     MT+45          BIT MASK WORD  00177                                10 00106
000463 A   107 BM377   EQU     MT+35          BIT MASK WORD  00377                                10 00107
000476 A   108 BM777   EQU     MT+46          BIT MASK WORD  00777                                10 00108
000477 A   109 BM1777  EQU     MT+47          BIT MASK WORD  01777                                10 00109
000500 A   110 MTE     EQU     BM1777+1                                                       FF  10 00110
           111         EJECT                                                                      10 00111
           112 ********************************************************************************  10 00112
           113 *                                                                              *  10 00113
           114 *       P   R   O   G   R   A   M       C   O   N   T   R   O   L              *  10 00114
           115 *                                                                              *  10 00115
           116 *                               B   L   O   C   K                              *  10 00116
           117 *                                                                              *  10 00117
           118 ********************************************************************************  10 00118
           120 ********************************************************************************  10 00120
           121 *                                                                              *  10 00121
           122 *                           E X T E R N A L S                                  *  10 00122
           123 *                                                                              *  10 00123
           124 ********************************************************************************  10 00124
           126         EXT     BOFCB          SYSTEM BO FCB                                   10 00126
           127         EXT     GOFCB          SYSTEM GO FCB                                   10 00127
           128         EXT     LOFCB          SYSTEM LO FCB                                   10 00128
           129         EXT     PIFCB          SYSTEM PI FCB                                   10 00129
           130         EXT     SIFCB          SYSTEM SI FCB                                   10 00130
           131         EXT     V$EXEC         ENTRY TO RTE SERVICES                           10 00131
           132         EXT     V$IOC          ENTRY TO IOC                                    10 00132
           133         EXT     V$IOST         ENTRY TO IOC STATUS CALL                        10 00133
           134 ********************************************************************************  10 00134
           135 *                                                                              *  10 00135
           136 *                       S Y S T E M   V A R I A B L E S                        *  10 00136
           137 *                                                                              *  10 00137
           138 ********************************************************************************  10 00138
000020 A   140 $BIT    SET     16             SELECT 16-BIT VDM 620 COMPUTER                  10 00140
000002 A   141 B       SET     2              B-REGISTER                                      10 00141
000001 A   142 X       SET     1              X-REGISTER                                      10 00142
           143 *                                                                              10 00143
           144 *                                                                              10 00144
           145 *       PARAMETERS FOR WCS V74 FORTRAN                                         10 00145
           146 *                                                                              10 00146
           147 *                                                                              10 00147
105032 A   148 FLDI    EQU     0105032        FLD BCS OPCODE                                  10 00148
105033 A   149 FSTI    EQU     0105033        FST BCS OPCODE                                  10 00149
105035 A   150 F$DOI   EQU     0105035        $DO BCS OPCODE                                  10 00150
105027 A   151 F$DOI1  EQU     0105027        $DO BCS OPCODE(INCREMENT=1)                 FF  10 00151
105036 A   152 F$$EI   EQU     0105036        $SE BCS OPCODE                                  10 00152
105037 A   153 FMOVI   EQU     0105037        FMOV BCS INSTRUCTION                            10 00153
105127 A   154 FSQRT   EQU     0105127        FLOATING SQUARE-ROOT BCS INSTRUCTION            10 00154
105024 A   155 FLREL   EQU     0105024        FLOATING RELATIONAL BASE OP-CODE                10 00155
105125 A   156 FLJAG   EQU     0105125        BCS JMP A.GT.0                                  10 00156
105226 A   157 FLAIF   EQU     0105226        FLOATING ARITHMETIC-IF OP-CODE                  10 00157
105167 A   158 FLIOP   EQU     0105167        BCS SUBSCRIPT OPERATOR                          10 00158
           159 *                                                                          FF  10 00159
           160 * FAST FLOATING-POINT BOX OP CODES                                         FF  10 00160
           161 *                                                                          FF  10 00161
105400 A   162 FFPOP   EQU     0105400        BASIC FFP OP                                FF  10 00162
105503 A   163 FADDD   EQU     FFPOP+0103     DP ADD                                      FF  10 00163
105410 A   164 FADDS   EQU     FFPOP+010      SP ADD                                      FF  10 00164
105535 A   165 FDIVD   EQU     FFPOP+0135     DP DIVIDE                                   FF  10 00165
105401 A   166 FDIVS   EQU     FFPOP+1        SP DIVIDE                                   FF  10 00166
105621 A   167 FIX     EQU     FFPOP+0221     FIX FP                                      FF  10 00167
105420 A   168 FLDS    EQU     FFPOP+020      LOAD SP                                     FF  10 00168
105522 A   169 FLDD    EQU     FFPOP+0122     LOAD DP                                     FF  10 00169
105425 A   170 FLT     EQU     FFPOP+025      FLOAT INTEGER                               FF  10 00170
105506 A   171 FMULD   EQU     FFPOP+0106     MULTIPLY DP                                 FF  10 00171
105416 A   172 FMULS   EQU     FFPOP+016      MULTIPLY SP                                 FF  10 00172
105710 A   173 FSTD    EQU     FFPOP+0310     STORE DP                                    FF  10 00173
105600 A   174 FSTS    EQU     FFPOP+0200     STORE SP                                    FF  10 00174
105543 A   175 FSUBD   EQU     FFPOP+0143     SUBTRACT DP                                 FF  10 00175
105450 A   176 FSUBS   EQU     FFPOP+050      SUBTRACT SP                                 FF  10 00176
           177 *                                                                              10 00177
           178 *                                                                              10 00178
000422 A   179 K2      EQU     TWO                                                            10 00179
000441 A   180 MTWO    EQU     BR0                                                            10 00180
000423 A   181 K4      EQU     FOUR                                                           10 00181
000466 A   182 K6      EQU     SIX                                                            10 00182
000424 A   183 K10     EQU     BS3                                                            10 00183
000471 A   184 K12     EQU     TEN                                                            10 00184
000472 A   185 K17     EQU     BM17                                                           10 00185
000425 A   186 K20     EQU     BS4                                                            10 00186
000473 A   187 K37     EQU     BM37                                                           10 00187
000463 A   188 K77     EQU     BM377                                                          10 00188
000432 A   189 KJMP    EQU     BS9                                                            10 00189
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                190        EJECT                                                              10 00190
                191 *******************************************************************       10 00191
                192 *                                                                 *       10 00192
                193 * I/O BUFFER, VARIABLE BLOCK, AND TRANSFER VECTOR DEFINITIONS     *       10 00193
                194 *                                                                 *       10 00194
                195 *******************************************************************       10 00195
010150 A        197 OVERSZ SET     4200           MAXIMUM OVERLAY SIZE                        10 00197
000027 A        198 TFVCSZ SET     027            FROM-COMPILER TRANSFER VECTOR SIZE          10 00198
000666 A        199 VARBLS SET     0666           VARIABLE BLOCK SIZE                         10 00199
177112 R        200 VARBLO EQU     *-VARBLS       VARIABLE BLOCK START ADDRESS                10 00200
177120 R        202 ERBF   EQU     VARBLO+06      ERROR BUFFER                                10 00202
177127 R        203 NERR   EQU     VARBLO+015     ERROR COUNT                                 10 00203
177160 R        204 SLOT   EQU     VARBLO+0046    SPECIAL LIST BUFFER                         10 00204
177204 R        205 TITL   EQU     VARBLO+0072    TITLE BUFFER                                10 00205
177207 R        206 TITP   EQU     VARBLO+0075         TITLE PAGE NUMBER                      10 00206
177212 R        207 TITD   EQU     VARBLO+0100         TITLE DATE                             10 00207
177217 R        208 TITJ   EQU     VARBLO+0105         TITLE JOB NAME                         10 00208
177236 R        209 TITN   EQU     VARBLO+0124    TITLE NAME                                  10 00209
177243 R        210 TITM   EQU     VARBLO+0131         TIME                                   10 00210
177250 R        211 TITQ   EQU     VARBLO+0136         END                                    10 00211
177250 R        212 BLFCB  EQU     VARBLO+0136    BO FCB                                      10 00212
177262 R        213 GLFCB  EQU     VARBLO+0150    GO FCB                                      10 00213
177274 R        214 LLFCB  EQU     VARBLO+0162    LO FCB                                      10 00214
177306 R        215 PLFCB  EQU     VARBLO+0174    PI FCB                                      10 00215
                216        EJEC                                                               10 00216
                217 *******************************************************************       10 00217
                218 *                                                                 *       10 00218
                219 *            C O M P I L E R   V A R I A B L E   B L O C K        *       10 00219
                220 *                                                                 *       10 00220
                221 *******************************************************************       10 00221
                223 *********************************                                         10 00223
                224 * FIXED ON LOADING BY ROUTINE FORT *                                      10 00224
                225 *********************************                                         10 00225
177320 R        226 BOBLFL EQU     VARBLO+0206    BO BLOCKING FLAG                            10 00226
177321 R        227 GOBLFL EQU     VARBLO+0207    GO BLOCKING FLAG                            10 00227
177322 R        228 LOBLFL EQU     VARBLO+0210    LO BLOCKING FLAG                            10 00228
177323 R        229 PIBLFL EQU     VARBLO+0211    PI BLOCKING FLAG                            10 00229
177324 R        230 $PCW   EQU     VARBLO+0212    COMPILER CONTROL FLAGS                      10 00230
177325 R        231 $ECW   EQU     VARBLO+0213    ERROR CONTROL WORD                          10 00231
177326 R        232 DPB    EQU     VARBLO+0214    AVAILABLE CORE START ADDRESS                10 00232
177327 R        233 DPX    EQU     VARBLO+0215    AVAILABLE CORE END ADDRESS                  10 00233
                235 ********************************                                          10 00235
                236 * CLEARED FOR EACH COMPILATION *                                          10 00236
                237 ********************************                                          10 00237
177330 R        239 VBLOBG EQU     DPX+1          START OF CLEARED VARIABLES                  10 00239
177330 R        240 AF     EQU     VBLOBG         ADDRESS FIELD                            01 10 00240
177331 R        241 AIFW   EQU     AF+1           SCAN FORWARD I POINTER                   01 10 00241
177332 R        242 AS     EQU     AIFW+1         ARRAY SUBSCRIPTS                         07 10 00242
177341 R        243 AT     EQU     AS+7           ADDRESS TYPE                             01 10 00243
177342 R        244 BDF    EQU     AT+1           BLOCK DATA FLAG                          01 10 00244
177343 R        245 BOBLCN EQU     BDF+1          BO BLOCKING FLAG                         01 10 00245
177344 R        246 CF     EQU     BOBLCN+1       SCAN COMPLIMENT FLAG                     01 10 00246
177345 R        247 CFPTSW EQU     CF+1           FINAL POINT CHECK SWITCH                 01 10 00247
177346 R        248 CL     EQU     CFPTSW+1                                                01 10 00248
177347 R        249 CLOP   EQU     CL+1           LIST OUTPUT PACK COUNT                   01 10 00249
177350 R        250 CMFL   EQU     CLOP+1         COMMON FLAGS                             01 10 00250
177351 R        251 CNP    EQU     CMFL+1         COMMON NAME POINTER                      01 10 00251
177352 R        252 D      EQU     CNP+1          DO POINTER                               01 10 00252
177353 R        253 DF     EQU     D+1            DELIMITER FLAG                           01 10 00253
177354 R        254 DFPP   EQU     DF+1           FLOATING POINT DISABLE FLAG              01 10 00254
177355 R        255 DH     EQU     DFPP+1         DO LIMIT POINTER                         01 10 00255
177356 R        256 DI     EQU     DH+1           DO INCREMENT POINTER                     01 10 00256
177357 R        257 DPCA   EQU     DI+1           DATA POOL CONTSANTS - I-POINTER FOR:        10 00257
                258 *                                1,2,0,4,0.0,0D0,A$C,SQRT,IFIX,FLOAT      10 00258
                259 *                               ,-1,DFLOAT                                10 00259
177373 R        260 DR     EQU     DPCA+12        DO RETURN ADDRESS                           10 00260
177374 R        261 DS     EQU     DR+1                                                    01 10 00261
177375 R        262 DSAV   EQU     DS+1           DT SAVE FOR RD/WR PROCESSING             01 10 00262
177376 R        263 DT     EQU     DSAV+1         DO TOP POINTER                           01 10 00263
177377 R        264 DTFL   EQU     DT+1           DO TERMINATION FLAG                      02 10 00264
177401 R        265 DV     EQU     DTFL+2         DO VARIABLE POINTER                      01 10 00265
177402 R        266 EC     EQU     DV+1           ERROR COUNT                              01 10 00266
177403 R        267 EH     EQU     EC+1           EXPRESSION HIERARCHYS                    02 10 00267
177405 R        268 EHBK   EQU     EH+2           SCAN BACKWARD EXPRESSION HEIRARCHY       01 10 00268
177406 R        269 EL     EQU     EHBK+1         ENTRY LENGTH                             01 10 00269
177407 R        270 EXAD   EQU     EL+1           EXECUTEABLE ADDRESS                      01 10 00270
177410 R        271 F      EQU     EXAD+1         ALTERNATE I POINTER                      01 10 00271
177411 R        272 FFPFL  EQU     F+1            FLOATING POINT PROCESSOR FLAG            01 10 00272
177412 R        273 GOBLCN EQU     FFPFL+1        GO BLOCKING COUNT                        01 10 00273
177413 R        274 HCC    EQU     GOBLCN+1       HOLLERITH COLUMN COUNTER                 01 10 00274
177414 R        275 I      EQU     HCC+1          ASSIGNMENT TABLE POINTER                 01 10 00275
177415 R        276 ID     EQU     I+1            IDENTIFICATION                           04 10 00276
177421 R        277 IM     EQU     ID+4           ITEM MODE                                01 10 00277
177422 R        278 INBP   EQU     IM+1           INPUT BUFFER POINTER                     01 10 00278
177423 R        279 IOFL   EQU     INBP+1         I/O FLAG                                 01 10 00279
177424 R        280 IP     EQU     IOFL+1         ARRAY POINTERS                           09 10 00280
177435 R        281 IS     EQU     IP+9           ARRAY DIMENSIONS                         08 10 00281
177445 R        282 IT     EQU     IS+8           ASSIGNMENT TOP POINTER                   01 10 00282
177446 R        283 IU     EQU     IT+1           ITEM USAGE                               01 10 00283
177447 R        284 J      EQU     IU+1           TRIAD POINTER                            01 10 00284
177450 R        285 JPFL   EQU     J+1            JUMP FLAGS                               04 10 00285
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177454 R   286 JT      EQU     JPFL+4          TRIAD TOP POINTER                          01  10 00286
177455 R   287 K       EQU     JT+1            EXPRESSION POINTER                         01  10 00287
177456 R   288 KT      EQU     K+1             EXPRESSION TOP POINTER                     01  10 00288
177457 R   289 LF      EQU     KT+1            LOCATION FIELD                             01  10 00289
177460 R   290 LIF     EQU     LF+1            LOGICAL IF FLAG                            01  10 00290
177461 R   291 LLOP    EQU     LIF+1           NO. OF LINES LEFT ON PAGE                  01  10 00291
177462 R   292 MAXOPC  EQU     LLOP+1          MAXIMUM FPP OPERATION COUNT                01  10 00292
177463 R   293 MDTB    EQU     MAXOPC+1        OPERAND IMPLICIT MODE TABLE                26  10 00293
177516 R   294 MF      EQU     MDTB+27         MODE FLAG                                      10 00294
177517 R   295 MM      EQU     MF+1            MAX/MIN LIST FLAF                          01  10 00295
177520 R   296 MR      EQU     MM+1            MULTIPLY REGISTERS                         02  10 00296
177522 R   297 NAME    EQU     MR+2            SUBROUTINE GENERATION NAME                 01  10 00297
177523 R   298 ND      EQU     NAME+1          NUMBER OF DIMENSIONS                       01  10 00298
177524 R   299 NF      EQU     ND+1            NEGATION FLAG                              01  10 00299
177525 R   300 NFFW    EQU     NF+1            SCAN FORWARD NEGATION FLAG                 01  10 00300
177526 R   301 NS      EQU     NFFW+1          NUMBER OF SUBSCRIPTS                       01  10 00301
177527 R   302 NT      EQU     NS+1            NAME TAG                                   01  10 00302
177530 R   303 NTFL    EQU     NT+1            NO TAG-USAGE FLAG                          01  10 00303
177531 R   304 OP      EQU     NTFL+1          OPERATION                                  01  10 00304
177532 R   305 OPBK    EQU     OP+1            SCAN BACKWARD OPERATION                    01  10 00305
177533 R   306 OPCNT   EQU     OPBK+1          OPERATION COUNT                            01  10 00306
177534 R   307 OPW     EQU     OPCNT+1         OUTPUT PACK WORD                           01  10 00307
177535 R   308 OITFL   EQU     OPW+1           OUTPUT-ITEM FLAG                           01  10 00308
177536 R   309 O1      EQU     OITFL+1         LEFT OPERAND                               01  10 00309
177537 R   310 O2      EQU     O1+1            RIGHT OPERAND                              01  10 00310
177540 R   311 PC      EQU     O2+1            PACK CONTROL                               04  10 00311
177544 R   312 PIBLCN  EQU     PC+4            PI BLOCKING COUNT                          01  10 00312
177545 R   313 QFL     EQU     PIBLCN+1        QUOTE FLAG                                 01  10 00313
177546 R   314 RL      EQU     QFL+1           RELATIVE PROGRAM LOCATIONS                 02  10 00314
177550 R   315 SBFL    EQU     RL+2            SUBPROGRAM FLAGS                           02  10 00315
177553 R   316 SF      EQU     SBFL+3          STORAGE FL                                     10 00316
177554 R   317 SPFL    EQU     SF+1            SPECIFICATION FLAG                         01  10 00317
177555 R   318 STFFL   EQU     SPFL+1          STATEMENT FUNCTION FLAG                    01  10 00318
177556 R   319 STNB    EQU     STFFL+1         STATEMENT NUMBER                           01  10 00319
177557 R   320 STSW    EQU     STNB+1          STATEMENT SWITCH                           01  10 00320
177560 R   321 SSP     EQU     STSW+1          SPECIFICATION STACK POINTERS               05  10 00321
177565 R   322 SXF     EQU     SSP+5           COMPLEX FLAG                               01  10 00322
177566 R   323 TC      EQU     SXF+1           TERM CHARACTER/ CHARACTER IMAGE            02  10 00323
177570 R   324 TERF    EQU     TC+2            TERMINATING ERROR FLAG                     01  10 00324
177571 R   325 TM      EQU     TERF+1          TRIAD MODE                                 01  10 00325
177572 R   326 TSFL    EQU     TM+1            TEMPORARY STORAGE FLAG                     01  10 00326
177573 R   327 TU      EQU     TSFL+1          TRIAD USE                                  01  10 00327
177574 R   328 T0      EQU     TU+1            TEMPORARY STORAGE                          01  10 00328
177575 R   329 T1      EQU     T0+1            TEMPORARY STORAGE                          01  10 00329
177576 R   330 T2      EQU     T1+1            TEMPORARY STORAGE                          01  10 00330
177577 R   331 T2IN    EQU     T2+1                                                       01  10 00331
177600 R   332 T3      EQU     T2IN+1          TEMPORARY STORAGE                          01  10 00332
177601 R   333 T4      EQU     T3+1            TEMPORARY STORAGE                          01  10 00333
177602 R   334 T5      EQU     T4+1            TEMPORARY STORAGE                          01  10 00334
177603 R   335 T6      EQU     T5+1            TEMPORARY STORAGE                          01  10 00335
177604 R   336 T7      EQU     T6+1            TEMPORARY STORAGE                          01  10 00336
177605 R   337 T8      EQU     T7+1            TEMPORARY STORAGE                          01  10 00337
177606 R   338 T9      EQU     T8+1            TEMPORARY STORAGE                          01  10 00338
177607 R   339 XRPT    EQU     T9+1            OBJECT X-REGISTER POINTER                  01  10 00339
177611 R   340 VBLOND  EQU     XRPT+2          END OF CLEARED VARIABLES                       10 00340
           341         EJECT                                                              10 00341
           342 ********************************************************************       10 00342
           343 *                                                                  *       10 00343
           344 *          C O M P I L E R   T R A N S F E R   V E C T O R         *       10 00344
           345 *                                                                  *       10 00345
           346 ********************************************************************       10 00346
           348 *       T O - C O M P I L E R                                      *       10 00348
077611 R   350 V       SET     VBLOND-0100000                                             10 00350
077611 R   352 ASI     EQU     V               ASSIGN ITEM                                10 00352
077612 R   353 V       SET     V+1                                                        10 00353
077612 R   354 ASS     EQU     V               ASSIGN SPECIAL                             10 00354
077613 R   355 V       SET     V+1                                                        10 00355
077613 R   356 CAN     SET     V               "ALL NAME                                  10 00356
077614 R   357 V       SET     V+1                                                        10 00357
077614 R   358 CBA     SET     V               CONVERT BINARY TO ASCII                    10 00358
077615 R   359 V       SET     V+1                                                        10 00359
077615 R   360 CCR     EQU     V               COMMA OR C/R TEST                          10 00360
077616 R   361 V       SET     V+1                                                        10 00361
077616 R   362 CRT     EQU     V               C/R TEST                                   10 00362
077617 R   363 V       SET     V+1                                                        10 00363
077617 R   364 CTS     EQU     V               COMMA TEST                                 10 00364
077620 R   365 V       SET     V+1                                                        10 00365
077620 R   366 DEK     SET     V               DEKREMENT K                                10 00366
077621 R   367 V       SET     V+1                                                        10 00367
077621 R   368 DFT     EQU     V               DEFINE AF,AT                               10 00368
077622 R   369 V       SET     V+1                                                        10 00369
077622 R   370 DSM     SET     V               DEFINE STATEMENT MODE                      10 00370
077623 R   371 V       SET     V+1                                                        10 00371
077623 R   372 EOLSW   SET     V                                                          10 00372
077624 R   373 V       SET     V+1                                                        10 00373
077624 R   374 ER1     SET     V                                                          10 00374
077625 R   375 V       SET     V+1                                                        10 00375
077625 R   376 ER2     EQU     V               USAGE ERROR                                10 00376
077626 R   377 V       SET     V+1                                                        10 00377
077626 R   378 ER3     EQU     V               MODE ERROR                                 10 00378
077627 R   379 V       SET     V+1                                                        10 00379
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077627  R   380  ER6     EQU     V          COMMON BASE LOWERED                                  10  00380
077630  R   381  V       SET     V+1                                                             10  00381
077630  R   382  ER7     EQU     V          ILLEGAL EQUIVALENCE GROUP                            10  00382
077631  R   383  V       SET     V+1                                                             10  00383
077631  R   384  ER8     SET     V                                                               10  00384
077632  R   385  V       SET     V+1                                                             10  00385
077632  R   386  ER11    SET     V                                                               10  00386
077633  R   387  V       SET     V+1                                                             10  00387
077633  R   388  ER12    SET     V                                                               10  00388
077634  R   389  V       SET     V+1                                                             10  00389
077634  R   390  ER13    SET     V                                                               10  00390
077635  R   391  V       SET     V+1                                                             10  00391
077635  R   392  ER14    SET     V                                                               10  00392
077636  R   393  V       SET     V+1                                                             10  00393
077636  R   394  ER15    EQU     V          TRUNCATED VALUE ERROR                                10  00394
077637  R   395  V       SET     V+1                                                             10  00395
077637  R   396  ER16    EQU     V          STATEMENT OUT OF ORDER                               10  00396
077640  R   397  V       SET     V+1                                                             10  00397
077640  R   398  ER17    EQU     V          MORE THAN 29 COMMON REGIONS                          10  00398
077641  R   399  V       SET     V+1                                                             10  00399
077641  R   400  ER18    EQU     V          NON-COMMON DATA ERROR                                10  00400
077642  R   401  V       SET     V+1                                                             10  00401
077642  R   402  ER20    EQU     V          DO INDEX NOT REFERENCED                              10  00402
077643  R   403  V       SET     V+1                                                             10  00403
077643  R   404  ER21    SET     V                                                               10  00404
077644  R   405  V       SET     V+1                                                             10  00405
077644  R   406  ER22    EQU     V          ARRAY NAME PREVIOUSLY DECLARED                       10  00406
077645  R   407  V       SET     V+1                                                             10  00407
077645  R   408  ER24    SET     V                                                               10  00408
077646  R   409  V       SET     V+1                                                             10  00409
077646  R   410  EXA     EQU     V          EXAMINE NEXT CHARACTER                               10  00410
077647  R   411  V       SET     V+1                                                             10  00411
077647  R   412  EXL     EQU     V          EXCHANGE LINKS                                       10  00412
077650  R   413  V       SET     V+1                                                             10  00413
077650  R   414  FNS1    EQU     V          ENTRY TO FNS                                         10  00414
077651  R   415  V       SET     V+1                                                             10  00415
077651  R   416  FORT1   SET     V                                                               10  00416
077652  R   417  V       SET     V+1                                                             10  00417
077652  R   418  GSE     EQU     V          GENERATE SUBPROGRAM ENTRANCE                         10  00418
077653  R   419  V       SET     V+1                                                             10  00419
077653  R   420  IAC     SET     V          INPUT (A) CHARACTERS                                 10  00420
077654  R   421  V       SET     V+1                                                             10  00421
077654  R   422  ICH     EQU     V          INPUT CHARACTER                                      10  00422
077655  R   423  V       SET     V+1                                                             10  00423
077655  R   424  ICO     EQU     V          INPUT COLUMN                                         10  00424
077656  R   425  V       SET     V+1                                                             10  00425
077656  R   426  ICORNL   SET     V                                                               10  00426
077657  R   427  V       SET     V+1                                                             10  00427
077657  R   428  ICRD    SET     V                                                               10  00428
077660  R   429  V       SET     V+1                                                             10  00429
077660  R   430  ICRR    SET     V                                                               10  00430
077661  R   431  V       SET     V+1                                                             10  00431
077661  R   432  ICSI    EQU     V          INPUT SOURCE CONTROL SWITCH                          10  00432
077662  R   433  V       SET     V+1                                                             10  00433
077662  R   434  IDI     SET     V          INPUT DIGIT                                          10  00434
077663  R   435  V       SET     V+1                                                             10  00435
077663  R   436  IHW     EQU     V          INPUT HOLLERITH WORD                                 10  00436
077664  R   437  V       SET     V+1                                                             10  00437
077664  R   438  IIV     EQU     V          INPUT INTEGER VARIABLE                               10  00438
077665  R   439  V       SET     V+1                                                             10  00439
077665  R   440  ILB     SET     V          INITIALIZE LIST BUFFER                               10  00440
077666  R   441  V       SET     V+1                                                             10  00441
077666  R   442  ILT     EQU     V          ILLEGAL DO TERMINATION/CONTROL CONTINUE              10  00442
077667  R   443  V       SET     V+1                                                             10  00443
077667  R   444  INA     EQU     V          INPUT NAME                                           10  00444
077670  R   445  V       SET     V+1                                                             10  00445
077670  R   446  INI     EQU     V          INPUT ITEM                                           10  00446
077671  R   447  V       SET     V+1                                                             10  00447
077671  R   448  INN     EQU     V          INPUT (DO NOT ASSIGN)                                10  00448
077672  R   449  V       SET     V+1                                                             10  00449
077672  R   450  INS     SET     V          INPUT NORMAL STATEMENT NUMBER                        10  00450
077673  R   451  V       SET     V+1                                                             10  00451
077673  R   452  INT     EQU     V          INTEGER TEST                                         10  00452
077674  R   453  V       SET     V+1                                                             10  00453
077674  R   454  ISN     SET     V          INPUT STATEMENT NUMBER                               10  00454
077675  R   455  V       SET     V+1                                                             10  00455
077675  R   456  IVA     EQU     V          INPUT VARIABLE                                       10  00456
077676  R   457  V       SET     V+1                                                             10  00457
077676  R   458  IVC     SET     V          INPUT INTEGER VARIABLE/CONSTANT                      10  00458
077677  R   459  V       SET     V+1                                                             10  00459
077677  R   460  IWI     EQU     V          WORDS/ITEM                                           10  00460
077700  R   461  V       SET     V+1                                                             10  00461
077700  R   462  LAX     EQU     V          LOAD ASSIGNMENT DATA                                 10  00462
077701  R   463  V       SET     V+1                                                             10  00463
077701  R   464  LDX     SET     V          LOAD DO                                              10  00464
077702  R   465  V       SET     V+1                                                             10  00465
077702  R   466  LEX     SET     V          LOAD EXPRESSION                                      10  00466
077703  R   467  V       SET     V+1                                                             10  00467
077703  R   468  LIST    EQU     V          LIST A LINE                                          10  00468
077704  R   469  V       SET     V+1                                                             10  00469
077704  R   470  LOCT    SET     V                                                               10  00470
```

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077705  R   471  V       SET     V+1
077705  R   472  LTX     SET     V
077706  R   473  V       SET     V+1
077706  R   474  MOVE    EQU     V
077707  R   475  V       SET     V+1
077707  R   476  MXL     EQU     V
077710  R   477  V       SET     V+1
077710  R   478  OAB     EQU     V
077711  R   479  V       SET     V+1
077711  R   480  ODB     SET     V
077712  R   481  V       SET     V+1
077712  R   482  ODS     SET     V
077713  R   483  V       SET     V+1
077713  R   484  ONEN    EQU     V
077714  R   485  V       SET     V+1
077714  R   486  OPK     SET     V
077715  R   487  V       SET     V+1
077715  R   488  ORE     SET     V
077716  R   489  V       SET     V+1
077716  R   490  OSR     SET     V
077717  R   491  V       SET     V+1
077717  R   492  OTJ     EQU     V
077720  R   493  V       SET     V+1
077720  R   494  OUT     SET     V
077721  R   495  V       SET     V+1
077721  R   496  OWD     SET     V
077722  R   497  V       SET     V+1
077722  R   498  OWS     EQU     V
077723  R   499  V       SET     V+1
077723  R   500  PDS     SET     V
077724  R   501  V       SET     V+1
077724  R   502  PEB     SET     V
077725  R   503  V       SET     V+1
077725  R   504  PTR     SET     V
077726  R   505  V       SET     V+1
077726  R   506  PTS     EQU     V
077727  R   507  V       SET     V+1
077727  R   508  RCC     EQU     V
077730  R   509  V       SET     V+1
077730  R   510  RCCS    EQU     V
077731  R   511  V       SET     V+1
077731  R   512  RCH     EQU     V
077732  R   513  V       SET     V+1
077732  R   514  RIO     EQU     V
077733  R   515  V       SET     V+1
077733  R   516  SAX     EQU     V
077734  R   517  V       SET     V+1
077734  R   518  SDX     SET     V
077735  R   519  V       SET     V+1
077735  R   520  SIDTB1  SET     V
077736  R   521  V       SET     V+1
077736  R   522  SIS     EQU     V
077737  R   523  V       SET     V+1
077737  R   524  SLIT    SET     V
077740  R   525  V       SET     V+1
077740  R   526  SLOP    SET     V
077741  R   527  V       SET     V+1
077741  R   528  STC     SET     V
077742  R   529  V       SET     V+1
077742  R   530  STI1    EQU     V
077743  R   531  V       SET     V+1
077743  R   532  STN     EQU     V
077744  R   533  V       SET     V+1
077744  R   534  STS     SET     V
077745  R   535  V       SET     V+1
077745  R   536  TER1    EQU     V
077746  R   537  V       SET     V+1
077746  R   538  TER2    EQU     V
077747  R   539  V       SET     V+1
077747  R   540  TER3    EQU     V
077750  R   541  V       SET     V+1
077750  R   542  TER4    EQU     V
077751  R   543  V       SET     V+1
077751  R   544  TER5    SET     V
077752  R   545  V       SET     V+1
077752  R   546  TER7    SET     V
077753  R   547  V       SET     V+1
077753  R   548  TER8    SET     V
077754  R   549  V       SET     V+1
077754  R   550  TER9    EQU     V
077755  R   551  V       SET     V+1
077755  R   552  TER11   EQU     V
077756  R   553  V       SET     V+1
077756  R   554  TER12   EQU     V
077757  R   555  V       SET     V+1
077757  R   556  TER13   SET     V
077760  R   557  V       SET     V+1
077760  R   558  TER14   EQU     V
077761  R   559  V       SET     V+1
077761  R   560  TER15   SET     V
077762  R   561  V       SET     V+1
```

```
LOAD TRIADS
MOVE ALPHA DATA
MAKE EXIT LABEL
OUTPUT ABSOLUTE
OUTPUT DOUBLE
OUTPUT DATA STRING
OUTPUT NAME
OUTPUT PACK
OUTPUT RELATIVE
OUTPUT STRING RELATIVE
OUTPUT JUMP
OUTPUT OPERATOR/OPERAND
OUTPUT WORD
OUTPUT WORDS
PACK DATA STRING
PACK ERROR BUFFER
PURGE TRIADS
'(' TEST
RESTORE SCAN PARAMETERS
SAVE SCAN PARAMETERES
REREAD CHARACTER
RIGHT INPUT OPERATOR
STORE ASSIGNMENT DATA
STORE DO
END OF MODE-SETTING IN SIDTB
STATEMENT IDENTIFICATION SCAN

SPECIAL LIST OUTPUT
STATEMENT COMPLETION
ENTRY TO STI
ILLEGAL DO TERM./NO CONTROL CONTINUE
STATEMENT SCAN
CONSTRUCTION
NOT IN SUBPROGRAM
DATA POOL FULL
ILLEGAL STATEMENT


IMPROPER DO NEST
ITEM NOT OPERAND
ITEM NOT FUNCTION


SUBSCRIPT VARIABLE NOT DUMMY
```

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10  00471
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        077762 R   562 TER17   EQU     V               FUNCTION STATEMENT HAS NO PARAMETERS      10 00562
        077763 R   563 V       SET     V+1                                                       10 00563
        077763 R   564 TER18   SET     V                                                         10 00564
        077764 R   565 V       SET     V+1                                                       10 00565
        077764 R   566 TER19   SET     V                                                         10 00566
        077765 R   567 V       SET     V+1                                                       10 00567
        077765 R   568 TER20   SET     V                                                         10 00568
        077766 R   569 V       SET     V+1                                                       10 00569
        077766 R   570 TER24   SET     V                                                         10 00570
        077767 R   571 V       SET     V+1                                                       10 00571
        077767 R   572 TER26   EQU     V               SUBSCRIPT NOT INTEGER CONSTANT            10 00572
        077770 R   573 V       SET     V+1                                                       10 00573
        077770 R   574 TOF     SET     V               TEST OVERFLOW                             10 00574
        077771 R   575 V       SET     V+1                                                       10 00575
        077771 R   576 TSB     EQU     V               TAG SUBPROGRAM                            10 00576
        077772 R   577 V       SET     V+1                                                       10 00577
        077772 R   578 TST     EQU     V               CHARACTER TEST                            10 00578
        077773 R   579 V       SET     V+1                                                       10 00579
        077773 R   580 TVR     EQU     V               TAG VARIABLE                              10 00580
        077774 R   581 V       SET     V+1                                                       10 00581
        077774 R   582 WROBO   SET     V                                                         10 00582
        077775 R   583 V       SET     V+1                                                       10 00583
        077775 R   584 WROGO   SET     V                                                         10 00584
        077776 R   585 V       SET     V+1                                                       10 00585
        077776 R   586 WROT    SET     V                                                         10 00586
        077777 R   587 V       SET     V+1                                                       10 00587
        077777 R   588 ZEB     EQU     V               ZERO ERROR BUFFER                         10 00588
                   590 *       F R O M - C O M P I L E R                                       * 10 00590
        000000 R   592 V       SET     *                                                         10 00592
000000  000026 R   593         DATA    ASP                                                       10 00593
000001  000316 R   594         DATA    BGN             BEGIN                                     10 00594
000002  000743 R   595         DATA    BLD             BLOCK DATA                                10 00595
000003  001005 R   596         DATA    CMN             COMMON                                    10 00596
000004  001010 R   597         DATA    DAT             DATA                                      10 00597
000005  001751 R   598         DATA    DMN             DIMENSION                                 10 00598
000006  002132 R   599         DATA    EQU             EQUIVALENCE                               10 00599
000007  002305 R   600         DATA    EXT             EXTERNAL                                  10 00600
000010  002330 R   601         DATA    FUN             FUNCTION                                  10 00601
000011  002437 R   602         DATA    IMP             IMPLICIT                                  10 00602
000012  002732 R   603         DATA    MOD             MODE SET                                  10 00603
000013  003123 R   604         DATA    NAM             NAME                                      10 00604
000014  002331 R   605         DATA    SUB             SUBROUTINE                                10 00605
000015  003467 R   606         DATA    TIPR            TITLE                                     10 00606
000016  001761 R   607         DATA    ENT             ENTRY                                     10 00607
000017             608         BSS     TFVCSZ-*+V-1                                              10 00608
                   609         EJECT                                                             10 00609
                   610 ***************                                                           10 00610
                   611 * I/O BUFFERS *                                                           10 00611
                   612 ***************                                                           10 00612
        010151 R   614 $BUF    EQU     V+OVERSZ+1      INPUT BUFFER AREA                         10 00614
        010224 R   615 OBUF    EQU     $BUF+43         OBJECT BUFFER                             10 00615
        010320 R   616 BLBF1   EQU     OBUF+60         BLOCKING BUFFER 1                         10 00616
                   617         EJECT                                                             10 00617
                   618 *       ASP     ASSIGN SPECIFICATIONS                                     10 00618
000026  017000 I   620 ASP     LDA     RL                                                        10 00620
000027  057000 I   621         STA     EXAD            SET EXECUTION ADDRESS                     10 00621
000030  002000 A   622         CALL    RCCS                                                      10 00622
000031  077730 R
000032  002000 A   623         CALL    ZEB                                                       10 00623
000033  077777 R
000034  006010 A   624         LDAI    ISC                                                       10 00624
000035  002702 R
000036  006057 A   625         STAE    ICSI                                                      10 00625
000037  077661 R
000040  001000 A   626         JMP     PCS                                                       10 00626
000041  003220 R
000042  002000 A   627 ASPP    CALL    RCC                                                       10 00627
000043  077727 R
000044  006017 A   628         LDAE*   ICO                                                       10 00628
000045  177655 R
000046  006057 A   629         STAE    ICSI                                                      10 00629
000047  077661 R
000050  017000 I   630         LDA     DT                                                        10 00630
000051  057000 I   631         STA     KT                                                        10 00631
000052  017000 I   632 ASPS    LDA     CMFL                                                      10 00632
000053  147000 I   633         SUB     SSP+2                                                   V 10 00633
000054  001010 A   634         JAZ     ASP3            NO COMMON                                 10 00634
000055  000132 R
000056  047000 I   635         INR     SSP+2                                                   V 10 00635
000057  017000 I   636         LDA     SSP+2                                                   V 10 00636
000060  127000 I   637         ADD     CNP                                                     V 10 00637
000061  005012 A   638         TAB                                                             V 10 00638
000062  016000 A   639         LDA     0,2                                                     V 10 00639
000063  057000 I   640         STA     F                                                         10 00640
000064  057000 I   641         STA     I                                                         10 00641
000065  005001 A   642         TZA                                                               10 00642
000066  057000 I   643         STA     T0                                                        10 00643
000067             644 ASP1    BSS     0                                                       V 10 00644
000067  017000 I   645         LDA     1                                                       V 10 00645
000070  054003 A   646         STA     ASP0+1                                                  V 10 00646
000071  002000 A   647         JMPM    FLN                                                     V 10 00647
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000072 002313 R
000073 006030 A   648 ASP0    LDXI    0-0                                                    V 10 00648
000074 000000 A
000075 027000 I   649         LDB     SSP+2                                                  V 10 00649
000076 005122 A   650         IBR                                                            V 10 00650
000077 065001 A   651         STB     1,1                                                    V 10 00651
000100 001010 A   652         JAZ     ASP2                                                     10 00652
000101 000112 R
000102 017000 I   653         LDA     IS                                                       10 00653
000103 127000 I   654         ADD     OF                                                       10 00654
000104 005012 A   655         TAB                                                              10 00655
000105 147000 I   656         SUB     T0      COMMON SIZE                                      10 00656
000106 003002 A   657         XAP     ASP4                                                     10 00657
000107 000165 R
000110 001000 A   658         JMP     ASP1                                                     10 00658
000111 000067 R
000112 017000 I   659 ASP2    LDA     T0                                                       10 00659
000113 057000 I   660         STA     AF      COMMON SIZE TO BASE                              10 00660
000114 002000 A   661         CALL    SAX                                                      10 00661
000115 077733 R
000116 017000 I   662         LDA     T0                                                     V 10 00662
000117 001010 A   663         JAZ     ASP5    REPEAT FOR NEXT COMMON NAME                    V 10 00663
000120 000052 R
000121 017000 I   664         LDA     CL                                                     V 10 00664
000122 004244 A   665         LRLA    4                                                      V 10 00665
000123 006120 A   666         ADDI    011000  OUTPUT POINTER DEFINITION FOR COMMON NAME.      10 00666
000124 011000 A
000125 027000 I   667         LDB     T0                                                       10 00667
000126 002000 A   668         CALL    ONEN                                                     10 00668
000127 077713 R
000130 001000 A   669         JMP     ASP5                                                   V 10 00669
000131 000052 R
000132 057000 I   670 ASP3    STA     EL      EL=0                                             10 00670
000133 017000 I   671         LDA     DPB                                                      10 00671
000134 057000 I   672         STA     F                                                        10 00672
000135 017000 I   673         LDA     BDF                                                      10 00673
000136 002010 A   674         JAZM    OTJ     INITIAL JUMP                                     10 00674
000137 077717 R
000140 017000 I   675 ASP9    LDA     F                                                        10 00675
000141 127000 I   676         ADD     EL                                                       10 00676
000142 057000 I   677         STA     F                                                        10 00677
000143 057000 I   678         STA     I                                                        10 00678
000144 147000 I   679         SUB     IT                                                       10 00679
000145 001010 A   680         JAZ     ASP7    END OF ASSMT.                                    10 00680
000146 000235 R
000147 002000 A   681         CALL    LAX                                                      10 00681
000150 077700 R
000151 017000 I   682         LDA     AT                                                       10 00682
000152 130422 A   683         ERA     K2                                                       10 00683
000153 127000 I   684         ADD     NT                                                       10 00684
000154 027000 I   685         LDB     IV                                                       10 00685
000155 005322 A   686         DBR                                                              10 00686
000156 001030 A   687         JIF     030,ASP4  NT=0,AT=2,IV=1                                 10 00687
000157 000165 R
000160 005322 A   688         DBR                                                              10 00688
000161 001030 A   689         JIF     030,ASP4  NT=0,AT=2,IV=2                                 10 00689
000162 000165 R
000163 001000 A   690         JMP     ASP9                                                     10 00690
000164 000140 R
000165 067000 I   691 ASP4    STB     T0      T0=0                                             10 00691
000166 006010 A   692         LDAI    -03777                                                   10 00692
000167 174001 A
000170 057000 I   693         STA     T1      T1=-MAX                                          10 00693
000171 002000 A   694 ASP8    JMPM    FLN     FETCH LINK                                       10 00694
000172 002313 R
000173 017000 I   695         LDA     T0                                                       10 00695
000174 147000 I   696         SUB     AF                                                       10 00696
000175 027000 I   697         LDB     AF                                                       10 00697
000176 002004 A   698         XAN     ASP4    SET NEW MAX                                      10 00698
000177 000165 R
000200 017000 I   699         LDA     IS                                                       10 00699
000201 147000 I   700         SUB     AF                                                       10 00700
000202 005012 A   701         TAB                                                              10 00701
000203 147000 I   702         SUB     T1                                                       10 00702
000204 001004 A   703         JAN     *+3                                                      10 00703
000205 000207 R
000206 067000 I   704         STB     T1      SIZE                                             10 00704
000207 017000 I   705         LDA     F                                                        10 00705
000210 147000 I   706         SUB     F                                                        10 00706
000211 001010 A   707         JAZ     ASP5    LINK END                                         10 00707
000212 000213 R
000213 001000 A   708         JMP     ASP8                                                     10 00708
000214 000171 R
000215 017000 I   709 ASP5    LDA     T0                                                       10 00709
000216 127000 I   710         ADD     PL                                                       10 00710
000217 057000 I   711         STA     T0      OFFSET                                           10 00711
000220 127000 I   712         ADD     T1      SIZE                                             10 00712
000221 057000 I   713         STA     PL      NEXT LOCATION                                    10 00713
000222 017000 I   714 ASP6    LDA     T0                                                       10 00714
000223 147000 I   715         SUB     AF      ACTUAL REL. ADD.                                 10 00715
000224 005102 A   716         INCR    2                                                        10 00716
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000225 002000 A   717          CALL     DFT                                                    10 00717
000226 077621 R
000227 002000 A   718          JMPM     FLN       FETCH LINK                                   10 00718
000230 002313 R
000231 001010 A   719          JAZ      ASP9                                                   10 00719
000232 000140 R
000233 001000 A   720          JMP      ASP6                                                   10 00720
000234 000222 R
000235 010432 A   721 ASP7     LDA      KJMP                                                   10 00721
000236 027000 I   722          LDB      RL                                                     10 00722
000237 002000 A   723          CALL     DWS                                                    10 00723
000240 077722 R
000241 017000 I   724          LDA      JT                                                     10 00724
000242 147000 I   725          SUB      IT                                                     10 00725
000243 001010 A   726          JAZ      FNS1      NO DATA                                      10 00726
000244 077650 R
000245 006037 A   727          LDXE*    ICD                                                    10 00727
000246 177653 R
000247 006010 A   728          LDAI     ASP10                                                  10 00728
000250 000270 R
000251 055002 A   729          STA      2,X       SET READ SWITCH TO READ FROM DATA POOL       10 00729
000252 017000 I   730          LDA      IT                                                     10 00730
000253 057000 I   731          STA      J                                                      10 00731
000254 002000 A   732          CALL     DAT00                                                  10 00732
000255 001014 R
000256 006037 A   733          LDXE*    ICD                                                    10 00733
000257 177655 R
000260 005041 A   734          TXA                                                             10 00734
000261 120465 A   735          ADD      FIVE                                                   10 00735
000262 055002 A   736          STA      2,X       RESET READ SWITCH                            10 00736
000263 017000 I   737          LDA      IT                                                     10 00737
000264 057000 I   738          STA      JT                                                     10 00738
000265 057000 I   739          STA      J                                                      10 00739
000266 001000 A   740          JMP      FNS1                                                   10 00740
000267 077650 R
000270 000000 A   741 ASP10    ENTRY                      READ DATA FROM DATA POOL            10 00741
000271 017000 I   742          LDA      J                                                      10 00742
000272 005014 A   743          TAX                                                             10 00743
000273 147000 I   744          SUB      JT                                                     10 00744
000274 001010 A   745          JAZ      ASP13     END OF DATA                                  10 00745
000275 000313 R
000276 015000 A   746          LDA      0,X                                                    10 00746
000277 004550 A   747          LLSR     8                                                      10 00747
000300 001016 A   748          JANZ     ASP12     LEFT CHARACTER                               10 00748
000301 000307 R
000302 004450 A   749          LLRL     8                                                      10 00749
000303 047000 I   750          INR      J                                                      10 00750
000304 057000 I   751 ASP11    STA      TC                                                     10 00751
000305 001000 A   752          JMP*     ASP10     EXIT (A)=CHARACTER                           10 00752
000306 100270 R
000307 004150 A   753 ASP12    LSRB     8                                                      10 00753
000310 065000 A   754          STB      0,X       SET RIGHT CHARACTER                          10 00754
000311 001000 A   755          JMP      ASP11                                                  10 00755
000312 000304 R
000313 010463 A   756 ASP13    LDA      BM377                                                  10 00756
000314 001000 A   757          JMP      ASP11                                                  10 00757
000315 000304 R
                  758          EJECT                                                           10 00758
                  759 ********************************************************************** 10 00759
                  760 *                                                                    * 10 00760
                  761 *        R E - I N I T I A L I Z E   C O M P I L E R ( B G N )       * 10 00761
                  762 *                                                                    * 10 00762
                  763 * FUNCTION: BGN IS THE COMPILER REINITIALIZATION ROUTINE             * 10 00763
                  764 *                                                                    * 10 00764
                  765 * ENTRY: FROM INITIALIZE ROUTINE FORT OR FROM END STATEMENT          * 10 00765
                  766 *                                                                    * 10 00766
                  767 * EXIT : VARIABLE BLOCK ORGY-JAIL CLEARED.                          * 10 00767
                  768 *        TABLE POINTERS INITIALIZED:                                 * 10 00768
                  769 *         TOP OF AVAILABLE CORE =V$LLUP =DPX=KT=K=DT=D               * 10 00769
                  770 *         START OF COMMON BLOCK NAME LIST =V$LLUP-30 =CNP            * 10 00770
                  771 *         TOP OF AVAIL CORE TO STORE SPEC STRING=SSP=V$LLUP-30       * 10 00771
                  772 *         BOTTOM OF AVAILABLE CORE ==DPB=IT=JT=J                     * 10 00772
                  773 *        DTFL=1 TO FLAG FIRST STATEMENT                              * 10 00773
                  774 *        JPFL=1 TO FLAG PATH EXISTS TO FIRST STATEMENT               * 10 00774
                  775 *        XRPT=1 TO KILL X-REG ASSIGNMENT                             * 10 00775
                  776 *        INTEGERS 1,2,4 IN ASSIGNMENT TABLE                          * 10 00776
                  777 *              MDTB INITIALIZED TO REAL EXCEPT (I-N) TO INTEGER   PD  10 00777
                  778 *        DATE TEXT STRING LOADED INTO OBJECT BUFFER OBUF FROM V$DATE * 10 00778
                  779 *        PAGE AND LINE NUMBERS, ERROR COUNT SET TO ZERO.             * 10 00779
                  780 *        READ SWITCHES ALL SET TO INITIAL POSITION.                  * 10 00780
                  781 *        FIRST STATEMENT READ.                                       * 10 00781
                  782 *        EXIT TO STI1.                                               * 10 00782
                  783 *                                                                    * 10 00783
                  784 ********************************************************************** 10 00784
                  786 ************************                                            10 00786
                  787 * CLEAR VARIABLE BLOCK *                                            10 00787
                  788 ************************                                            10 00788
000316 006030 A   789 BGN      LDXI     VBLOBG                                             10 00789
000317 177330 R
000320 005001 A   790 BGN4     TZA                                                         10 00790
000321 055000 A   791          STA      0,X       CLEAR VARIABLE TO ZERO                   10 00791
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000322 005145 A   792          INCR    045          BUMP POINTER                                    10 00792
000323 006140 A   793          SUBI    VBLOND                                                       10 00793
000324 177611 R
000325 001004 A   794          JAN     BGN4                                                         10 00794
000326 000320 R
                  795 ************************************
                  796 * INITIALIZE FLAGS AND POINTERS *                                            10 00796
                  797 ************************************                                         10 00797
000327 017000 I   798          LDA     DPX          GET TOP OF AVAILABLE CORE                       10 00798
000330 057000 I   799          STA     KT           TOP OF EXPRESSION TABLE                         10 00799
000331 057000 I   800          STA     K            EXPRESSION TABLE POINTER                        10 00800
000332 057000 I   801          STA     DT           TOP OF DO TABLE                                 10 00801
000333 057000 I   802          STA     D            DO TABLE POINTER                                10 00802
000334 006140 A   803          SUBI    036                                                          10 00803
000335 000036 A
000336 057000 I   804          STA     CNP          START OF LIST:LABLD COMM BLOCK NAME PTRS         10 00804
000337 057000 I   805          STA     SSP          TOP OF AVAIL CORE FOR STORING SPEC STRING        10 00805
000340 005012 A   806          TAB                                                                  10 00806
000341 005001 A   807          TZA                                                                  10 00807
000342 056001 A   808          STA     1,B          CLEAR BLANK COMMON BLOCK NAME POINTER           10 00808
000343 017000 I   809          LDA     DPB          GET BASE OF AVAILABLE CORE                      10 00809
000344 057000 I   810          STA     IT           TOP OF ASSIGNMENT TABLE                         10 00810
000345 057000 I   811          STA     JT           TOP OF TRIAD TABLE                              10 00811
000346 057000 I   812          STA     J            TRIAD TABLE POINTER                             10 00812
000347 005301 A   813          DECR    1                                                            10 00813
000350 057000 I   814          STA     XRPT         KILL X-REG ASSIGNMENT                           10 00814
000351 005101 A   815          INCR    1                                                            10 00815
000352 057000 I   816          STA     DTFL         DTFL=1 ONLY FOR FIRST SOURCE LINE               10 00816
000353 057000 I   817          STA     JPFL         JPFL=1 SAYS PATH EXISTS TO FIRST STMT           10 00817
                  818 ************************************************                             10 00818
                  819 * ASSIGN INTEGERS 1,2,4 AT START OF TABLE *                                  10 00819
                  820 ************************************************                             10 00820
000354 057000 I   821          STA     ID                                                           10 00821
000355 010423 A   822          LDA     FOUR                                                         10 00822
000356 057000 I   823          STA     EL                                                           10 00823
000357 005101 A   824 BGN6     INCR    1            SET IU=1                                        10 00824
000360 020422 A   825          LDB     K2           SET IM=2(INTEGER)                               10 00825
000361 002000 A   826          CALL    ASS                                                          10 00826
000362 077612 R
000363 037000 I   827          LDX     ID                                                           10 00827
000364 017000 I   828          LDA     I                                                            10 00828
000365 006055 A   829          STAE    DPCA-1,X     SET POINTERS TO 1,2,4                           10 00829
000366 177356 R
000367 005041 A   830          TXA                                                                  10 00830
000370 004241 A   831          LRLA    1            MULTIPLY BY 2                                   10 00831
000371 057000 I   832          STA     ID                                                           10 00832
000372 140465 A   833          SUB     FIVE         CHECK LOOP END                                  10 00833
000373 001004 A   834          JAN     BGN6                                                         10 00834
000374 000357 R
000375 005001 A   835          TZA                                                                  10 00835
000376 057000 I   836          STA     ID                                                           10 00836
000377 002000 A   837          CALL    ASI          INTEGER-0                                       10 00837
000400 077611 R
000401 017000 I   838          LDA     I                                                            10 00838
000402 057000 I   839          STA     DPCA+2                                                       10 00839
000403 010461 A   840          LDA     NEG                                                          10 00840
000404 057000 I   841          STA     ID                                                           10 00841
000405 002000 A   842          CALL    ASI          -1                                              10 00842
000406 077611 R
000407 017000 I   843          LDA     I                                                            10 00843
000410 057000 I   844          STA     DPCA+10                                                      10 00844
000411 047000 I   845          INR     IM                                                           10 00845
000412 047000 I   846          INR     EL                                                           10 00846
000413 005001 A   847          TZA                                                                  10 00847
000414 057000 I   848          STA     ID                                                           10 00848
000415 057000 I   849          STA     ID+1                                                         10 00849
000416 002000 A   850          CALL    ASI          REAL-0                                          10 00850
000417 077611 R
000420 017000 I   851          LDA     I                                                            10 00851
000421 057000 I   852          STA     DPCA+4                                                       10 00852
000422 047000 I   853          INR     IM                                                           10 00853
000423 047000 I   854          INR     EL                                                           10 00854
000424 047000 I   855          INR     EL                                                           10 00855
000425 005001 A   856          TZA                                                                  10 00856
000426 057000 I   857          STA     ID+2                                                         10 00857
000427 057000 I   858          STA     ID+3                                                         10 00858
000430 002000 A   859          CALL    ASI          DOUBLE-PRECISION-0                              10 00859
000431 077611 R
000432 017000 I   860          LDA     I                                                            10 00860
000433 057000 I   861          STA     DPCA+5       D.F. 0                                          10 00861
000434 017000 I   862          LDA     >PCW                                                         10 00862
000435 006445 A   863          BT      045,BGN65    (A) = POINTER NOT NEEDED                        10 00863
000436 000572 R
000437 006010 A   864          LDAI    '$'                                                          10 00864
000440 140644 A
000441 057000 I   865          STA     ID                                                           10 00865
000442 006010 A   866          LDAI    'C '                                                         10 00866
000443 141640 A
000444 057000 I   867          STA     ID+1                                                         10 00867
000445 005001 A   868          TZA                                                                  10 00868
000446 057000 I   869          STA     NT                                                           10 00869
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000447 010465 A  870          LDA     FIVE                                                    10 00870
000450 057000 I  871          STA     EL                                                      10 00871
000451 010464 A  872          LDA     THREE                                                   10 00872
000452 057000 I  873          STA     IU                                                      10 00873
000453 002000 A  874          CALL    ASI             A$C                                     10 00874
000454 077611 R
000455 017000 I  875          LDA     I                                                       10 00875
000456 057000 I  876          STA     DPCA+6                                                  10 00876
000457 006010 A  877          LDAI    'IF'                                                    10 00877
000460 144706 A
000461 057000 I  878          STA     ID                                                      10 00878
000462 006010 A  879          LDAI    'IX'                                                    10 00879
000463 144730 A
000464 057000 I  880          STA     ID+1                                                    10 00880
000465 010422 A  881          LDA     TWO                                                     10 00881
000466 057000 I  882          STA     IM                                                      10 00882
000467 002000 A  883          CALL    ASI                                                     10 00883
000470 077611 R
000471 005001 A  884          TZA                                                             10 00884
000472 057000 I  885          STA     CL                                                      10 00885
000473 002000 A  886          CALL    SAX             CLEAR COMMON LINK                       10 00886
000474 077733 R
000475 017000 I  887          LDA     I               IFIX                                    10 00887
000476 006057 A  888          STAE    DPCA+8                                                  10 00888
000477 177367 R
000500 006010 A  889          LDAI    'FL'                                                    10 00889
000501 143314 A
000502 057000 I  890          STA     ID                                                      10 00890
000503 006010 A  891          LDAI    'DA'                                                    10 00891
000504 147701 A
000505 057000 I  892          STA     ID+1                                                    10 00892
000506 006010 A  893          LDAI    'T '                                                    10 00893
000507 152240 A
000510 057000 I  894          STA     ID+2                                                    10 00894
000511 047000 I  895          INR     EL                                                      10 00895
000512 047000 I  896          INR     IM                                                      10 00896
000513 002000 A  897          CALL    ASI                                                     10 00897
000514 077611 R
000515 005001 A  898          TZA                                                             10 00898
000516 057000 I  899          STA     CL                                                      10 00899
000517 002000 A  900          CALL    SAX             CLEAR COMMON LINK                       10 00900
000520 077733 R
000521 017000 I  901          LDA     I               FLOAT                                   10 00901
000522 006057 A  902          STAE    DPCA+9                                                  10 00902
000523 177370 R
000524 006010 A  903          LDAI    'DF'                                                    10 00903
000525 142306 A
000526 057000 I  904          STA     ID                                                      10 00904
000527 006010 A  905          LDAI    'LO'                                                    10 00905
000530 146317 A
000531 057000 I  906          STA     ID+1                                                    10 00906
000532 006010 A  907          LDAI    'AT'                                                    10 00907
000533 140724 A
000534 057000 I  908          STA     ID+2                                                    10 00908
000535 047000 I  909          INR     IM                                                      10 00909
000536 002000 A  910          CALL    ASI                                                     10 00910
000537 077611 R
000540 005001 A  911          TZA                                                             10 00911
000541 057000 I  912          STA     CL                                                      10 00912
000542 002000 A  913          CALL    SAX                                                     10 00913
000543 077733 R
000544 017000 I  914          LDA     I                                                       10 00914
000545 006057 A  915          STAE    DPCA+11         'DFLOAT'                                10 00915
000546 177372 R
000547 017000 I  916 BGN62    LDA     $PCW                                                    10 00916
000550 006444 A  917          BT      944,BGN65       NO SQRT IF NOT 'F'                      10 00917
000551 000572 R
000552 006010 A  918          LDAI    'SQ'                                                    10 00918
000553 151721 A
000554 057000 I  919          STA     ID                                                      10 00919
000555 006010 A  920          LDAI    'RT'                                                    10 00920
000556 151324 A
000557 057000 I  921          STA     ID+1                                                    10 00921
000560 010465 A  922          LDA     FIVE                                                    10 00922
000561 057000 I  923          STA     EL                                                      10 00923
000562 010464 A  924          LDA     THREE                                                   10 00924
000563 057000 I  925          STA     IM                                                      10 00925
000564 057000 I  926          STA     IU                                                      10 00926
000565 002000 A  927          CALL    ASI                                                     10 00927
000566 077611 R
000567 017000 I  928          LDA     I               SQRT                                    10 00928
000570 006057 A  929          STAE    DPCA+7                                                  10 00929
000571 177366 R
                 930 **************************                                       PD 10 00930
                 931 * INITIALIZE MODE TABLE *                                       PD 10 00931
                 932 **************************                                       PD 10 00932
000572 006020 A  933 BGN65    LDBI    27                                                      10 00933
000573 000033 A
000574 010464 A  934          LDA     THREE           3 = REAL                        PD      10 00934
000575 006056 A  935 BGN7     STAE    MDTB-1,B        A-Z SET REAL                    PD      10 00935
000576 177462 R
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000577 003322 A   936          DBR                                                    PD  10 00936
000600 001026 A   937          JBNZ     BGN7                                          PD  10 00937
000601 000575 R
000602 010423 A   938          LDA      TWO          2 = INTEGER                      PD  10 00938
000603 020466 A   939          LDB      SIX                                           PD  10 00939
000604 006056 A   940 BGN8     STAE     HDTB+7,B     I-N = INTEGER                    PD  10 00940
000605 177472 R
000606 005322 A   941          DBR                                                    PD  10 00941
000607 001026 A   942          JBNZ     BGN8                                          PD  10 00942
000610 000604 R
                  943 ****************************************                         10 00943
                  944 * INITIALIZE OBJECT BUFFER AND TITLE *                         10 00944
                  945 ****************************************                         10 00945
000611 006020 A   946          LDBI     OBUF                                          10 00946
000612 010224 R
000613 006010 A   947          LDAI     064400                                        10 00947
000614 064400 A
000615 056000 A   948          STA      0,B          WORD 0: OBJECT BUFFER(RECORD CONTROL WORD) 10 00948
000616 005021 A   949          TBA                                                    10 00949
000617 120471 A   950          ADD      TEN                                           10 00950
000620 056001 A   951          STA      1,B          WORD 1: OBJECT BUFFER(PTR TO PREV DATA WD) 10 00951
000621 005001 A   952          TZA                                                    10 00952
000622 056002 A   953          STA      2,B          WORD 2: OBJECT BUFFER(ZERO FOR FTN PROGS) 10 00953
000623 010000 L   954          LDA      =' '                                          10 00954
000624 056003 A   955          STA      3,B          BLANK NAME FIELD IN OBJECT BUFFER 10 00955
000625 056004 A   956          STA      4,B                                           10 00956
000626 056005 A   957          STA      5,B                                           10 00957
000627 056006 A   958          STA      6,B                                           10 00958
000630 006030 A   959          LDXI     TITN                                          10 00959
000631 177236 R
000632 055000 A   960          STA      0,X          BLANK NAME FIELD IN TITLE        10 00960
000633 055001 A   961          STA      1,X                                           10 00961
000634 055002 A   962          STA      2,X                                           10 00962
000635 055003 A   963          STA      3,X                                           10 00963
000636 006030 A   964          LDXI     V$DATE       POINT X AT DATE STRING           10 00964
000637 000070 A
000640 015000 A   965          LDA      0,X          GET DATE WORD 0(CHARS 1-2)       10 00965
000641 056007 A   966          STA      7,B          WORD 7: OBJECT BUFFER            10 00966
000642 015001 A   967          LDA      1,X          GET DATE WORD 1(CHARS 3-4)       10 00967
000643 056010 A   968          STA      8,B          WORD 8: OBJECT BUFFER            10 00968
000644 015002 A   969          LDA      2,X          GET DATE WORD 2(CHARS 5-6)       10 00969
000645 056011 A   970          STA      9,B          WORD 9: OBJECT BUFFER            10 00970
000646 015003 A   971          LDA      3,X          GET DATE WORD 3(CHARS 7-8)       10 00971
000647 056012 A   972          STA      10,B         WORD 10: OBJECT BUFFER           10 00972
                  973          TIME                  CALL FOR THE TIME (A REG: 5 MILLISECOND D.110 00973
000650 006505 A
000651 000406 A
000652 001200 A
                  974 *                                 INCREMENTS---B REG: 1 MINUTE INCREMETD.110 00974
000653 006030 A   975          LDXI     TITM         POINTER TO TIME FIELD            D.110 00975
000654 177243 R
000655 005001 A   976          TZA                   DISREGARD MILLISECONDS           D.110 00976
000656 174061 A   977          DIV      SIXTY        CALCULATE THE TIME OF DAY        D.110 00977
                  978 *                                 A REG: MINUTES               D.110 00978
                  979 *                                 B REG: HOURS                 D.110 00979
000657 054061 A   980          STA      TEMP         SAVE MINUTES                     D.110 00980
000660 005001 A   981          TZA                                                    D.110 00981
000661 170471 A   982          DIV      TEN          COMPUTE ASCII STRING FROM BINARY (HOURS)D.110 00982
000662 004050 A   983          LRLB     8            MOVE MOST SIGNIFICANT DIGIT OVER D.110 00983
000663 005031 A   984          MERGE    031          COMBINE BOTH DIGITS              D.110 00984
000664 124055 A   985          ADD      ANB          CONVERT DIGITS TO ASCII          D.110 00985
000665 055000 A   986          STA      0,X          PUT HOURS INTO TIME FIELD        D.110 00986
000666 005001 A   987          TZA                                                    D.110 00987
000667 024051 A   988          LDB      TEMP         RECOVER MINUTES                  D.110 00988
000670 170471 A   989          DIV      TEN          COMPUTE ASCII STRING FROM BINARY (MINUTED.110 00989
000671 004050 A   990          LRLB     8                                             D.110 00990
000672 005031 A   991          MERGE    031          COMBINE BOTH DIGITS              D.110 00991
000673 124046 A   992          ADD      ANB                                           D.110 00992
000674 055001 A   993          STA      1,X          PUT MINUTES INTO TIME FIELD      D.110 00993
000675 010000 L   994          LDA      =' '                                          10 00994
000676 006020 A   995          LDBI     $BUF                                          10 00995
000677 010151 R
000700 006057 A   996          STAE     TITL+3       BLANK CHARS 1-2 OF PAGE NUMBER   10 00996
000701 177207 R
000702 056000 A   997          STA      0,B          BLANK CHARS 1-2 OF LINE NUMBER   10 00997
000703 056002 A   998          STA      2,B          BLANK CHARS 5-6 OF SOURCE BUFFER 10 00998
000704 006057 A   999          STAE     NERR         BLANK CHARS 1-2 OF ERROR COUNT   10 00999
000705 177127 R
000706 110425 A  1000          ORA      K20          SET A TO BLANK/ZERO              10 01000
000707 006057 A  1001          STAE     TITL+4       BLANK,ZERO TO CHARS 3-4 OF PAGE NUMBER 10 01001
000710 177210 R
000711 056001 A  1002          STA      1,B          BLANK,ZERO TO CHARS 3-4 OF LINE NUMBER 10 01002
000712 006057 A  1003          STAE     NERR+1       BLANK,ZERO TO CHARS 3-4 OF ERROR COUNT 10 01003
000713 177130 R
000714 002000 A  1004          CALL     .LB                                           10 01004
000715 077665 R
                 1005 ****************************************                         10 01005
                 1006 * INITIALIZE READ SWITCHES AND READ *                         10 01006
                 1007 ****************************************                         10 01007
000716 006017 A  1008          LDAE*    .CORNL                                        10 01008
000717 177656 R
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000720 006057 A 1009          STAE    EOLSW     SET END-OF-LINE SWITCH TO READ NEXT LINE   10 01009
000721 077623 R
000722 006017 A 1010          LDAE*   ICRD                                                 10 01010
000723 177657 R
000724 006057 A 1011          STAE    ICRR      SET REREAD SWITCH TO READ                  10 01011
000725 077660 R
000726 014006 A 1012          LDA     BGN3                                                 10 01012
000727 006057 A 1013          STAE    ICSI      SET CHAR. FETCH ROUTINE TO 'ICO'           10 01013
000730 077661 R
000731 006010 A 1014          LDAI    72                                                   10 01014
000732 000110 A
000733 057000 I 1015          STA     INBP      SET SOURCE CHAR COUNT TO END OF LINE       10 01015
000734 002000 A 1016          CALL    ICO                                                  10 01016
000735 077655 R
000735         1017 BGN3      BES     0                                                    10 01017
000736 001000 A 1018          JMP     STI1                                                 10 01018
000737 077742 R
000740 000074 A 1019 SIXTY    DATA    60                                          D.110    10 01019
000741 000000 A 1020 TEMP     DATA    0         TEMPORTARY STORAGE FOR MINUTES    D.110    10 01020
000742 130260 A 1021 ANB      DATA    '00'      BASE FOR ASCII NUMERALS           D.110    10 01021
               1022           EJECT                                                        10 01022
               1023 ********************************************************************** 10 01023
               1024 *                                                                    * 10 01024
               1025 *  P R O C E S S   B L O C K   D A T A   S T A T E M E N T ( B L D )  * 10 01025
               1026 *                                                                    * 10 01026
               1027 * FUNCTION: TO PROCESS THE FORTRAN SOURCE STATEMENT: 'BLOCK DATA'    * 10 01027
               1028 *                                                                    * 10 01028
               1029 * ENTRY: DIRECT FROM SID                                            * 10 01029
               1030 *                                                                    * 10 01030
               1031 * EXIT : BDF=1                                                      * 10 01031
               1032 *          DIRECT TO STYY                                           * 10 01032
               1033 *                                                                    * 10 01033
               1034 * ERRORS: TER4 IF BLOCK DATA NOT FIRST STATEMENT OF PROGRAM         * 10 01034
               1035 *                                                                    * 10 01035
               1036 ********************************************************************** 10 01036
000743 047000 I 1038 BLD      INR     BDF       SET BLOCK-DATA FLAG                        10 01038
000744 002000 A 1039          CALL    ICH                                                  10 01039
000745 077654 R
000746 140463 A 1040          SUB     BM377                                                10 01040
000747 001010 A 1041          JAZ     STI1                                                 10 01041
000750 077742 R
000751 002000 A 1042          CALL    RCH                                                  10 01042
000752 077731 R
000753 001000 A 1043          JMP     NAM                                                  10 01043
000754 003123 R
               1044           EJECT                                                        10 01044
               1045 ********************************************************************** 10 01045
               1046 *                                                                    * 10 01046
               1047 *      B U I L D   U N R E F E R E N C I B L E   N A M E   F O R     * 10 01047
               1048 *                                                                    * 10 01048
               1049 *                  S U B P R O G R A M ( B U N S )                   * 10 01049
               1050 *                                                                    * 10 01050
               1051 * FUNCTION: TO PROCESS A SUBPROGRAM ENTRY NAME                      * 10 01051
               1052 *                                                                    * 10 01052
               1053 * ENTRY: FROM FUNCTION,SUBROUTINE, OR NAME STATEMENT PROCESSOR      * 10 01053
               1054 *                                                                    * 10 01054
               1055 * EXIT : NAME ENTERED IN TABLE:                                     * 10 01055
               1056 *          IM=MF IF MF.NE.0                                         * 10 01056
               1057 *          IU=3                                                     * 10 01057
               1058 *          NT=1                                                     * 10 01058
               1059 *        NAME OUTPUT(LOADER SUBCODE 10) AS ENTRY AT LOC=0           * 10 01059
               1060 *        B=POINTER TO NAME IN TABLE                                 * 10 01060
               1061 *        A=0 END OF STATEMENT                                       * 10 01061
               1062 *          <0 NOT END OF STATEMENT                                  * 10 01062
               1063 *                                                                   * 10 01063
               1064 * ERRORS: TER10 IF NOT FIRST STATEMENT                             * 10 01064
               1065 *                                                                   * 10 01065
               1066 ********************************************************************** 10 01066
000755 000000 A 1068 BUNS     ENTRY                                                      10 01068
000756 002000 A 1069          CALL    INA                                                10 01069
000757 077667 R
000760 017000 I 1070          LDA     MF        EXPLICIT MODE IN FUNCTION OVERRIDES      10 01070
000761 001010 A 1071          JAZ     *+3        IMPLICIT                                10 01071
000762 000764 R
000763 057000 I 1072          STA     IM                                                 10 01072
000764 010464 A 1073          LDA     THREE                                              10 01073
000765 057000 I 1074          STA     IU        SET IU=3 FOR SUBPROGRAM                  10 01074
000766 020421 A 1075          LDB     ONE                                                10 01075
000767 067000 I 1076          STB     NT                                                 10 01076
000770 017000 I 1077          LDA     RL                                                 10 01077
000771 057000 I 1078          STA     AF                                                 10 01078
000772 002000 A 1079          CALL    SAX                                                10 01079
000773 077733 R
000774 010435 A 1080          LDA     BS12                                               10 01080
000775 027000 I 1081          LDB     RL                                                 10 01081
000776 002000 A 1082          CALL    ONEN                                               10 01082
000777 077713 R
001000 027000 I 1083          LDB     I         EXIT WITH B POINTING TO NAME             10 01083
001001 017000 I 1084          LDA     TC                                                 10 01084
001002 140463 A 1085          SUB     K77       A=TC-077                                 10 01085
001003 001000 A 1086          JMP*    BUNS      EXIT                                     10 01086
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001004 100755 R
                    1087          EJECT                                                                    10 01087
                    1088 *********************************************************************************** 10 01088
                    1089 *                                                                                 * 10 01089
                    1090 *       P R O C E S S   C O M M O N   S T A T E M E N T ( C M N )                 * 10 01090
                    1091 *                                                                                 * 10 01091
                    1092 * FUNCTION: TO PROCESS THE FORTRAN SOURCE STATEMENT 'COMMON'                      * 10 01092
                    1093 *                                                                                 * 10 01093
                    1094 * ENTRY: DIRECT FROM SID                                                          * 10 01094
                    1095 *                                                                                 * 10 01095
                    1096 * EXIT : DIRECT TO SSC                                                            * 10 01096
                    1097 *          B=1                                                                    * 10 01097
                    1098 *                                                                                 * 10 01098
                    1099 *********************************************************************************** 10 01099
001005 005102 A 1101 CMN     INCR    C               SET B=1 TO FLAG COMMON ENTRY                          10 01101
001006 001000 A 1102         JMP     SSC             STORE STATEMENT CHARACTER STRING                      10 01102
001007 003406 R
                    1103          EJECT                                                                    10 01103
                    1104 *        DAT     DATA STATEMENT PROCESSOR                                       V 10 01104
001010 002000 A 1106 DAT     CALL    DAT00                                                                  10 01106
001011 001014 R
001012 001000 A 1107         JMP     CRT                                                                    10 01107
001013 077616 R
                    1108 *        DATA SUBROUTINE                                                          10 01108
001014 000000 A 1109 DAT00   ENTRY                                                                          10 01109
001015 017000 I 1110         LDA     RL                                                                     10 01110
001016 054524 A 1111         STA     DAT11+1                                                                10 01111
001017 017000 I 1112 DAT02   LDA     DPX                                                                    10 01112
001020 054706 A 1113         STA     T0DA                                                                 V 10 01113
001021 057000 I 1114         STA     K                                                                    V 10 01114
001022 005002 A 1115         TZB                     BR=0                                                   10 01115
001023 064713 A 1116         STB     KTEMP                                                                D 10 01116
001024 064707 A 1117         STB     T4DA+1                                                                 10 01117
001025 064707 A 1118         STB     T4DA+2          CLEAR  T4(1),T4(2),T4(3)                               10 01118
001026 064707 A 1119         STB     T4DA+3                                                                 10 01119
001027 064701 A 1120 DAT0    STB     T2DA            T2=BR                                                  10 01120
001030 002000 A 1121         JMPM    DAS1            ENTER LOD(0,T2)                                        10 01121
001031 001636 R
001032 014707 A 1122         LDA     K1DA                                                                   10 01122
001033 055001 A 1123         STA     1,1                                                                    10 01123
001034 014711 A 1124         LDA     K5DA                                                                   10 01124
001035 055002 A 1125         STA     2,1                                                                    10 01125
001036 074671 A 1126         STX     T1DA            T1=K(LOD)                                              10 01126
001037 002000 A 1127         CALL    IN1                                                                    10 01127
001040 077670 R
001041 054675 A 1128         STA     T5DA            T5=IM                                                  10 01128
001042 002010 A 1129         JAZM    PTS                                                                    10 01129
001043 077726 R
001044 027000 I 1130         LDB     K               AND GO TO RECYCLE.                                     10 01130
001045 001010 A 1131         JAZ     DAT0                                                                   10 01131
001046 001027 R
001047 005001 A 1132         TZA                     ERROR IF OPERAND IS CONSTANT.                          10 01132
001050 147000 I 1133         SUB     NT                                                                     10 01133
001051 001004 A 1134         JAN     TER1                                                                   10 01134
001052 077745 R
001053 017000 I 1135         LDA     TC              GO TO PROCESS 'DO' CONSTRUCTION IF TC='='              10 01135
001054 140000 L 1136         SUB     =0'='                                                                  10 01136
001055 001010 A 1137         JAZ     DAU9                                                                   10 01137
001056 001270 R
001057 017000 I 1138         LDA     AT                                                                     10 01138
001060 027000 I 1139         LDB     =DF                                                                    10 01139
001061 001020 A 1140         JAZ     INT1                                                                   10 01140
001062 001071 R
001063 140466 A 1141         SUB     K6              IF BLOCK DATA PROGRAM, THEN ERROR IF ITEM              10 01141
001064 002004 A 1142         JANM    ER18                                                                   10 01142
001065 077641 R
001066 005101 A 1143         INCR    1                                                                      10 01143
001067 027000 I 1144         LDB     CL              SCALE COMMON POINTER                                   10 01144
001070 004044 A 1145         LRLB    4                                                                      10 01145
001071 064643 A 1146 DAT1    STB     T5DA            T6=RELOCATIONPOINTER                                   10 01146
001072 005011 A 1147         DAR                     GO TO FURTHER PROCESSING IF EITHER BLOCK               10 01147
001073 001010 A 1148         JAZ     DAT2            DATA PROGRAM OR ITEM IS 'RELATIVE'.                    10 01148
001074 001112 R
001075 005011 A 1149         DAR                                                                            10 01149
001076 001016 A 1150         JANZ    TER2                                                                   10 01150
001077 077746 R
001100 002000 A 1151         CALL    =VR                                                                    10 01151
001101 077773 R
001102 017000 I 1152         LDA     RL              (AF=RL)                                                10 01152
001103 005102 A 1153         INCR    2               (AT=REL)                                               10 01153
001104 002000 A 1154         CALL    DFT                                                                    10 01154
001105 077621 R
001106 017000 I 1155         LDA     RL              INCREMENT RL BY  NO. OF WORDS REQUIRED FOR             10 01155
001107 127000 I 1156         ADD     IS              ITEM.                                                  10 01156
001110 057000 I 1157         STA     RL                                                                     10 01157
001111 054631 A 1158         STA     DAT11+1         NEW UPPER BOUND                                        10 01158
001112 017000 I 1159 DAT2    LDA     AF              MODIFY LOD ENTRY TO LOD(0,AF)                          10 01159
001113 027000 I 1160         LDB     K                                                                      10 01160
001114 056000 A 1161         STA     0,2                                                                    10 01161
001115 017000 I 1162         LDA     IM                                                                     10 01162
001116 140432 A 1163         SUB     K2                                                                     10 01163
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001117 001010 A 1164          JAZ     DAU2        FLAKE OUT SOMAIRSELSE IF ITEM IS ARRAY.     10 01164
001120 001140 R
001121 002000 A 1165          JMPM    DAS2        ENTER XEQ(T5,T6)                            10 01165
001122 001651 R
001123 024605 A 1166 DAU0     LDB     T2DA                                                    10 01166
001124 017000 I 1167          LDA     TC          GO TO PROCESS NEXT LIST ITEM IF TC=',',     10 01167
001125 140000 L 1168          SUB     =',',                                                   10 01168
001126 001010 A 1169          JAZ     DAT0                                                    10 01169
001127 001027 R
001130 001020 A 1170          JBZ     DAV1        GO TO PROCESS CONSTANT LIST IF T2=0.        10 01170
001131 001341 R
001132 016000 A 1171          LDA     0,2         OTHERWISE, SET T2=(T2)....(FROM LOD ENTRY)  10 01171
001133 054575 A 1172          STA     T2DA                                                    10 01172
001134 002000 A 1173 DAU1     CALL    RIO                                                     10 01173
001135 077732 R
001136 001000 A 1174          JMP     DAU0        RETEST (NEW) TC.                            10 01174
001137 001123 R
001140 017000 I 1175 DAU2     LDA     TC          IF ITEM IS SUBSCRIPTED ARRAY REFERENCE,     10 01175
001141 140000 L 1176          SUB     ='('                                                    10 01176
001142 001010 A 1177          JAZ     DAU3                                                    10 01177
001143 001166 R
001144 002000 A 1178          JMPM    DAS2        ENTER XEQ(T5,T6) IF NOT SUBS. ARRAY ITEM.   10 01178
001145 001651 R
001146 027000 I 1179          LDB     IS          ENTER AUG(0,IS)                             10 01179
001147 002000 A 1180          JMPM    DAS1                                                    10 01180
001150 001636 R
001151 014570 A 1181          LDA     K1DA                                                    10 01181
001152 055001 A 1182          STA     1,1                                                     10 01182
001153 014571 A 1183          LDA     K4DA                                                    10 01183
001154 055002 A 1184          STA     2,1                                                     10 01184
001155 002000 A 1185          CALL    IWI                                                     10 01185
001156 077677 R
001157 005021 A 1186          TBA                                                             10 01186
001160 127000 I 1187          ADD     AF                                                      10 01187
001161 005312 A 1188          DECR    012                                                     10 01188
001162 002000 A 1189          JMPM    DAS3        ENTER RPT(T1,LOC OF LAST WORD OF ARRAY)     10 01189
001163 001663 R
001164 001000 A 1190          JMP     DAU0        THEN GO TO PROCESS TC.                      10 01190
001165 001123 R
001166 057000 I 1191 DAU3     STA     NS          NS=0 TO PROCESS FIRST SUBSCRIPT.            10 01191
001167 017000 I 1192          LDA     IS          AR= NO. WORDS PER ELEMENT.                  10 01192
001170 054542 A 1193 DAU4     STA     T4DA        T4=T3=AR                                    10 01193
001171 054540 A 1194          STA     T3DA                                                    10 01194
001172 002000 A 1195          CALL    EXA                                                     10 01195
001173 077646 R
001174 001002 A 1196          JAP     DAU8        IS IT A DIGIT?                              10 01196
001175 001246 R
001176 002000 A 1197          CALL    IIV                                                     10 01197
001177 077664 R
001200 164531 A 1198          MUL     T3DA                                                    10 01198
001201 005021 A 1199          TBA                                                             10 01199
001202 054527 A 1200          STA     T3DA                                                    10 01200
001203 017000 I 1201          LDA     TC          IF TC='*' THEN GO TO CONTINUE INPUT OF      10 01201
001204 140000 L 1202          SUB     ='*'                                                    10 01202
001205 001010 A 1203          JAZ     DAU8                                                    10 01203
001206 001246 R
001207 027000 I 1204          LDB     ID                                                      10 01204
001210 005001 A 1205 DAU6     TZA                                                             10 01205
001211 164521 A 1206          MUL     T4DA                                                    10 01206
001212 005021 A 1207          TBA                                                             10 01207
001213 144517 A 1208          SUB     T4DA                                                    10 01208
001214 024513 A 1209          LDB     T1DA                                                    10 01209
001215 126000 A 1210          ADD     0,2                                                     10 01210
001216 056000 A 1211          STA     0,2                                                     10 01211
001217 017000 I 1212          LDA     NS          NS=NS+1                                     10 01212
001220 005111 A 1213          IAR                                                             10 01213
001221 057000 I 1214          STA     NS                                                      10 01214
001222 147000 I 1215          SUB     ND          IF NS=ND THEN GO TO TERMINATE SUBSCRIPT     10 01215
001223 001010 A 1216          JAZ     DAU7        PROCESSING                                  10 01216
001224 001242 R
001225 002000 A 1217          CALL    CTS                                                     10 01217
001226 077617 R
001227 027000 I 1218          LDB     IS+1        BR=IS(1)                                    10 01218
001230 017000 I 1219          LDA     IS+2        IS(1)=IS(2)                                 10 01219
001231 057000 I 1220          STA     IS+1                                                    10 01220
001232 017000 I 1221          LDA     IS+3        IS(2)=IS(3)                                 10 01221
001233 057000 I 1222          STA     IS+2                                                    10 01222
001234 005001 A 1223          TZA                 IS(3)=0                                     10 01223
001235 057000 I 1224          STA     IS+3                                                    10 01224
001236 164474 A 1225          MUL     T4DA                                                    10 01225
001237 005021 A 1226          TBA                                                             10 01226
001240 001000 A 1227          JMP     DAU4        GO TO PROCESS NEXT SUBSCRIPT.               10 01227
001241 001170 R
001242 002000 A 1228 DAU7     JMPM    DAS2        ENTER XEQ(T5,T6) FOR SUBSC.  ITEM AND GO    10 01228
001243 001651 R
001244 001000 A 1229          JMP     DAU1        TO PROCESS TC.                              10 01229
001245 001134 R
001246 002000 A 1230 DAU8     CALL    IVA                                                     10 01230
001247 077675 R
001250 002000 A 1231          JMPM    DAS4        SET IS=PTR TO VARIABLE                      10 01231
001251 001674 R
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001252 024457 A 1232          LDB     T3DA      ENTER MAA(IS,T3)                                    10 01232
001253 002000 A 1233          JMPM    DAS1                                                          10 01233
001254 001636 R
001255 074463 A 1234          STX     KTEMP                                                   D     10 01234
001256 017000 I 1235          LDA     IS                                                            10 01235
001257 055001 A 1236          STA     1,1                                                           10 01236
001260 014463 A 1237          LDA     K3DA                                                          10 01237
001261 055002 A 1238          STA     2,1                                                           10 01238
001262 002000 A 1239          CALL    RCH                                                           10 01239
001263 077731 R
001264 002000 A 1240          CALL    IIV                                                           10 01240
001265 077664 R
001266 001000 A 1241          JMP     DAU6      GO TO COMPLETE PROCESSING OF SUBSCRIPT.             10 01241
001267 001210 R
001270 014440 A 1242 DAU9     LDA     T2DA      ERROR IF DO CONSTRUCTION NOT PARENTHESIZED          10 01242
001271 001010 A 1243          JAZ     TER1                                                          10 01243
001272 077745 R
001273 002000 A 1244          CALL    TVR                                                           10 01244
001274 077773 R
001275 002000 A 1245          JMPM    DAS4      SET IS=PTR TO INDEX VARIABLE AND CLEAR              10 01245
001276 001674 R
001277 056000 A 1246          STA     0,2       T4(PTR).                                            10 01246
001300 005311 A 1247          DAR               ERROR IF VARIABLE JUST ENTERED IN T4 (DO            10 01247
001301 002002 A 1248          JAPM    ER20                                                          10 01248
001302 077642 R
001303 002000 A 1249          CALL    IIV                                                           10 01249
001304 077664 R
001305 034423 A 1250          LDX     T2DA      T1=T2                                               10 01250
001306 074421 A 1251          STX     T1DA                                                          10 01251
001307 015000 A 1252          LDA     0,1       T2=(T1)                                             10 01252
001310 054420 A 1253          STA     T2DA                                                          10 01253
001311 065000 A 1254          STB     0,1       MODIFY LOD ENTRY TO LOD(IS,BR)                      10 01254
001312 017000 I 1255          LDA     IS                                                            10 01255
001313 055001 A 1256          STA     1,1                                                           10 01256
001314 002000 A 1257          CALL    CTS                                                           10 01257
001315 077617 R
001316 002000 A 1258          CALL    IIV                                                           10 01258
001317 077664 R
001320 064411 A 1259          STB     T3DA                                                          10 01259
001321 017000 I 1260          LDA     TC        IF TC=',' THEN INPUT INTEGER VALUE INTO             10 01260
001322 140000 L 1261          SUB     =',                                                           10 01261
001323 005102 A 1262          INCR    2                                                             10 01262
001324 002010 A 1263          JAZM    IIV                                                           10 01263
001325 077664 R
001326 002000 A 1264          JMPM    DAS1      ENTER AUG(IS,BR)                                    10 01264
001327 001636 R
001330 017000 I 1265          LDA     IS                                                            10 01265
001331 055001 A 1266          STA     1,1                                                           10 01266
001332 014412 A 1267          LDA     K4DA                                                          10 01267
001333 055002 A 1268          STA     2,1                                                           10 01268
001334 024375 A 1269          LDB     T3DA                                                          10 01269
001335 002000 A 1270          JMPM    DAS3      ENTER RPT(T1,T3)                                    10 01270
001336 001663 R
001337 001000 A 1271          JMP     DAU1      GO TO PROCESS TC.                                   10 01271
001340 001134 R
001341 010000 L 1272 DAV1     LDA     ='/       SET T6 TO FORCE ORIGIN CODE                         10 01272
001342 054375 A 1273          STA     T6DA                                                          10 01273
001343 002000 A 1274          CALL    TST                                                           10 01274
001344 077772 R
001345 054362 A 1275          STA     T1DA                                                          10 01275
001346 010000 L 1276          LDA     =',                                                           10 01276
001347 057000 I 1277          STA     TC                                                            10 01277
001350 014356 A 1278 DAT3     LDA     T0DA      T0 TO T0-3                                          10 01278
001351 140464 A 1279          SUB     THREE                                                         10 01279
001352 054354 A 1280          STA     T0DA                                                    V     10 01280
001353 005014 A 1281          TAX                                                                   10 01281
001354 147000 I 1282          SUB     k                                                             10 01282
001355 001004 A 1283          JAN     DAT7      IF VARIABLE LIST EXHAUSTED                          10 01283
001356 001527 R
001357 015000 A 1284          LDA     0,1                                                           10 01284
001360 025001 A 1285          LDB     1,1                                                           10 01285
001361 064355 A 1286          STB     T5DA                                                          10 01286
001362 035002 A 1287          LDX     2,1                                                           10 01287
001363 074001 A 1288          STX     1,2                                                           10 01288
001364 001000 A 1289          JMP     *                                                             10 01289
001365 001364 R
001366 026000 A 1290 DAV2     LDB     0,2       PROCESS MAA                                         10 01290
001367 054010 A 1291          STA     DATT                                                          10 01291
001370 005001 A 1292          TZA                                                                   10 01292
001371 164006 A 1293          MUL     DATT                                                          10 01293
001372 005021 A 1294          TBA                                                                   10 01294
001373 024346 A 1295          LDB     K1DA                                                          10 01295
001374 126000 A 1296 DAV3     ADD     0,2       PROCESS AUG                                         10 01296
001375 056000 A 1297 DAV4     STA     0,2       PROCESS LOD                                         10 01297
001376 001000 A 1298          JMP     DAT3                                                          10 01298
001377 001350 R
001400         1299 DATT      BSS     1                                                             10 01299
001401 036001 A 1300 DAV5     LDX     1,2       PROCESS RPT                                         10 01300
001402 145000 A 1301          SUB     1,1                                                           10 01301
001403 001004 A 1302          JAN     DAT3                                                          10 01302
001404 001350 R
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001405 064321 A 1303          STB     T0DA                                                    10 01303
001406 001000 A 1304          JMP     DAT3                                                    10 01304
001407 001350 R
001410 144327 A 1305 DAV6     SUB     T6DA                                                    10 01305
001411 005012 A 1306          TAB                                                             10 01306
001412 014320 A 1307          LDA     T4DA                                                    10 01307
001413 144315 A 1308          SUB     T2DA                                                    10 01308
001414 001030 A 1309          JIF     030,DAV7      ORIGIN SAME AS LAST OUTPUT (+1)?          10 01309
001415 001427 R
001416 024314 A 1310          LDB     T4DA          NO                                        10 01310
001417 064311 A 1311          STB     T2DA          UPDATE DISPLACEMENT                       10 01311
001420 067000 I 1312          STB     RL            SET RL FOR LIST                           10 01312
001421 034305 A 1313          LDX     T0DA                                                    10 01313
001422 015000 A 1314          LDA     0,1                                                     10 01314
001423 054314 A 1315          STA     T6DA          UPDATE POINTER                            10 01315
001424 120432 A 1316          ADD     KJMP                                                    10 01316
001425 002000 A 1317          CALL    DWS                                                     10 01317
001426 077722 R
001427 014300 A 1318 DAV7     LDA     T1DA                                                    10 01318
001430 005311 A 1319          DAR                                                             10 01319
001431 001002 A 1320          JAP     DATB                                                    10 01320
001432 001447 R
001433 002000 A 1321          CALL    CTS                                                     10 01321
001434 077617 R
001435 002000 A 1322 DAT4     CALL    INN                                                     10 01322
001436 077671 R
001437 001010 A 1323          JAZ     DAT9                                                    10 01323
001440 001565 R
001441 017000 I 1324          LDA     NT                                                      10 01324
001442 002010 A 1325          JAZM    ER2                                                     10 01325
001443 077625 R
001444 014263 A 1326          LDA     T1DA                                                    10 01326
001445 001010 A 1327          JAZ     DAT8                                                    10 01327
001446 001552 R
001447 054260 A 1328 DATB     STA     T1DA                                                    10 01328
001450 017000 I 1329 DAT5     LDA     IM                                                      10 01329
001451 001010 A 1330          JAZ     DAV8          HOLLERITH DATA?                           10 01330
001452 001456 R
001453 144263 A 1331          SUB     T5DA          NO                                        10 01331
001454 002016 A 1332          JANZM   ER3           DATA MODE DOES NOT MATCH VARIABLE MODE    10 01332
001455 077626 R
001456 014260 A 1333 DAV8     LDA     T5DA                                                    10 01333
001457 140422 A 1334          SUB     TWO                                                     10 01334
001460 001016 A 1335          JANZ    DAV9          NOT INTEGER                               10 01335
001461 001471 R
001462 017000 I 1336          LDA     $PCW                                                    10 01336
001463 150431 A 1337          ANA     BS8                                                     10 01337
001464 001010 A 1338          JAZ     DAV9          1-WORD INTEGER                            10 01338
001465 001471 R
001466 005002 A 1339          TZB                                                             10 01339
001467 002000 A 1340          CALL    DAV10                                                   10 01340
001470 001520 R
001471 017000 I 1341 DAV9     LDA     ID                                                      10 01341
001472 002000 A 1342          CALL    DAV10                                                   10 01342
001473 001520 R
001474 140422 A 1343          SUB     TWO                                                     10 01343
001475 001010 A 1344          JAZ     DAT3          INTEGER                                   10 01344
001476 001350 R
001477 017000 I 1345          LDA     ID+1                                                    10 01345
001500 002000 A 1346          CALL    DAV10                                                   10 01346
001501 001520 R
001502 140423 A 1347          SUB     FOUR                                                    10 01347
001503 001004 A 1348          JAN     DAT3          REAL                                      10 01348
001504 001350 R
001505 140422 A 1349          SUB     TWO                                                     10 01349
001506 001002 A 1350          JAP     DAT3          DP-INT                                    10 01350
001507 001350 R
001510 017000 I 1351          LDA     ID+2          DBL/CMP                                   10 01351
001511 002000 A 1352          CALL    DAV10                                                   10 01352
001512 001520 R
001513 017000 I 1353          LDA     ID+3                                                    10 01353
001514 002000 A 1354          CALL    DAV10                                                   10 01354
001515 001520 R
001516 001000 A 1355          JMP     DAT3                                                    10 01355
001517 001350 R
001520 000000 A 1356 DAV10    ENTRY                 OUTPUT DATA WORD                          10 01356
001521 002000 A 1357          CALL    DAB                                                     10 01357
001522 077710 R
001523 044205 A 1358          INR     T2DA                                                    10 01358
001524 014212 A 1359          LDA     T5DA                                                    10 01359
001525 001000 A 1360          JMP*    DAV10                                                   10 01360
001526 101520 R
001527 010000 L 1361 DAT7     LDA     ='/'                                                    10 01361
001530 002000 A 1362          CALL    TST                                                     10 01362
001531 077772 R
001532 144175 A 1363          SUB     T1DA                                                    10 01363
001533 002004 A 1364          JANM    ER1                                                     10 01364
001534 077624 R
001535 002000 A 1365          CALL    ICH                                                     10 01365
001536 077654 R
001537 140000 L 1366          SUB     =','                                                    10 01366
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001540 001010 A 1367          JAZ     DAT02   MORE DATA ON THIS STATEMENT                    10 01367
001541 001017 R
001542 006020 A 1368 DAT11    LIBI    **                                                     10 01368
001543 101542 R
001544 067000 I 1369          STB     RL                                                     10 01369
001545 010432 A 1370          LDA     KJMP                                                   10 01370
001546 002000 A 1371          CALL    DWS     RESTORE PROGRAM LOCATION COUNTER               10 01371
001547 077722 R
001550 001000 A 1372          JMP*    DAT00   EXIT                                           10 01372
001551 101014 R
001552 017000 I 1373 DAT8     LDA     TC                                                   V 10 01373
001553 140000 L 1374          SUB     ='*'                                                   10 01374
001554 001016 A 1375          JANZ    DAT5                                                   10 01375
001555 001430 R
001556 002000 A 1376          CALL    INT                                                    10 01376
001557 077673 R
001560 017000 I 1377          LDA     ID                                                     10 01377
001561 005011 A 1378          DAR                                                          V 10 01378
001562 054145 A 1379          STA     T1DA                                                   10 01379
001563 001000 A 1380          JMP     DAT4    GO TO SET T1=ID-1                            V 10 01380
001564 001435 R
001565 017000 I 1381 DAT9     LDA     TC                                                   V 10 01381
001566 140000 L 1382          SUB     =0247                                                  10 01382
001567 001010 A 1383          JAZ     DATA    ***                                            10 01383
001570 001602 R
001571 006140 A 1384          SUBI    011                                                    10 01384
001572 000041 A
001573 001010 A 1385          JAZ     DATA    IF TC='H'                                    V 10 01385
001574 001602 R
001575 002000 A 1386          CALL    PTS                                                    10 01386
001576 077726 R
001577 047000 I 1387          INP     SXF     SXF=1                                        V 10 01387
001600 001000 A 1388          JMP     DAT4                                                   10 01388
001601 001435 R
001602 005001 A 1389 DATA     IZA                                                            10 01389
001603 054126 A 1390          STA     T3DA                                                   10 01390
001604 002000 A 1391 DATA1    CALL    INW                                                    10 01391
001605 077663 R
001606 057000 I 1392          STA     ID                                                     10 01392
001607 002000 A 1393          CALL    INW                                                    10 01393
001610 077663 R
001611 057000 I 1394          STA     ID+1                                                   10 01394
001612 002000 A 1395          CALL    INW                                                    10 01395
001613 077663 R
001614 057000 I 1396          STA     ID+2                                                   10 01396
001615 002000 A 1397          CALL    INW                                                    10 01397
001616 077663 R
001617 057000 I 1398          STA     ID+3                                                   10 01398
001620 017001 I 1399          LDA     HCC                                                    10 01399
001621 001010 A 1400          JAZ     DATA2                                                  10 01400
001622 001632 R
001623 002000 A 1401          CALL    ERIC                                                   10 01401
001624 077636 R
001625 002000 A 1402          CALL    INW                                                    10 01402
001626 077663 R
001627 017000 I 1403          LDA     HCC                                                    10 01403
001630 001016 A 1404          JANZ    *-3                                                    10 01404
001631 001625 R
001632 002000 A 1405 DATA2    CALL    ICH                                                    10 01405
001633 077654 R
001634 001005 A 1406          JMP     DAT5                                                 V 10 01406
001635 001450 R
001636 000000 A 1407 DAS1     ENTR            ROUTINE TO ALLOCATE ENTRY AND PLACE PARAM.     10 01407
001637 017000 I 1408          LDA     K       K=K-3                                          10 01408
001640 140464 A 1409          SUB     =HFEE                                                  10 01409
001641 057000 I 1410          STA     *                                                      10 01410
001642 005014 A 1411          TAX                                                            10 01411
001643 147000 I 1412          SUB     =F                                                     10 01412
001644 001004 A 1413          JAN     TER3    K < IT                                         10 01413
001645 077747 R
001646 065000 B 1414          STB     0,1     PLACE LOW ORDER PARAMETER.                     10 01414
001647 001000 A 1415          JMP*    DAS1                                                   10 01415
001650 101636 R
001651 000000 A 1416 DAS2     ENTR            ROUTINE TO ENTER XEQ(T5,T6)                    10 01416
001652 024065 A 1417          LDB     T6DA    ALLOCATE ENTRY AND PLACE T5.                   10 01417
001653 002000 A 1418          JMPM    DAS1                                                   10 01418
001654 001636 R
001655 014061 A 1419          LDA     T5DA    PLACE T5.                                      10 01419
001656 055001 A 1420          STA     1,1                                                    10 01420
001657 014070 A 1421          LDA     T7D2    PLACE XEQ CODE.                                10 01421
001660 055002 A 1422          STA     2,1                                                    10 01422
001661 001000 A 1423          JMP*    DAS3                                                   10 01423
001662 101651 R
001663 000000 A 1424 DAS3     ENTR            ROUTINE TO ENTER RPT(T1,BR).                   10 01424
001664 002000 A 1425          JMPM    DAS1    ALLOCATE ENTRY AND PLACE BR.                   10 01425
001665 001633 R
001666 014041 A 1426          LDA     T1DA    PLACE T1.                                      10 01426
001667 055001 A 1427          STA     1,1                                                    10 01427
001670 014056 A 1428          LDA     R6DA    PLACE RPT CODE.                                10 01428
001671 055002 A 1429          STA     2,1                                                    10 01429
001672 001000 A 1430          JMP*    DAS3                                                   10 01430
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001673 101663 R
001674 000000 A 1431 DAS4   ENTR                ROUTINE TO SET IS=PTR TO INDEX VARIABLE.      10 01431
001675 024045 A 1432        LDB     K2DA        BR=INDEX OF LOW ORDER TABLE WORD              10 01432
001676 016000 A 1433 DAS5   LDA     0,2         GO TO SET INDEX IF VARIABLE NOT IN TABLE.     10 01433
001677 001010 A 1434        JAZ     DAS6A                                                  D.110 01434
001700 001704 R
001701 147000 I 1435        SUB     I           GO TO RETURN WITH IS=PTR AND AR=0 IF          10 01435
001702 001010 A 1436        JAZ     DAS7        VARIABLE IN TABLE.                            10 01436
001703 001724 R
001704 005323 A 1437 DAS6A  DECR    023                                                    D.110 01437
001705 144034 A 1438        SUB     K1DA                                                   D.110 01438
001706 001016 A 1439        JANZ    DAS5                                                   D.110 01439
001707 001676 R
001710 024032 A 1440        LDB     K2DA                                                   D.110 01440
001711 016000 A 1441 DA$5A  LDA     0,B                                                    D.110 01441
001712 001010 A 1442        JAZ     DAS6                                                   D.110 01442
001713 001722 R
001714 005323 A 1443        DECR    023                                                       10 01443
001715 144024 A 1444        SUB     K1DA                                                      10 01444
001716 001010 A 1445        JAZ     TER9        TABLE FULL                                    10 01445
001717 077754 R
001720 001000 A 1446        JMP     DAS5A                                                  D.110 01446
001721 001711 R
001722 017000 I 1447 DAS6   LDA     I           ENTER VARIABLE IN TABLE AND GO TO RETURN      10 01447
001723 056000 A 1448        STA     0,2         WITH IS=PTR AND AR.NE.0.                      10 01448
001724 067000 I 1449 DAS7   STB     IS                                                        10 01449
001725 001000 A 1450        JMP*    DAS4        RETURN                                        10 01450
001726 101674 R
001727         1451 T0DA    BSS     1                                                      V  10 01451
001730         1452 T1DA    BSS     1                                                      V  10 01452
001731         1453 T2DA    BSS     1                                                         10 01453
001732         1454 T3DA    BSS     1                                                      V  10 01454
001733         1455 T4DA    BSS     4                                                         10 01455
001737         1456 T5DA    BSS     1                                                         10 01456
001740         1457 T6DA    BSS     1                                                         10 01457
001741         1458 KTEMP   BSS     1                                                   D     10 01458
001742 001733 R 1459 K1DA    DATA    T4DA                                                      10 01459
001743 001736 R 1460 K2DA    DATA    T4DA+3                                                    10 01460
001744 001366 R 1461 K3DA    DATA    DAV2                                                      10 01461
001745 001374 R 1462 K4DA    DATA    DAV3                                                      10 01462
001746 001375 R 1463 K5DA    DATA    DAV4                                                      10 01463
001747 001401 R 1464 K6DA    DATA    DAV5                                                      10 01464
001750 001410 R 1465 K7DA    DATA    DAV6                                                      10 01465
                1466         EJECT                                                             10 01466
                1467 ********************************************************************** 10 01467
                1468 *                                                                      * 10 01468
                1469 *   P R O C E S S   D I M E N S I O N   S T A T E M E N T (D M N )     * 10 01469
                1470 *                                                                      * 10 01470
                1471 * FUNCTION: TO PROCESS THE FORTRAN SOURCE STATEMENT :                  * 10 01471
                1472 *                                                                      * 10 01472
                1473 *                 'DIMENSION N1(A1),N2(A2),...'                        * 10 01473
                1474 *                                                                      * 10 01474
                1475 *             WHERE: NI IS AN ARRAY NAME                               * 10 01475
                1476 *                    AI IS AN ARRAY DECLARATOR                         * 10 01476
                1477 *                                                                      * 10 01477
                1478 * ENTRY: DIRECT FROM SID                                               * 10 01478
                1479 *                                                                      * 10 01479
                1480 * EXIT : THROUGH CCR                                                   * 10 01480
                1481 *                                                                      * 10 01481
                1482 ********************************************************************** 10 01482
001751 002000 A 1484 DMN     CALL    INA                                                       10 01484
001752 077667 R
001753 002000 A 1485         CALL    PTS                                                       10 01485
001754 077726 R
001755 002000 A 1486         CALL    PAD         PROCESS ARRAY DECLARATOR                      10 01486
001756 003131 R
001757 001000 A 1487         JMP     CCR                                                       10 01487
001760 077615 R
                1488         EJECT                                                             10 01488
                1489 ********************************************************************** 10 01489
                1490 *                                                                      * 10 01490
                1491 *       E N T R Y   S T A T E M E N T   ( E N T )                      * 10 01491
                1492 *                                                                      * 10 01492
                1493 ********************************************************************** 10 01493
001761 017000 I 1495 ENT     LDA     SBFL+1                                                    10 01495
001762 001010 A 1496         JAZ     TER2        NOT IN SUBPROGRAM                             10 01496
001763 077746 R
001764 017000 I 1497         LDA     JPFL                                                      10 01497
001765 001004 A 1498         JAN     ENT0        FORMAT CONTINUATION                           10 01498
001766 001773 R
001767 017000 I 1499         LDA     RL                                                        10 01499
001770 057000 I 1500         STA     JPFL                                                      10 01500
001771 002000 A 1501         CALL    DTJ         JMP AROUND ENTRY                              10 01501
001772 077717 R
001773 002000 A 1502 ENT0    CALL    BUNS                                                      10 01502
001774 000755 R
001775 064056 A 1503         STB     ENT3+1      ENTRY NAME POINTER                            10 01503
001776 001010 A 1504         JAZ     ENT4        NO PARAMETER CHECK                            10 01504
001777 002117 R
002000 017000 I 1505         LDA     BPX                                                       10 01505
002001 147000 I 1506         SUB     DT                                                        10 01506
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002002 001016 A 1507          JANZ    IER9          ENTRY INSIDE DO                          10 01507
002003 077754 R
002004 017000 I 1508          LDA     DPX                                                    10 01508
002005 002000 A 1509          CALL    GSE                                                    10 01509
002006 077652 R
002007 002000 A 1510 ENT1     CALL    LDX           CORRECT ENTRY PARAMETER ADDRESSES        10 01510
002010 077701 R
002011 017000 I 1511          LDA     3W                                                     10 01511
002012 057000 I 1512          STA     I                                                      10 01512
002013 002000 A 1513          CALL    LAX                                                    10 01513
002014 077700 R
002015 017000 I 1514          LDA     LR                                                     10 01514
002016 140422 A 1515          SUB     TWO                                                    10 01515
002017 001010 A 1516          JAZ     ENT2          NEW DUMMY VARIABLE                       10 01516
002020 002044 R
002021 140465 A 1517          SUB     FIVE                                                   10 01517
002022 001016 A 1518          JANZ    IER5          LABEL ALREADY USED                       10 01518
002023 077751 R
002024 014103 A 1519          LDA     ENT5                                                   10 01519
002025 002000 A 1520          CALL    DAB           'LDAE'                                   10 01520
002026 077710 R
002027 017000 I 1521          LDA     DI                                                     10 01521
002030 002000 A 1522          CALL    DRE           'DATA  NEW-DUMMY-ADDRESS'                10 01522
002031 077715 R
002032 014070 A 1523          LDA     ENT5+1                                                 10 01523
002033 002000 A 1524          CALL    DAB           'STAE'                                   10 01524
002034 077710 R
002035 017000 I 1525          LDA     DI                                                     10 01525
002036 002000 A 1526          CALL    DRE           'DATA  OLD-DUMMY-ADDRESS'                10 01526
002037 077715 R
002040 017000 I 1527          LDA     DR                                                     10 01527
002041 020457 A 1528          LDB     SEVEN                                                  10 01528
002042 002000 A 1529          CALL    DIT                                                    10 01529
002043 077621 R
002044 017000 I 1530 ENT2     LDA     DT                                                     10 01530
002045 120465 A 1531          ADD     FIVE                                                   10 01531
002046 057000 I 1532          STA     DT                                                     10 01532
002047 057000 I 1533          STA     I                                                      10 01533
002050 147005 I 1534          SUB     DPX                                                    10 01534
002051 001004 A 1535          JAN     ENT1          PROCESS ALL PARAMETERS                   10 01535
002052 002000 R
002053 006010 A 1536 ENT3     LDAI    **                                                     10 01536
002054 102053 R
002055 057000 I 1537          STA     I                                                      10 01537
002056 002000 A 1538          CALL    LAX           GET ENTRY NAME                           10 01539
002057 077700 R
002060 014047 A 1539          LDA     ENT5                                                   10 01539
002061 002000 A 1540          CALL    DAB           'LDAE'                                   10 01540
002062 077710 R
002063 017000 I 1541          LDA     AE                                                     10 01541
002064 002000 A 1542          CALL    DRE           'DATA  ENTRANCE-ADDRESS'                 10 01542
002065 077715 R
002066 014042 A 1543          LDA     ENT5+1                                                 10 01543
002067 002000 A 1544          CALL    DAB           'STAE'                                   10 01544
002070 077710 R
002071 005001 A 1545          TZA                                                            10 01545
002072 002000 A 1546          CALL    DPE           'DATA  0(R)'                             10 01546
002073 077715 R
002074 017000 I 1547          LDA     DFL                                                    10 01547
002075 003000 A 1548          JAM     ERR           TERMINATE JUMP-AROUND                    10 01548
002076 077716 R
002077 017000 I 1549          LDA     DFL                                                    10 01549
002100 005011 A 1550          TAN     DT            SUBROUTINE                               10 01550
002101 001004 A 1551          JAN     ENT4
002102 077653 R
002103 002000 A 1552 ENT35    CALL    LDX           MAKE VARIABLE WITH SAME NAME             10 01552
002104 057000 I 1553          STA     DT                                                     10 01553
002105 017000 I 1554          LDA     DIE                                                    10 01554
002106 002000 A 1555          CALL    DRE                                                    10 01555
002107 077715 R
002110 002000 A 1556          CALL    DII                                                    10 01556
002111 077621 R
002112 017000 I 1557          LDA     DT                                                     10 01557
002113 120465 A 1560          ADD     FIVE                                                   10 01560
002114 057000 I 1561          STA     DT                                                     10 01561
002115 057000 I 1562          STA     I                                                      10 01562
002116 147005 I 1563          SUB     DPX                                                    10 01563
002117 001004 A 1564          JAN     ENT4                                                   10 01564
002120 077653 R
002121 006010 A 1565          LDAI    **                                                     10 01565
002122 102120 R
002123 057000 I 1566          STA     I                                                      10 01566
002124 002000 A 1567          CALL    LAX                                                    10 01567
002125 077700 R
002126 014000 A 1568          LDA     ENT5                                                   10 01568
002127 002000 A 1569          CALL    DAB           'LDAE'                                   10 01569
002130 077710 R
002131 017000 I 1570          LDA     AF                                                     10 01570
002132 002000 A 1571          CALL    DRE           'DATA  ENTRANCE-ADDRESS'                 10 01571
002133 077715 R
002134 014000 A 1572          LDA     ENT5+1                                                 10 01572
002135 002000 A 1573          CALL    DAB           'STAE'                                   10 01573
002136 077710 R
002137 005001 A 1574          TZA                                                            10 01574
002140 002000 A 1575          CALL    DPE           'DATA  0(R)'                             10 01575
002141 077715 R
002142 017000 I 1576          LDA     DFL                                                    10 01576
002143 003000 A 1577          JAM     ERR           TERMINATE JUMP-AROUND                    10 01577
002144 077716 R
002145 017000 I 1578          LDA     DFL                                                    10 01578
002146 005011 A 1579          TAN     DT            SUBROUTINE                               10 01579
002147 001004 A 1580          JAN     ENT4
002150 077653 R
002151 002000 A 1581 ENT4     CALL    LDX           FUNCTION MUST HAVE PARAMETERS            10 01581
002152 077700 R
002153 000000 A 1582          ERR     7                                                      10 01582
002154 000000 A 1583          DATA    0                                                      10 01583
002155 000000 A 1584          DATA    0                                                      10 01584
002156 000000 A 1585          DATA    0                                                      10 01585
002157 000000 A 1586          DATA    0                                                      10 01586
002160 000000 A 1587          DATA    0                                                      10 01587
002161 000000 A 1588          DATA    0                                                      10 01588
002162 000000 A 1589          DATA    0                                                      10 01589
002163 000000 A 1590          DATA    0                                                      10 01590
002164 000000 A 1591          DATA    0                                                      10 01591
002165 000000 A 1592          DATA    0                                                      10 01592
002166 000000 A 1593          DATA    0                                                      10 01593
002167 000000 A 1594          DATA    0                                                      10 01594
002170 000000 A 1595          DATA    0                                                      10 01595
002171 000000 A 1596          DATA    0                                                      10 01596
002172 000000 A 1597          DATA    0                                                      10 01597
002173 000000 A 1598          DATA    0                                                      10 01598
002174 000000 A 1599          DATA    0                                                      10 01599
002175 000000 A 1600          DATA    0                                                      10 01600
002176 000000 A 1601          DATA    0                                                      10 01601
002177 000000 A 1602          DATA    0                                                      10 01602
002200 000000 A 1603          DATA    0                                                      10 01603
002201 000000 A 1604          DATA    0                                                      10 01604
002202 000000 A 1605          DATA    0                                                      10 01605
002203 000000 A 1606          DATA    0                                                      10 01606
002204 000000 A 1607          DATA    0                                                      10 01607
002205 000000 A 1608          DATA    0                                                      10 01608
002206 000000 A 1609          DATA    0                                                      10 01609
002207 000000 A 1610          DATA    0                                                      10 01610
002210 000000 A 1611          DATA    0                                                      10 01611
002211 000000 A 1612          DATA    0                                                      10 01612
002212 000000 A 1613          DATA    0                                                      10 01613
002213 000000 A 1614          DATA    0                                                      10 01614
002214 000000 A 1615          DATA    0                                                      10 01615
002215 000000 A 1616          DATA    0                                                      10 01616
002216 000000 A 1617          DATA    0                                                      10 01617
002217 000000 A 1618          DATA    0                                                      10 01618
002220 000000 A 1619          DATA    0                                                      10 01619
002221 000000 A 1620          DATA    0                                                      10 01620
002222 000000 A 1621          DATA    0                                                      10 01621
002223 000000 A 1622          DATA    0                                                      10 01622
002224 000000 A 1623          DATA    0                                                      10 01623
002225 000000 A 1624          DATA    0                                                      10 01624
002226 000000 A 1625          DATA    0                                                      10 01625
002227 000000 A 1626          DATA    0                                                      10 01626
002230 000000 A 1627          DATA    0                                                      10 01627
002231 000000 A 1628          DATA    0                                                      10 01628
002232 000000 A 1629          DATA    0                                                      10 01629
002233 000000 A 1630          DATA    0                                                      10 01630
002234 000000 A 1631          DATA    0                                                      10 01631
002235 000000 A 1632          DATA    0                                                      10 01632
002236 000000 A 1633          DATA    0                                                      10 01633
002237 000000 A 1634          DATA    0                                                      10 01634
002240 000000 A 1635          DATA    0                                                      10 01635
002241 000000 A 1636          DATA    0                                                      10 01636
002242 000000 A 1637          DATA    0                                                      10 01637
002243 000000 A 1638          DATA    0                                                      10 01638
002244 000000 A 1639          DATA    0                                                      10 01639
002245 000000 A 1640          DATA    0                                                      10 01640
002246 000000 A 1641          DATA    0                                                      10 01641
002247 000000 A 1642          DATA    0                                                      10 01642
002250 000000 A 1643          DATA    0                                                      10 01643
002251 000000 A 1644          DATA    0                                                      10 01644
002252 000000 A 1645          DATA    0                                                      10 01645
002253 000000 A 1646          DATA    0                                                      10 01646
002254 000000 A 1647          DATA    0                                                      10 01647
002255 000000 A 1648          DATA    0                                                      10 01648
002256 000000 A 1649          DATA    0                                                      10 01649
002257 000000 A 1650          DATA    0                                                      10 01650
002260 000000 A 1651          DATA    0                                                      10 01651
002261 000000 A 1652          DATA    0                                                      10 01652
002262 000000 A 1653          DATA    0                                                      10 01653
002263 000000 A 1654          DATA    0                                                      10 01654
002264 000000 A 1655          DATA    0                                                      10 01655
002265 000000 A 1656          DATA    0                                                      10 01656
002266 000000 A 1657          DATA    0                                                      10 01657
002267 000000 A 1658          DATA    0                                                      10 01658
002270 000000 A 1659          DATA    0                                                      10 01659
002271 000000 A 1660          DATA    0                                                      10 01660
002272 000000 A 1661          DATA    0                                                      10 01661
002273 000000 A 1662          DATA    0                                                      10 01662
002274 000000 A 1663          DATA    0                                                      10 01663
002275 000000 A 1664          DATA    0                                                      10 01664
002276 000000 A 1665          DATA    0                                                      10 01665
002277 000000 A 1666          DATA    0                                                      10 01666
002300 000000 A 1667          DATA    0                                                      10 01667
002301 000000 A 1668          DATA    0                                                      10 01668
002302 000000 A 1669          DATA    0                                                      10 01669
002303 000000 A 1670          DATA    0                                                      10 01670
002304 000000 A 1671          DATA    0                                                      10 01671
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                    1572 * P R O C E S S   E Q U I V A L E N C E   S T A T E M E N T ( E Q U ) *  10 01572
                    1573 *                                                                     *  10 01573
                    1574 * FUNCTION: TO PROCESS THE FORTRAN SOURCE STATEMENT 'EQUIVALENCE'      *  10 01574
                    1575 *                                                                     *  10 01575
                    1576 * ENTRY: DIRECT FROM SID                                             *  10 01576
                    1577 *                                                                     *  10 01577
                    1578 * EXIT : DIRECT TO SSC                                               *  10 01578
                    1579 *          B=2                                                       *  10 01579
                    1580 *                                                                     *  10 01580
                    1581 ***************************************************************************  10 01581
002132 020422 A     1583 EQU     LDB      K2              SET B=2 TO FLAG EQUIVALENCE ENTRY        10 01583
002133 001000 A     1584         JMP      SSC             STORE STATEMENT CHARACTER STRING         10 01584
002134 003406 R
                    1585         EJECT                                                             10 01585
002135              1586 EQU0    BSS      0                                                     V  10 01586
       002135 R     1587 PES     EQU      *                                                        10 01587
002135 010422 A     1588         LDA      K2                                                       10 01588
002136 057000 I     1589         STA      T1                                                       10 01589
002137 005001 A     1590         TZA                                                               10 01590
002140 057000 I     1591         STA      F                                                        10 01591
002141 002000 A     1592         CALL     ICH                                                      10 01592
002142 077654 R
002143 002000 A     1593         CALL     PTS                                                      10 01593
002144 077726 R
002145 002000 A     1594 EQU1    CALL     ILE                                                      10 01594
002146 002413 R
002147 147000 I     1595         SUB      AF                                                       10 01595
002150 057000 I     1596         STA      T3                                                       10 01596
002151 017000 I     1597         LDA      I                                                        10 01597
002152 057000 I     1598         STA      T4                                                       10 01598
002153 017000 I     1599         LDA      F                                                        10 01599
002154 001010 A     1600         JAZ      EQU4            START OF GROUP                           10 01600
002155 002216 R
002156 147000 I     1601 EQUC    SUB      I                                                        10 01601
002157 001010 A     1602         JAZ      EQU7            END                                      10 01602
002160 002253 R
002161 017000 I     1603 EQU3    LDA      AT                                                       10 01603
002162 140466 A     1604         SUB      K6                                                       10 01604
002163 001010 A     1605         JAZ      EQU5            COMMON                                   10 01605
002164 002222 R
002165 017000 I     1606         LDA      T3                                                       10 01606
002166 127000 I     1607 EQUD    ADD      AF                                                       10 01607
002167 057000 I     1608         STA      T0                                                       10 01608
002170 017000 I     1609         LDA      T1                                                       10 01609
002171 140466 A     1610         SUB      K6                                                       10 01610
002172 001004 A     1611         JAN      EQUB            NOT COMMON                               10 01611
002173 002201 R
002174 017000 I     1612         LDA      T9                                                       10 01612
002175 147000 I     1613         SUB      T0                                                       10 01613
002176 057000 I     1614         STA      T9                                                       10 01614
002177 002004 A     1615         JANM     ER6             COMMON BASE < 0                          10 01615
002200 077627 R
002201 017000 I     1616 EQUB    LDA      T0              NEW AF = OFFSET                          10 01616
002202 027000 I     1617         LDB      T1              NEW AT                                   10 01617
002203 002000 A     1618         CALL     DFT                                                      10 01618
002204 077621 R
002205 002000 A     1619         JMPM     FLN             FETCH LINK                               10 01619
002206 002313 R
002207 017000 I     1620         LDA      I                                                        10 01620
002210 147000 I     1621         SUB      T4                                                       10 01621
002211 001010 A     1622         JAZ      EQU8            LINK END                                 10 01622
002212 002260 R
002213 017000 I     1623         LDA      F                                                        10 01623
002214 001000 A     1624         JMP      EQUC                                                     10 01624
002215 002156 R
002216 017000 I     1625 EQU4    LDA      I                                                        10 01625
002217 057000 I     1626         STA      F                                                        10 01626
002220 001000 A     1627         JMP      EQU3                                                     10 01627
002221 002161 R
002222 017000 I     1628 EQU5    LDA      AS                                                       10 01628
002223 127000 I     1629         ADD      AF                                                       10 01629
002224 057000 I     1630         STA      T9                                                       10 01630
002225 017000 I     1631         LDA      T1                                                       10 01631
002226 140422 A     1632         SUB      K2                                                       10 01632
002227 001010 A     1633         JAZ      EQU9            STR.-BASE                                10 01633
002230 002264 R
002231 002000 A     1634 EQU6    CALL     ER7                                                      10 01634
002232 077630 R
002233 017000 I     1635         LDA      TC                                                       10 01635
002234 140000 L     1636         SUB      =',                                                      10 01636
002235 001010 A     1637         JAZ      EQU1            GROUP CONTINUES                          10 01637
002236 002145 R
002237 002000 A     1638         JMPM     RIO             RIGHT INPUT OPR.                         10 01638
002240 077732 R
002241 017000 I     1639         LDA      TC                                                    V  10 01639
002242 140000 L     1640         SUB      =',                                                      10 01640
002243 001010 A     1641         JAZ      EQU0                                                  V  10 01641
002244 002135 R
002245 006010 A     1642         LDAI     0376                                                     10 01642
002246 000376 A
002247 002000 A     1643         JMPM     TST             CHARACTER TEST ROUTINE                V  10 01643
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002250 077772 R
002251 001000 A 1644          JMP     EQU0                                    V 10 01644
002252 002135 R
02253  017000 I 1645 EQU7     LDA     T3                                        10 01645
002254 001017 A 1646          JAZ     EQU8+2                                    10 01646
002255 002217 R
002256 001000 A 1647          JMP     EQU6                                      10 01647
002257 002231 R
002260 002000 A 1648 EQU8     CALL    EXL                                       10 01648
002261 077647 R
002262 001000 A 1649          JMP     EQU6+2                                    10 01649
002263 002233 R
002264 010466 A 1650 EQU9     LDA     K6                                        10 01650
002265 057000 I 1651          STA     T1          SET TO COMMON                 10 01651
002266 017000 I 1652          LDA     I                                         10 01652
002267 147000 I 1653          SUB     F                                         10 01653
002270 001010 A 1654          JAZ     EQU6+2      GROUP END                     10 01654
002271 002233 R
002272 017000 I 1655          LDA     F                                         10 01655
002273 057000 I 1656          STA     I                                         10 01656
002274 017000 I 1657          LDB     I                                         10 01657
002275 057000 I 1660          STB     T4                                        10 01660
002276 002000 A 1661          CALL    FIX                                       10 01661
002277 077633 R
002300 057000 I 1662          STA     T0                                        10 01662
002301 001000 A 1663          JMP     LOOP                                      10 01663
002302 002161 R
                1664          EJECT                                             10 01664
                1665 ********************************************************** 11 01665
                1666 *                                                        * 11 01666
                1667 *              P R O C E S S   E X T E R N A L (EXT)     * 11 01667
                1668 *                                                        * 11 01670
                1669 * FUNCTION: TO PROCESS THE FORTRAN SOURCE STATEMENT: 'EXTERNAL' * 12 01671
                1670 *                                                        * 12 01672
                1671 * ENTRY: DIRECT FROM SID                                 * 12 01673
                1672 *                                                        * 12 01674
                1673 * EXIT : THROUGH OCR                                     * 12 01675
                1674 *        EXTERNAL NAMES ENTERED AS SUBPROGRAM NAMES IN ASSGNMNT TABLE * 12 01676
                1675 *                                                        * 12 01677
                1676 ********************************************************** 12 01700
002303 002000 A 1677 EXT      CALL    INA                                       12 01701
002304 077567 R
002305 002000 A 1678          CALL    TSB                                       12 01702
002306 077711 R
002307 001000 A 1679          JMP     CLR                                       12 01703
002310 077615 R
                1680          EJECT                                             12 01704
                1681 ********************************************************** 13 01705
                1682 *                                                        * 13 01706
                1683 *                    F E T C H   L I N K (FLN)           * 13 01707
                1684 *                                                        * 13 01710
                1685 * FUNCTION: TO LOAD AND GET SIZE OF NEXT LINK IN CL CHAIN * 13 01711
                1686 *                                                        * 13 01712
                1687 * ENTRY: I=POINTER TO CURRENT LINK                       * 13 01713
                1688 *                                                        * 13 01714
                1689 * EXIT : ITEM CL(I) LOADED, WITH SIZE IN A               * 13 01715
                1690 *        A=0 IF THIS ITEM IS HEAD OF CHAIN F             * 13 01716
                1691 *                                                        * 13 01717
                1692 ********************************************************** 13 01720
002311 000000 A 1693 FLN      ENTRY                                             13 01721
002312 002000 A 1694          CALL    LDA                                       13 01722
002313 077703 R
002314 017000 I 1695          LDA     I                                         13 01723
002315 057000 I 1696          STA     T4                                        13 01724
002316 002000 A 1697          CALL    FNL                                       13 01725
002317 077703 R
002320 002000 A 1698          CALL    INA                                       13 01726
002321 077567 R
002322 017000 I 1699          LDA     I                                         13 01727
002323 147000 I 1700          SUB     F           A=I-F                         13 01730
002324 001000 A 1701          JMP*    FLN         EXIT                          13 01731
002325 002311 R
                1702          EJECT                                             13 01732
                1703 ********************************************************** 14 01733
                1704 *                                                        * 14 01734
                1705 *        P R O C E S S   S U B P R O G R A M   S T A T E M E N T * 14 01735
                1706 *                                                        * 14 01736
                1707 *                    F U N , S U B                       * 14 01737
                1708 *                                                        * 14 01740
                1709 * FUNCTION: TO PROCESS THE FORTRAN SOURCE STATEMENTS:   * 14 01741
                1710 *           'FUNCTION' AND 'SUBROUTINE'                  * 14 01742
                1711 *                                                        * 14 01743
                1712 * ENTRY: DIRECT FROM SID                                 * 14 01744
                1713 *                                                        * 14 01745
                1714 * EXIT : DIRECT TO ART                                   * 14 01746
                1715 *        SBFL=1 FOR FUNCTION                             * 14 01747
                1716 *        SBFL=I POINTS TO SUBPROGRAM NAME IN ASSIGNMENT TABLE * 14 01750
                1717 *        SUBROUTINE ENTRY GENERATED                      * 14 01751
                1718 *        IF FUNCTION, VARIABLE DEFINED WITH SAME NAME AND TYPE * 14 01752
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                    1721 *                                                                  *  10 01721
                    1722 * ERRORS: TER17 IF FUNCTION HAS NO PARAMETERS                       *  10 01722
                    1723 *                                                                  *  10 01723
                    1724 ************************************************************************  10 01724
                    1726 ********************                                                  10 01726
                    1727 * FUNCTION ENTRY *                                                  10 01727
                    1728 ********************                                                  10 01728
002330 047000 I     1729 FUN     INR      SBFL          SET FUNCTION FLAG                    10 01729
                    1731 ************************                                            10 01731
                    1732 * SUBROUTINE ENTRY *                                              10 01732
                    1733 ************************                                            10 01733
002331 002000 A     1734 SUB     CALL     BUNS                                               10 01734
002332 000755 R
002333 067000 I     1735          STB     SBFL+1        STORE POINTER TO NAME IN SBFL+1      10 01735
002334 054030 A     1736          STA     FUNT          SAVE PARAMETER LIST SWITCH           10 01736
002335 001010 A     1737          JAZ     FUN1          CHECK IF NO PARAMETERS               10 01737
002336 002344 R
                    1738 ****************************                                        10 01738
                    1739 * PROCESS PARAMETER LIST *                                        10 01739
                    1740 ****************************                                        10 01740
002337 005001 A     1741          TZA                                                        10 01741
002340 002000 A     1742          CALL     GSE                                               10 01742
002341 077652 R
002342 001000 A     1743          JMP      FUN2                                              10 01743
002343 002346 R
                    1744 ************************                                            10 01744
                    1745 * NO PARAMETER LIST *                                            10 01745
                    1746 ************************                                            10 01746
002344 002000 A     1747 FUN1    CALL     DAB                                               10 01747
002345 077710 R
                    1748 ************************                                            10 01748
                    1749 * EXIT IF SUBROUTINE *                                           10 01749
                    1750 ************************                                            10 01750
002346 005001 A     1751 FUN2    TZA                                                        10 01751
002347 147000 I     1752          SUB      SBFL                                              10 01752
002350 001002 A     1753          JAP      CRT           SUBROUTINE                          10 01753
002351 077616 R
                    1754 ************************************************************      10 01754
                    1755 * FUNCTION ENTRY - DEFINE VARIABLE WITH SAME NAME *              10 01755
                    1756 ************************************************************      10 01756
002352 017000 I     1757          LDA      SBFL+1                                            10 01757
002353 057000 I     1758          STA      I                                                 10 01758
002354 002000 A     1759          CALL     LAX                                               10 01759
002355 077700 R
002356 014006 A     1760          LDA      FUNT          GET PARAMETER LIST SWITCH           10 01760
002357 001010 A     1761          JAZ      TER17         FUNCTION STATEMENT HAS NO PARAMETER 10 01761
002360 077762 R
002361 010423 A     1762          LDA      FOUR                                              10 01762
002362 057000 I     1763          STA      RL+1          MAKE SPACE FOR ALL VALUES           10 01763
002363 001000 A     1764          JMP      ENT35                                             10 01764
002364 002103 R
002365              1765 FUNT     BSS      1             ZERO IF NO PARAMETERS               10 01765
                    1766          EJEC                                                       10 01766
                    1767 *        ILE      INPUT LIST ITEM                                 V  10 01767
002366 002000 A     1769 ILE0    JMPM     ISB           INPUT SUBSCRIPT  (AP=0)            V  10 01769
002367 002603 R
002370 002000 A     1770          CALL     LAX                                               10 01770
002371 077700 R
002372 017000 I     1771          LDA      ND            = DIM. (1,2)                        10 01771
002373 147000 I     1772          SUB      NS            = SUBS. (1,2)                       10 01772
002374 001004 A     1773          JAN      TER19         NUM.-SUBSCRIPTS > NUM.-DIMENSIONS   10 01773
002375 077764 R
002376 037000 I     1774          LDX      ND                                                10 01774
002377 005001 A     1775          TZA                                                        10 01775
002400 005344 A     1776 ILE2    DXR                    CALCULATE ELEMENT OFFSET            10 01776
002401 006125 A     1777          ADDE     AS,X                                              10 01777
002402 177332 R
002403 004560 A     1778          LLSR     16                                                10 01778
002404 006165 A     1779          MULE     IS,X                                              10 01779
002405 177435 R
002406 005021 A     1780          TBA                                                        10 01780
002407 001046 A     1781          JXNZ     ILE2          LOOP                                10 01781
002410 002400 R
002411 057000 I     1782 ILE1    STA      AS                                              V  10 01782
002412 001000 A     1783          JMP                                                        10 01783
002413 000000 A
       002413 R     1784 ILE     EQU      *-1                                               10 01784
002414 002000 A     1785          CALL     INA                                               10 01785
002415 077667 R
002416 017000 I     1786          LDA      AT                                                10 01786
002417 140467 A     1787          SUB      SEVEN                                             10 01787
002420 002010 A     1788          JAZM     ER21          DUMMY NAME                          10 01788
002421 077643 R
002422 017000 I     1789          LDA      IU                                                10 01789
002423 140464 A     1790          SUB      THREE                                             10 01790
002424 002010 A     1791          JAZM     ER2           SUBPROGRAM NAME                     10 01791
002425 077625 R
002426 017000 I     1792          LDA      IU.                                               10 01792
002427 140422 A     1793          SUB      K2                                                10 01793
002430 001010 A     1794          JAZ      ILE0          IF IU=ARR                        V  10 01794
002431 002366 R
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002432 002000 A 1795          CALL     IVR                                                                  10 01795
002433 077777 R                                                                                             10 01796
002434 005001 A 1796          TZA                                                                        V  10 01797
002435 001000 A 1797          JMP      ILP1
002436 002411 R                                                                                        PD   10 01798
                      1798    $EJECT                                                                   PD   10 01799
                      1799    ********************************************************************************PD   10 01800
                      1800    *                                                                              PD   10 01801
                      1801    *                I M P L I C I T   P R O C E S S O R                           PD   10 01802
                      1802    *                                                                              PD   10 01803
                      1803    *      FUNCTION: TO PROCESS THE FORTRAN SOURCE STATEMENT "IMPLICIT"             PD   10 01804
                      1804    *                                                                              PD   10 01805
                      1805    *      ENTRY:    DIRECT FROM SIP                                              PD   10 01806
                      1806    *                                                                              PD   10 01807
                      1807    *      EXIT:     DIRECT THROUGH CCR                                           PD   10 01808
                      1808    *                                                                              PD   10 01809
                      1809    ********************************************************************************PD   10 01811
002437 006017 R 1811  IMP      LDA*     SIDTB1                                                                10 01812
002440 177735 R
002441 002000 A 1812          CALL     SIG                                                                   10 01813
002442 077136 R
002443 002000 A 1813          CALL     ICH                                                                   10 01814
002444 077654 R
002445 002000 A 1814          CALL     P1C                                                                   10 01815
002446 077776 R
002447 002000 A 1815  IMP6     CALL     IMP10                                                                 10 01816
002450 002564 R
002451 057000 I 1816          STA      T8                                                               PD   10 01817
002452 057000 I 1817          STA      T9          SET SINGLE CHARACTER RANGE                           PD   10 01818
002453 002000 A 1818          CALL     ICH                                                                   10 01819
002454 077654 R
002455 140000 L 1819          SUB      =1,1                                                             PD   10 01820
002456 001016 A 1820          JANZ     IMP61       NOR RANGE
002457 002477 R                                                                                             10 01821
002460 002000 A 1821          CALL     IMP10
002461 002564 R                                                                                        PD   10 01822
002462 057000 I 1822          STA      T9          SECOND SECOND HALF OF RANGE                          PD   10 01823
002463 147000 I 1823          SUB      T8                                                                    10 01824
002464 001004 A 1824          JAM      TER1
002465 077745 R                                                                                             10 01825
002466 002000 A 1825          CALL     ICH
002467 077654 R                                                                                        PD   10 01826
002470 027000 I 1826  IMP61    LDB      T8                                                               PD   10 01827
002471 017000 I 1827  IMP62    LDA      MF          SET TABLE MODE
002472 060056 A 1828          STAB     MDTB-0301,B SET TABLE MODE                                            10 01828
002473 177762 R                                                                                        PD   10 01829
002474 005021 A 1829          TBA                                                                      PD   10 01830
002475 147000 I 1830          SUB      T9                                                               PD   10 01831
002476 065002 A 1831          IBR                                                                      PD   10 01832
002477 001013 A 1832          JANZ     IMP62       LOOP FOR RANGE
002500 002471 R                                                                                        PD   10 01833
002501 017000 I 1833          LDA      IC                                                                    10 01834
002502 140000 L 1834          SUB      =1,1                                                             PA   10 01835
002503 001010 A 1835          JAZ      IMP6        MORE OF SAME MODE
002504 002447 R                                                                                             10 01836
002505 010000 L 1836          LDA      =1,2                                                                  10 01837
002506 002000 A 1837          CALL     TST
002507 077776 R                                                                                             10 01838
002510 002000 A 1838          CALL     ICH
002511 077651 R                                                                                             10 01839
002512 140000 L 1839          SUB      =1,1                                                             PD   10 01840
002513 001010 A 1840          JAZ      IMP          NEW MODE
002514 002437 R                                                                                        PD   10 01841
002515 017000 I 1841          LDA      CP$                                                              PD   10 01842
002516 057000 I 1842  IMP07    STA      T           CHECK ASSIGNMENT TABLE MODES                         PD   10 01843
002517 005014 A 1843          TBA                                                                      PD   10 01844
002520 147000 I 1844          SUB      CPT                                                              PD   10 01845
002521 001000 A 1845          JAM      IMP8
002522 077610 R                                                                                        PD   10 01846
002523 017000 I 1846          LDA      T                                                                PD   10 01847
002524 001000 A 1847          JAM      IMP09
002525 002550 R                                                                                        PD   10 01848
002526 002000 A 1848          CALL     GET_IU      GET IU                                               PD   10 01849
002527 077777 R                                    TEST FOR SUBPROGRAM NAME                             PD   10 01850
002530 000000 A 1849          NOP      IMP09       PASS IF SUBPROGRAM                                   PD   10 01851
002531 001010 A 1850          JAZ      IMP8                                                             PD   10 01852
002532 000000 R                                                                                        PD   10 01853
002533 017000 I 1851          LDA      T           GET AT
002534 154000 A 1852          BAZ      IMP09       TEST FOR DUMMY                                       PD   10 01854
002535 000014 A 1853          IBA      IC                                                                    10 01855
002536 077777 R                                                                                             10 01856
002537 001010 A 1854          JANZ     IMP8                                                                  10 01857
002540 002440 R                                                                                             10 01858
002541 017000 I 1855          LDA      =1,1        SET LEADING CHARACTER                                 PD   10 01859
002542 000000 A 1856          TBA      0                                                                     10 01860
002543 000000 A 1857          TBA                                                                            10 01861
002544 140000 L 1858          SUB      =1,1                                                                  10 01862
002545 001000 A 1859          JAM      IMP11                                                                 10 01863
002546 000000 R                                                                                        PD   10 01864
002547 017000 I 1860          LDA      =1,2                                                             PD   10 01865
002550 000424 A 1861          LBLA
```

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002551 006150 A 1862          ANAI    0177770        DELETE OLD MODE                    PD  10 01862
002552 177770 A
002553 006126 A 1863          ADDE    MDTB-"A",B     SET IMPLICIT MODE                      10 01863
002554 177162 R
002555 004251 A 1864          LRLA    9              REPOSITION                         PD  10 01864
002556 055002 A 1865          STA     2,X                                                   10 01865
002557 015002 A 1866 IMP09    LDA     2,X            ADVANCE I POINTER                  PD  10 01866
002560 150473 A 1867          ANA     BM37           GET EL(I)                              10 01867
002561 127000 I 1868          ADD     I              I + ENTRY LENGTH                   PD  10 01868
002562 001000 A 1869          JMP     IMP07              LOOP BACK                          10 01869
002563 002516 R
002564 000000 A 1870 IMP10    ENTRY                                                         10 01870
002565 002000 A 1871          CALL    ICH                                                   10 01871
002566 077654 R
002567 017000 I 1872          LDA     DF                                                    10 01872
002570 001002 A 1873          JAP     TER1           NOT ALPHA CHARACTER                    10 01873
002571 077745 R
002572 017000 I 1874          LDA     TC                                                    10 01874
002573 005012 A 1875          TAB                                                           10 01875
002574 140000 L 1876          SUB     ="$"                                                  10 01876
002575 003010 A 1877          XAZ     IMP11                                                 10 01877
002576 002602 R
002577 005021 A 1878          TBA                                                           10 01878
002600 001000 A 1879          JMP*    IMP10                                                 10 01879
002601 102564 R
002602 020000 L 1880 IMP11    LDB     =0333          (B)=0333 IF TC="$"                     10 01880
               1881           EJECT                                                         10 01881
               1882 ********************************************************************** 10 01882
               1883 *                                                                    * 10 01883
               1884 *              I N P U T   S U B S C R I P T S ( I S B )             * 10 01884
               1885 *                                                                    * 10 01885
               1886 * FUNCTION: TO PROCESS ARRAY SUBSCRIPT FIELDS IN THE SPECIFICATION  * 10 01886
               1887 *           STATEMENT BLOCK AND IN DATA STATEMENTS                  * 10 01887
               1888 *                                                                    * 10 01888
               1889 * ENTRY:  A= 0: PROCESS DATA OR EQUIVALENCE STATEMENT               * 10 01889
               1890 *         A= 1: PROCESS NORMAL ARRAY DECLARATOR                      * 10 01890
               1891 *         A=-1  PROCESS DUMMY ARRAY DECLARATOR                       * 10 01891
               1892 *                                                                    * 10 01892
               1893 * EXIT :  NS HOLDS NUMBER OF SUBSCRIPTS.                            * 10 01893
               1894 *          THE AS BLOCK HOLDS 1 WORD/SUBSCRIPT. IF A DATA OR EQUIV   * 10 01894
               1895 *           STATEMENT IS BEING PROCESSED, THE WORD IS THE ACTUAL     * 10 01895
               1896 *           SUBSCRIPT INTEGER VALUE. IF NOT, THE WORD POINTS TO THE  * 10 01896
               1897 *           SUBSCRIPT ENTRY IN THE ASSIGNMENT TABLE.                 * 10 01897
               1898 *                                                                    * 10 01898
               1899 *          AS:SUBSCRIPT 1                                            * 10 01899
               1900 *          AS+1:SUBSCRIPT 2(0 IF NONE)                               * 10 01900
               1901 *          AS+2:SUBSCRIPT 3(0 IF NONE)                               * 10 01901
               1902 *                                                                    * 10 01902
               1903 * ERRORS:  TER14 IF DUMMY ARRAY HAS VARIABLE SUBSCRIPT NOT DUMMY    * 10 01903
               1904 *           TER26 IF NONDUMMY ARRAY HAS SUBSCRIPT NOT INTEGER CONSTANT * 10 01904
               1905 *                                                                    * 10 01905
               1906 ********************************************************************** 10 01906
002603 000000 A 1908 ISB      ENTRY                                                         10 01908
002604 057000 I 1909          STA     TO             SAVE ENTRY FLAG                        10 01909
002605 005001 A 1910          TZA                                                           10 01910
002606 057000 I 1911          STA     AS+1           CLEAR 2ND DIMENSION                    10 01911
002607 057000 I 1912          STA     AS+2           CLEAR 3RD DIMENSION                    10 01912
002610 057000 I 1913          STA     AS+3                                                  10 01913
002611 057000 I 1914          STA     AS+4                                                  10 01914
002612 057000 I 1915          STA     AS+5                                                  10 01915
002613 057000 I 1916          STA     AS+6                                                  10 01916
002614 057000 I 1917          STA     AS+7                                                  10 01917
002615 057000 I 1918          STA     NS             CLEAR NUMBER OF SUBSCRIPTS COUNTER     10 01918
002616 002000 A 1919          CALL    PTS                                                   10 01919
002617 077726 R
               1920 ************************                                             10 01920
               1921 * SUBSCRIPT LOOP ENTRY *                                             10 01921
               1922 ************************                                             10 01922
002620 017000 I 1923 ISBL     LDA     TO                                                    10 01923
002621 001002 A 1924          JAP     ISBN           TEST ENTRY FLAG                        10 01924
002622 002637 R
               1925 ************************                                             10 01925
               1926 * ARRAY NAME IS DUMMY *                                             10 01926
               1927 ************************                                             10 01927
002623 002000 A 1928          CALL    EXA                                                   10 01928
002624 077646 R
002625 001004 A 1929          JAN     ISBN           TEST FOR CONSTANT SUBSCRIPT            10 01929
002626 002637 R
002627 002000 A 1930          CALL    IVA                                                   10 01930
002630 077675 R
002631 010466 A 1931          LDA     K6                                                    10 01931
002632 147000 I 1932          SUB     AT             SUBSCRIPT VARIABLE MUST BE DUMMY(AT=7) 10 01932
002633 001002 A 1933          JAP     TER14                                                 10 01933
002634 077760 R
002635 001000 A 1934          JMP     ISB3                                                  10 01934
002636 002653 R
               1935 ************************                                             10 01935
               1936 * NUMERIC SUBSCRIPT *                                               10 01936
               1937 ************************                                             10 01937
002637 002000 A 1938 ISBN     CALL    INN                                                   10 01938
002640 077671 R
```

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                                                                                                                    10 01939
                                                                                                                    10 01940
                                                                                                                    10 01941
                                                                                                                    10 01942
                                                                                                                    10 01943
                1944 ********************************                                                            10 01944
                1945 * NON-DUMMY ARRAY DECLARATOR *                                                                10 01945
                1946 ********************************                                                            10 01946
                                                                                                                    10 01947
                1948 ISB3   LDB     1                   POINT B AT ASSIGNMENT TABLE ENTRY                       10 01948
                1949        JMP     *-25                                                                        10 01949
                1950 ***********************                                                                     10 01950
                1951 * DATA/EQUIVALENCE *                                                                        10 01951
                1952 ***********************                                                                     10 01952
                1953 ISB4   LDA     0,3                 SUBSCRIPT VALUE                                         10 01953
                1954        JSR     =D0                 CONVERT FROM BASE 1 TO BASE 0                           10 01954
                1955 ISB5   LDA     2,3                 GET SUBSCRIPT COUNT                                     10 01955
                1956        LDB     =D4                 ADD BASE ADDRESS                                        10 01956
                1957        CALL    .XBDT               SWAP REGS                                               10 01957
                1958        STA     1,B                 STORE SUBSCRIPT INFO IN AS BLOCK                        10 01958
                1959        INC     2,3                 BUMP SUBSCRIPT COUNT                                    10 01959
                1960        LDA     0,3                                                                         10 01960
                1961        SUBZL   0,0                                                                         10 01961
                1962        JSR     =D1                                                                         10 01962
                1963        LDB     0,3                 GET TERMINATOR                                          10 01963
                1964        SUB     #',',0              ','                                                     10 01964
                1965        JMP     *-ISBL              LOOP BACK FOR NEXT SUBSCRIPT ON ','                     10 01965
                1966 ISBX   CALL    $ID                                                                         10 01966
                1967        JMP*    ISB                 EXIT                                                    10 01967
                1968        EJECT                                                                               10 01968
                1969 ***************************************************************************************  10 01969
                1970 *                                                                                     *  10 01970
                1971 *       I N P U T   S P E C I F I C A T I O N   C H A R A C T E R                     *  10 01971
                1972 *                                                                                     *  10 01972
                1973 *                              / I S C /                                              *  10 01973
                1974 *                                                                                     *  10 01974
                1975 * FUNCTION: TO BRING OUT THE COMMON AND EQUIVALENCE STATEMENTS STORED                 *  10 01975
                1976 *           IN HIGH CORE BY SSC. EACH STATEMENT IS STORED AS A                        *  10 01976
                1977 *           SUBSTRING, 1 CHAR/WORD, DOWNWARD FROM HIGH CORE,                          *  10 01977
                1978 *           TERMINATING IN A NEGATIVE WORD. THE 1-COMP OF THIS WORD                   *  10 01978
                1979 *           IS EITHER ZERO, MEANING THE END OF THE CHAIN (OR THE                      *  10 01979
                1980 *           COMMON OR EQUIVALENCED CHAIN), OR A POINTER TO THE NEXT                   *  10 01980
                1981 *           SUBSTRING LINK OF THE CHAIN.                                              *  10 01981
                1982 *                                                                                     *  10 01982
                1983 * ENTRY: SSP+1: CURRENT CHAIN POINTER(0 AT END OF CHAIN)                               *  10 01983
                1984 *         SSP+2: NEXT CHAIN POINTER(0 IF NONE)                                        *  10 01984
                1985 *         ISC CALLED THRU ISCP: WHERE SWITCH ISCI POINTS TO ISC                       *  10 01985
                1986 *                                                                                     *  10 01986
                1987 * EXIT : SSP+1 BUMPED DOWN 1                                                          *  10 01987
                1988 *         TC=A=INPUT CHAR                                                             *  10 01988
                1989 *         C=A=0 IF AT END-OF-STATEMENT                                                *  10 01989
                1990 *                                                                                     *  10 01990
                1991 ***************************************************************************************  10 01991
                1992 *
 012702 000000  A 1993 ISC     ENTRY                                                                           10 01992
 027003 027003  I 1994         LDB     $SSP,I                                                                  10 01993
 006004 001080  A 1995         JRZ     $-2,0               END OF CHAIN ?                                      10 01994
 027005 002722  R               -1
 027006 015000  A 1996         LDA     0,B                 NO: GET ITEM FROM CHAIN                             10 01995
 125402 005002  A 1997         DSZ     2,B                 BUMP DOWN CHAIN POINTER                             10 01996
 027011 006000  A 1998         STB     $SSP,I              SSP+1                                               10 01997
 006012 001002  A 1999         JMP     *+2,0               OUT OF STATEMENT ?                                  10 01998
 027011 000002  A 2000         DSZ     $SSP                YES                                                 10 01999
 027011 006000  A 2001         STB     $SSP,I              RESET POINTER TO NEXT CHAIN LINK                    10 02000
 000000 000000  A 2002         POPJ    ,I                                                                      10 02001
                2003 ISCX   LDA     0,B                 OTHER CHAR IN TC                                    10 02002
                2004        JMP*    ISC                 EXIT                                                10 02003
 027011 006000  A 2005 ISCE    STB     $SSP,I              SET NEXT CHAIN POINTER                              10 02004
                2006        LDB     1,B                                                                     10 02005
                2007        STB     $SSP                CLEAR NEXT CHAIN POINTER                            10 02006
                2008        STB     1,B                 REPLACE CURRENT CHAIN POINTER                       10 02007
                2009        JMP     ISCP                EQUIV AND COMMON FINISHED IF CURR PTR=0             10 02008
                2010        JMP     $-10                DIVIDE PROCESS EQUIVALENCES                         10 02009
                2011        EJECT                                                                           10 02010
                2012 ***************************************************************************************  10 02011
                2013 *
```

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2014 *      P R O C E S S   T Y P E   S T A T E M E N T S                    * 10 02014
2015 *                                                                       * 10 02015
2016 * FUNCTION: TO PROCESS THE FORTRAN SOURCE STATEMENTS:                   * 10 02016
2017 *                INTEGER P                                              * 10 02017
2018 *                INTEGER*2 P                                            * 10 02018
2019 *                INTEGER*4 P                                            * 10 02019
2020 *                REAL P                                                 * 10 02020
2021 *                REAL*4 P                                               * 10 02021
2022 *                REAL*8 P                                               * 10 02022
2023 *                DOUBLEPRECISION P                                      * 10 02023
2024 *                COMPLEX P                                              * 10 02024
2025 *                COMPLEX*8 P                                            * 10 02025
2026 *                LOGICAL P                                              * 10 02026
2027 *                LOGICAL*2 P                                            * 10 02027
2028 *                                                                       * 10 02028
2029 *                WHERE: P IS EITHER A LIST OF VARIABLE/ARRAY NAMES      * 10 02029
2030 *                       OR IS THE WORD 'FUNCTION'                       * 10 02030
2031 *                                                                       * 10 02031
2032 * ENTRY: DIRECT FROM SID                                                * 10 02032
2033 *                                                                       * 10 02033
2034 * EXIT: TO FUN IF P='FUNCTION', ELSE TO CCR                             * 10 02034
2035 *                                                                       * 10 02035
2036 *************************************************************************** 10 02036
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002732 002000 A 2038 MOD    CALL    INN                                      10 02038
002733 077671 R
002734 001010 A 2039        JAZ     TER11       ITEM NOT OPERAND             10 02039
002735 077755 R
002736 017000 I 2040        LDA     NT                                       10 02040
002737 001016 A 2041        JANZ    TER1        NOT NAME                     10 02041
002740 077745 R
002741 017000 I 2042        LDA     DF                                       10 02042
002742 001002 A 2043        JAP     MOD1        NOT ALPHA TERMINATOR         10 02043
002743 002764 R
002744 017000 I 2044        LDA     TC                                       10 02044
002745 137000 I 2045        ERA     ID                                       10 02045
002746 137000 I 2046        ERA     ID+1                                     10 02046
002747 137000 I 2047        ERA     ID+2                                     10 02047
002750 006140 A 2048        SUBI    0136020     TEST FOR 'FUNCTION'          10 02048
002751 136020 A
002752 001016 A 2049        JANZ    TER12       ILLEGAL MODE STATEMENT       10 02049
002753 077756 R
002754 002000 A 2050        CALL    ICH                                      10 02050
002755 077654 R
002756 006140 A 2051        SUBI    'N'                                      10 02051
002757 000316 A
002760 001016 A 2052        JANZ    TER12                                    10 02052
002761 077756 R
002762 001000 A 2053        JMP     FUN                                      10 02053
002763 002330 R
002764 006010 A 2054 MOD1   LDAI    MOD2                                     10 02054
002765 002773 R
002766 057000 I 2055        STA     STSW                                     10 02055
002767 002000 A 2056        CALL    ASI                                      10 02056
002770 077611 R
002771 001000 A 2057        JMP     MOD2+2                                   10 02057
002772 002775 R
002773 002000 A 2058 MOD2   CALL    INA                                      10 02058
002774 077667 R
002775 017000 I 2059        LDA     TC                                       10 02059
002776 140000 L 2060        SUB     ='*'                                     10 02060
002777 001016 A 2061        JANZ    MOD3        NOT NEW MODE SETTING         10 02061
003000 003022 R
003001 002000 A 2062        CALL    IDI                                      10 02062
003002 077662 R
003003 001002 A 2063        JAP     TER1                                     10 02063
003004 077745 R
003005 005211 A 2064        CPA                                              10 02064
003006 057000 I 2065        STA     T8                                       10 02065
003007 147000 I 2066        SUB     MF                                       10 02066
003010 001010 A 2067        JAZ     MOD3        NO MODE CHANGE               10 02067
003011 003022 R
003012 027000 I 2068        LDB     MF                                       10 02068
003013 006146 A 2069        SUBE    MOD4-2,B                                 10 02069
003014 003114 R
003015 027000 I 2070        LDB     T8                                       10 02070
003016 001010 A 2071        JAZ     MOD3+1                                   10 02071
003017 003023 R
003020 002016 A 2072        JANZM   ER3         ILLEGAL MODE                 10 02072
003021 077626 R
003022 027000 I 2073 MOD3   LDB     MF                                       10 02073
003023 067000 I 2074        STB     IM          SET FORCED MODE              10 02074
003024 002000 A 2075        CALL    SAX                                      10 02075
003025 077733 R
003026 002000 A 2076        CALL    PAD                                      10 02076
003027 003131 R
003030 017000 I 2077        LDA     TC                                       10 02077
003031 140000 L 2078        SUB     ='/'                                     10 02078
003032 001016 A 2079        JANZ    CCR         NO DATA                      10 02079
003033 077615 R
003034 017000 I 2080        LDA     J1                                       10 02080
003035 005014 A 2081        TAX                                              10 02081
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                   2160 *                IU=0                                                   * 10 02160
                   2161 *                IM=NUMBER OF SUBSCRIPTS                                * 10 02161
                   2162 *                ID=POINTER TO 1ST SUBCRIPT                             * 10 02162
                   2163 *                ID+1=POINTER TO 2ND SUBSCRIPT(0 IF NONE)               * 10 02163
                   2164 *                LF=POINTER TO 3RD SUBSCRIPT(0 IF NONE)                 * 10 02164
                   2165 *                                                                       * 10 02165
                   2166 *            I POINTS TO ARRAY NAME WHICH HAS FORMAT:                   * 10 02166
                   2167 *                                                                       * 10 02167
                   2168 *                IU=2                                                   * 10 02168
                   2169 *                LF=POINTER TO ARRAY HEADER                             * 10 02169
                   2170 *                                                                       * 10 02170
                   2171 * ERRORS: ER22 IF ARRAY NAME ALREADY DEFINED                             * 10 02171
                   2172 *                                                                       * 10 02172
                   2173 ************************************************************************** 10 02173
003131 000000 A 2175 PAD      ENTRY                                                                10 02175
003132 017000 I 2176          LDA    TC                                                            10 02176
003133 140000 L 2177          SUB    ='('                                                          10 02177
003134 001016 A 2178          JANZ*  PAD              NOT ARRAY DECLARATOR                         10 02178
003135 103131 R
003136 005101 A 2179          INCR   1                                                             10 02179
003137 147000 I 2180          SUB    IU                                                            10 02180
003140 002004 A 2181          JANM   ER22             ARRAY NAME PREVIOUSLY DECLARED               10 02181
003141 077644 R
003142 017000 I 2182          LDA    I                                                             10 02182
003143 054053 A 2183          STA    PADP             SAVE POINTER TO ARRAY NAME                   10 02183
003144 010467 A 2184          LDA    SEVEN                                                         10 02184
003145 147000 I 2185          SUB    AT                                                            10 02185
003146 001010 A 2186          JAZ    *+3                                                           10 02186
003147 003151 R
003150 010422 A 2187          LDA    K2               A=-1 FOR DUMMY ARRAY NAME                    10 02187
003151 005311 A 2188          DAR                     A= 1 FOR NON-DUMMY ARRAY NAME                10 02188
003152 002000 A 2189          CALL   ISD              PROCESS SUBSCRIPTS                           10 02189
003153 002603 R
003154 017000 I 2190          LDA    NS                                                            10 02190
003155 005012 A 2191          TAB                                                                  10 02191
003156 120422 A 2192          ADD    TWO                                                           10 02192
003157 057000 I 2193          STA    EL                                                            10 02193
003160 005001 A 2194          TZA                                                                  10 02194
003161 002000 A 2195          CALL   ASS              MAKE ARRAY SPACE (IU=0,IM=NS,NT=1)           10 02195
003162 077612 R
003163 017000 I 2196          LDA    AS                                                            10 02196
003164 055001 A 2197          STA    1,X              SUBS(1)=CL                                   10 02197
003165 005002 A 2198          TZB                                                                  10 02198
003166 005122 A 2199 PAD1     IBR                                                                  10 02199
003167 005021 A 2200          TBA                                                                  10 02200
003170 147000 I 2201          SUB    NS                                                            10 02201
003171 001010 A 2202          JAZ    PAD2                                                          10 02202
003172 003201 R
003173 006016 A 2203          LDAE   AS+B                                                          10 02203
003174 177332 R
003175 055003 A 2204          STA    3,X                                                           10 02204
003176 005144 A 2205          IXR                                                                  10 02205
003177 001000 A 2206          JMP    PAD1                                                          10 02206
003200 003166 R
003201 017000 I 2207 PAD2     LDA    I                                                             10 02207
003202 034014 A 2208          LDX    PADP             GET ARRAY NAME POINTER                       10 02208
003203 054013 A 2209          STA    PADP             SAVE ARRAY HEADER POINTER                    10 02209
003204 077000 I 2210          STX    I                                                             10 02210
003205 002000 A 2211          CALL   LAX                                                           10 02211
003206 077700 R
003207 010422 A 2212          LDA    K2                                                            10 02212
003210 057000 I 2213          STA    IU               SET IU=2                                     10 02213
003211 014005 A 2214          LDA    PADP                                                          10 02214
003212 057000 I 2215          STA    LF               SET LF=POINTER TO ARRAY HEADER               10 02215
003213 002000 A 2216          CALL   SAX                                                           10 02216
003214 077733 R
003215 001000 A 2217          JMP*   PAD                                                           10 02217
003216 103131 R
003217          2218 PADP     BSS    1                WORKING POINTER                              10 02218
                2219          EJECT                                                                10 02219
                2220 ************************************************************************** 10 02220
                2221 *                                                                          * 10 02221
                2222 * P R O C E S S   C O M M O N   S P E C I F I C A T I O N S ( P C S )      * 10 02222
                2223 *                                                                          * 10 02223
                2224 * FUNCTION: TO PROCESS COMMON STATEMENTS STORED IN HIGH CORE WHILE         * 10 02224
                2225 *                SPECIFICATION STATEMENTS WERE BEING INPUT.                * 10 02225
                2226 *                                                                          * 10 02226
                2227 * ENTRY: FNS HAS IDENTIFIED THE 1ST FORTRAN SOURCE STATEMENT WHICH IS      * 10 02227
                2228 *           NOT A SPECIFICATION STATEMENT.                                 * 10 02228
                2229 *                                                                          * 10 02229
                2230 * EXIT : ICH CALLS ISC, WHICH IDENTIFIES END OF COMMON STATEMENTS,         * 10 02230
                2231 *          AND EXITS DIRECTLY TO PES.                                      * 10 02231
                2232 *         COMMON BLOCK NAMES STORED IN ASSIGNMENT TABLE,WITH               * 10 02232
                2233 *          IM=0,NT=1, AND IU=1.                                            * 10 02233
                2234 *         CNP+1=LIST OF POINTERS TO COMMON BLOCK NAMES(BLANK COMMON        * 10 02234
                2235 *          NAME 'COMMON' IS ALWAYS 1ST).                                   * 10 02235
                2236 *         CMFL=COUNT OF COMMON BLOCK NAMES.                                * 10 02236
                2237 *         COMMON VARIABLE AND ARRAY NAMES IN ASSIGNMENT TABLE, THUS:       * 10 02237
                2238 *                AF=LOCATION(COMMON RELATIVE) OF ITEM                      * 10 02238
                2239 *                AT=6                                                      * 10 02239
                2240 *                CL=POINTER TO NEXT ITEM ON COMMON BLOCK CHAIN             * 10 02240
```

```
                    2241 *              =0=1 OR 2 FOR VARIABLE OR ARRAY                                  * 10 02241
                    2242 *          TOKEN COMMON BLOCK NAME & ITS VARIABLE/ARRAY NAMES ARE               * 10 02242
                    2243 *            LINKED THRU CL.                                                    * 10 02243
                    2244 *                                                                               * 10 02244
                    2245 * ERROR: TERM ON ILLEGAL TERMINATOR                                             * 10 02245
                    2246 *          END ON ILLEGAL COMMON VARIABLE/ARRAY NAME                           * 10 02246
                    2247 *          EXIT ON MORE THAN 20 COMMON BLOCK NAMES(INCLUDING BLANK            * 10 02247
                    2248 *                                                                              * 10 02248
                    2249 ********************************************************************************* 10 02249
                    2250 PCL     .RQ      =
                    2251 ********************************************************************************
                    2252 * OUTER LOOP ENTRY. ENTER HERE TO START PROCESSING NEXT COMMON    *
                    2253 * STATEMENT. TCM CALLS ISC WHICH EXITS ON RET IF NO MORE COMMONS  *
                    2254 * IN STATEMENTS.                                                  *
                    2255 ********************************************************************************
0002240 077654 R    2256 PCL1    CALL     TCM
                    2257 ********************************************************************************
                    2258 *  PRE LOOP CHECK. START NEW COMMON BLOCK. LOAD BLANK COMMON BLOCK *
                    2259 * NAME ('COMMON' IF IT WILL OCCUPY 1ST SLOT IN LIST AT CMP+1.      *
                    2260 ********************************************************************************
                    2261          CLO      0
                    2262          LDA      =
                    2263          LDAT     =0'
0002244 050000 1 0246               STA      TP
0002245 000411 0 0247               LDAT     =0'
0002246 140000 1 0241               STA      CMP+1
0002247 000410 0 0250               LDAT     =0'
0002250 077654 R                    CALL     PCL0A          . FIND/ASSIGN 'COMMON' IN ASSIGNMENT TABLE
0002251 140000 1 0243               STA      TP
0002252 001010 0 0254               LDAT     *TP            DOES FIELD START WITH '/' ?
0002253 002065 R                    CALL     PCLM
0002254 077731 R                    JMP      PCL3           PROCESS BLANK COMMON VARIABLE/ARRAY LIST
0002255 002265 R                    CALL     PCLM           PROCESS BLANK COMMON VARIABLE/ARRAY LIST
0002256 001000 0 0257               LDA      =0'/'
0002257 002010 0 0260               CALL     =TP
0002260 077730 R                    CALL     PCLBN          FIND/ASSIGN BLOCK NAME IN ASSIGNMENT TABLE
0002261 002010 0 0262               CALL     =TP
                    2264 ********************************************************************************
                    2265 * INNER LOOP ENTRY. PROCESS VARIABLE/ARRAY NAME LIST *
                    2266 ********************************************************************************
0002262 017000 1 0251 PCL2          LDA      CMP            POINT TO CMP BLOCK NAME
0002263 000000 0 0000               CMPA     0,1            CMP=0 LAST ITEM ON CMP(NO D/S)? IF SO
0002264 100000 0 0000               JEQ      *+1            CMP IS EMPTY
0002265 017000 1 0251               LDA      CMP            NO. GET(COMMON REL) ADDRESS OF LAST ITEM
0002266 040000 0 0000               ADA      0,1            ADD 'LOC OF LAST ITEM'
0002267 140000 1 0000               STA      *CPL           TO (COMMON REL) ADDRESS OF NEXT ITEM
0002270 002000 0 0000               CALL     =TP
                    2273          *
                    2274          *                        CHECK IF AT=0(BLANK) OR AT=2(DUMMY)
0002271 017000 1 0250               LDA      TP
0002272 140000 1 0000               STA      =TYPE
0002273 001000 0 0000               LDA      0,1            GET ID OF SUBPROGRAM NAME
0002274 000000 0 0000 PCL5          JAN      *              LITERAL ARRAY/OP NAME ILLEGAL
0002275 000000 0 0000               JAZ      *+1
0002276 000000 0 0000               LDA      =
0002277 140000 1 0000               STA      =TYPE          DEFINE NAME AS COMMON(AT=6)
0002300 017000 1 0000               LDA      CPL            GET COMMON REL PROGRAM COUNTER
```

```
003322 057000 I 2312        STA     AF              STORE IN AF AS ITEM ADDRESS                    10 02312
003323 002000 A 2313        CALL    SAX                                                            10 02313
003324 077733 R
003325 002000 A 2314        CALL    EXL                                                            10 02314
003326 077647 R
003327 002000 A 2315        CALL    PAD             PROCESS ARRAY DECLARATOR                       10 02315
003330 003131 R
003331 017000 I 2316 PCLX   LDA     TC                                                             10 02316
003332 140000 L 2317        SUB     ='/'                                                           10 02317
003333 001010 A 2318        JAZ     PCL2            NEW COMMON BLOCK IF TC='/'                     10 02318
003334 003222 R
003335 120464 A 2319        ADD     THREE                                                          10 02319
003336 001010 A 2320        JAZ     PCL3            NEXT VAR/ARRAY NAME IF TC=','                  10 02320
003337 003265 R
003340 006140 A 2321        SUBI    0122                                                           10 02321
003341 000122 A
003342 001010 A 2322        JAZ     PCL1            STATEMENT END IF TC=0376                       10 02322
003343 003220 R
003344 001000 A 2323        JMP     TER24           ILLEGAL TERMINATOR                             10 02323
003345 077766 R
               2324 ********************************************************                      10 02324
               2325 * SERVICE SUBROUTINE TO PROCESS COMMON BLOCK NAMES *                          10 02325
               2326 ********************************************************                      10 02326
003346 027000 I 2327 PCB1   LDB     CNP                                                            10 02327
003347 016001 A 2328        LDA     1,B                                                            10 02328
003350 147000 I 2329        SUB     I               OUTER LOOP ALWAYS STARTS WITH A CALL FOR       10 02329
003351 001010 A 2330        JAZ*    PCBN             BLANK COMMON. EXIT IF REPEAT/CHAIN EMPTY.     10 02330
003352 103370 R
003353 017000 I 2331        LDA     CMFL                                                           10 02331
003354 006140 A 2332        SUBI    035                                                            10 02332
003355 000035 A
003356 003004 A 2333        XAN     PCRL+1          BUMP BLOCK COUNT                               10 02333
003357 003405 R
003360 002002 A 2334        JAPM    ER17            TO MANY BLOCK NAMES                            10 02334
003361 077640 R
003362 017000 I 2335        LDA     CMFL                                                           10 02335
003363 127000 I 2336        ADD     CNP                                                            10 02336
003364 005012 A 2337        TAB                     POINT B AT NAME LIST                           10 02337
003365 017000 I 2338        LDA     I                                                              10 02338
003366 056000 A 2339        STA     0,B             STORE BLOCK NAME POINTER IN CNP LIST           10 02339
003367 001000 A 2340        JMP     0               EXIT                                           10 02340
003370 000000 A
003370          2341 PCBN   BES     0               ENTRY                                          10 02341
003371 005101 A 2342        INCR    1                                                              10 02342
003372 005002 A 2343        TZB                                                                    10 02343
003373 002000 A 2344        CALL    ASS                                                            10 02344
003374 077612 R
003375 017000 I 2345        LDA     I               STORE BLOCK NAME POINTER AS                    10 02345
003376 057000 I 2346        STA     F                HEAD OF CHAIN F                               10 02346
003377 147000 I 2347        SUB     CL                                                             10 02347
003400 001010 A 2348        JAZ     PCB1            IS CHAIN EMPTY ?                               10 02348
003401 003346 R
003402 001000 A 2349        JMP*    PCBN            NO, EXIT                                       10 02349
003403 103370 R
003404          2350 PCRL   BSS     1               COMMON RELATIVE LOCATION COUNTER               10 02350
003405 047000 I 2351        INR     CMFL                                                           10 02351
               2352         EJECT                                                                  10 02352
               2353 ********************************************************************************10 02353
               2354 *                                                                              * 10 02354
               2355 *                  S T O R E   S P E C I F I C A T I O N                       * 10 02355
               2356 *                                                                              * 10 02356
               2357 *                      C H A R A C T E R S ( S S C )                           * 10 02357
               2358 *                                                                              * 10 02358
               2359 *                                                                              * 10 02359
               2360 * FUNCTION: TO STORE COMMON AND EQUIVALENCE STATEMENTS AS CHARACTER            * 10 02360
               2361 *           STRINGS DOWNWARD FROM HIGH CORE, TO BE PROCESSED AT END           * 10 02361
               2362 *           OF SPECIFICATION STATEMENTS.                                      * 10 02362
               2363 *                                                                             * 10 02363
               2364 *           EACH STATEMENT IS STORED ONE CHAR/WORD SEQUENTIALLY               * 10 02364
               2365 *           DOWNWARD, THE FINAL END-OF-STATEMENT CHAR 07/ BEING               * 10 02365
               2366 *           REPLACED BY -(POINTER TO NEXT STATEMENT OF SAME TYPE),            * 10 02366
               2367 *           OR BY -1 IF END IF CHAIN. THUS SSC CREATES TWO CHAINS OF          * 10 02367
               2368 *           CHAR STRINGS, ONE FOR COMMON STATEMENTS AND ONE FOR               * 10 02368
               2369 *           EQUIVALENCE STATEMENTS.                                           * 10 02369
               2370 *                                                                             * 10 02370
               2371 * ENTRY:  B=1 COMMON ENTRY                                                    * 10 02371
               2372 *          B=2 EQUIVALENCE ENTRY                                              * 10 02372
               2373 *                                                                             * 10 02373
               2374 *          SSP=NEXT AVAILABLE CORE ADDRESS                                    * 10 02374
               2375 *          SSP+1=START ADDRESS OF COMMON CHAIN(0 IF NONE)                     * 10 02375
               2376 *          SSP+2=START ADDRESS OF EQUIVALENCE CHAIN(0 IF NONE)                * 10 02376
               2377 *          SSP+3=END ADDRESS OF COMMON CHAIN                                  * 10 02377
               2378 *          SSP+4=END ADDRESS OF EQUIVALENCE CHAIN                             * 10 02378
               2379 *                                                                             * 10 02379
               2380 * EXIT :  TO STATEMENT COMPLETION ENTRY CRT                                   * 10 02380
               2381 *          SSP BLOCK UPDATED                                                  * 10 02381
               2382 *          KT=BOTTOM OF STRING                                                * 10 02382
               2383 *                                                                             * 10 02383
               2384 * ERRORS: TER3 IF MEMORY OVERFLOW                                            * 10 02384
               2385 *                                                                             * 10 02385
               2386 ********************************************************************************10 02386
```

```
003507 002000 A 2468 TIPRL  CALL    PEB                                          10 02468
003510 077724 R
003511 140463 A 2469        SUB     K77                                          10 02469
003512 001002 A 2470        JAP     TIPRX       EXIT ON STATEMENT END            10 02470
003513 003551 R
003514 017000 I 2471        LDA     T0          GET CHAR COUNT                   10 02471
003515 047000 I 2472        INR     T0          BUMP CHAR COUNT                  10 02472
003516 005002 A 2473        TZB                                                  10 02473
003517 004541 A 2474        LLSR    1           CONVERT TO WORD COUNT            10 02474
003520 006120 A 2475        ADDI    TITN                                         10 02475
003521 177236 R
003522 005014 A 2476        TAX                 POINT X AT WORD                  10 02476
003523 010463 A 2477        LDA     RHW                                          10 02477
003524 001020 A 2478        JBZ     *+3                                          10 02478
003525 003527 R
003526 004250 A 2479        LRLA    8           POSITION BYTE MASK               10 02479
003527 155000 A 2480        ANA     0,X         CLEAR CHAR                       10 02480
003530 055000 A 2481        STA     0,X                                          10 02481
003531 017000 I 2482        LDA     TC          RESTORE CHAR                     10 02482
003532 001026 A 2483        JBNZ    *+3                                          10 02483
003533 003535 R
003534 004250 A 2484        LRLA    8           POSITION CHAR                    10 02484
003535 115000 A 2485        ORA     0,X                                          10 02485
003536 055000 A 2486        STA     0,X         STORE CHAR                       10 02486
003537 017000 I 2487        LDA     T0                                           10 02487
003540 140424 A 2488        SUB     EIGHT                                        10 02488
003541 001002 A 2489        JAP     TIPRX       GOBBLE 8 CHARS MAX               10 02489
003542 003551 R
003543 002000 A 2490        CALL    ICO                                          10 02490
003544 077655 R
003545 001000 A 2491        JMP     TIPRL       LOOP TILL DONE                   10 02491
003546 003507 R
003547 002000 A 2492 TIPRE6 CALL    ER16                                         10 02492
003550 077637 R
003551 005001 A 2493 TIPRX  TZA                                                  10 02493
003552 057000 I 2494        STA     LLOP        SET LINE COUNT FOR NEW PAGE      10 02494
003553 006020 A 2495        LDBI    TITJ-1                                       10 02495
003554 177216 R
003555 005104 A 2496        INCR    4           OUTPUT 1 BLANK                   10 02496
003556 002000 A 2497        CALL    LIST                                         10 02497
003561 077703 R
003562 006020 A 2498        LDBI    TITN                                         10 02498
003563 177236 R
003564 006030 A 2499        LDXI    OBUF+3                                       10 02499
003565 010227 R
003566 010423 A 2500        LDA     FOUR                                         10 02500
003567 002000 A 2501        CALL    MOVE                                         10 02501
003570 077706 R
003571 017000 I 2502        LDA     TC                                           10 02502
003572 001000 A 2503        JMP     *+4                                          10 02503
003573 003574 R
003574 002000 A 2504        CALL    ICH                                          10 02504
003575 077654 R
003576 140463 A 2505        SUB     K77                                          10 02505
003577 001004 A 2506        JAN     *-3                                          10 02506
003600 003572 R
003601 001000 A 2507        JMP     CRT                                          10 02507
003602 077616 R
               2508         END                                                  10 02508
```

ENTRY NAMES
EXTERNAL NAMES

```
000000 E BOFCB   000000 E GOFCB   000000 E LOFCB   000000 E PIFCB
000000 E SIFCB   000000 E V$EXEC  000000 E V$IOC   000000 E V$IOST
```

SYMBOLS

```
000020 A $BIT    010151 R $BUF    177325 R $ECW    177324 R $PCW
177330 R AF      177331 R AIFW    000742 R ANB     177332 R AS
077611 R ASI     000026 R ASP     000073 R ASP0    000067 R ASP1
000270 R ASP10   000304 R ASP11   000307 R ASP12   000313 R ASP13
000112 R ASP2    000132 R ASP3    000165 R ASP4    000215 R ASP5
000222 R ASP6    000235 R ASP7    000171 R ASP8    000140 R ASP9
000042 R ASPP    000052 R ASPS    077612 R ASS     177341 R AT
000002 A B       177342 R BDF     000316 R BGN     000735 R BGN3
000320 R BGN4    000357 R BGN6    000547 R BGN62   000572 R BGN65
000575 R BGN7    000604 R BGN8    010320 R BLBF1   000743 R BLD
177250 R BLFCB   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   177343 R BORLON
177320 R BOBLFL  000000 E BOFCB   000441 A BR0     000442 A BR1
000453 A BR10    000454 A BR11    000455 A BR12    000456 A BR13
000457 A BR14    000460 A BR15    000443 A BR2     000444 A BR3
000445 A BR4     000446 A BR5     000447 A BR6     000450 A BR7
000451 A BR8     000452 A BR9     000421 A BS0     000422 A BS1
000433 A BS10    000434 A BS11    000435 A BS12    000436 A BS13
000437 A BS14    000440 A BS15    000423 A BS2     000424 A BS3
000425 A BS4     000426 A BS5     000427 A BS6     000430 A BS7
000431 A BS8     000432 A BS9     000755 R BUNS    077613 R CAN
077614 R CBA     077615 R CCR     177344 R CF      177345 R CFPTSW
177346 R CL      177347 R CLOP    177350 R CMFL    001005 R CMN
177351 R CNP     077616 R CRT     077617 R CTS     177352 R D
001636 R DAS1    001651 R DAS2    001663 R DAS3    001674 R DAS4
001676 R DAS5    001711 R DAS5A   001722 R DAS6    001704 R DAS6A
```

```
003406 064056 A 2388 SSC     STB     SSCK          STORE ENTRY KEY                                  10 02388
003407 005021 A 2389         TBA                                                                    10 02389
003410 124055 A 2390         ADD     SSCK+1                                                         10 02390
003411 005012 A 2391         TAB                   POINT B AT CHAIN POINTER                         10 02391
003412 017000 I 2392         LDA     SSP           LOAD NEXT AVAILABLE ADDRESS                      10 02392
003413 026000 A 2393         LDB     0,B           GET END-OF-CHAIN ADDRESS                         10 02393
003414 001020 A 2394         JBZ     *+6           IS THIS FIRST STATEMENT OF THIS TYPE ?           10 02394
003415 003422 R
003416 005211 A 2395         CPA                   NO                                               10 02395
003417 056000 A 2396         STA     0,B           REPLACE -1 TERM WITH -(PTR TO CURR STRING)       10 02396
003420 001000 A 2397         JMP     SSC2                                                           10 02397
003421 003430 R
               2398 ***************************************                                          10 02398
               2399 * FIRST COMMON OR EQUIVALENCE STATEMENT *                                       10 02399
               2400 ***************************************                                          10 02400
003422 005012 A 2401         TAB                                                                    10 02401
003423 014041 A 2402         LDA     SSCK                                                           10 02402
003424 006120 A 2403         ADDI    SSP                                                            10 02403
003425 177560 R
003426 004460 A 2404         LLRL    16                                                             10 02404
003427 056000 A 2405         STA     0,B           STORE CHAIN STARTING ADDRESS                     10 02405
               2406 ***************************************                                          10 02406
               2407 * LOOP TO READ/STORE STATEMENT STRINGS *                                       10 02407
               2408 ***************************************                                          10 02408
003430 002000 A 2409 SSC2    CALL    ICH                                                            10 02409
003431 077654 R
003432 027000 I 2410         LDB     SSP           POINT B AT NEXT AVAILABLE ADDRESS                10 02410
003433 056000 A 2411         STA     0,B           STORE SOURCE CHAR                                10 02411
003434 005323 A 2412         DECR    023           DECREMENT STRING POINTER                         10 02412
003435 147000 I 2413         SUB     IT                                                             10 02413
003436 001002 A 2414         JAP     *+5           CHECK TABLE SPACE                                10 02414
003437 003443 R
003440 007401 A 2415         SOF                   SET OVFL IF OVERFLOW                             10 02415
003441 001000 A 2416         JMP     SSC6                                                           10 02416
003442 003452 R
003443 067000 I 2417         STB     SSP           UPDATE NEXT AVAILABLE ADDRESS IN SSP             10 02417
003444 067000 I 2418         STB     KT            DROP CORE LIMIT POINTER KT                       10 02418
003445 017000 I 2419         LDA     TC                                                             10 02419
003446 140463 A 2420         SUB     K77           TEST FOR END OF STATEMENT                        10 02420
003447 001004 A 2421         JAN     SSC2                                                           10 02421
003450 003430 R
               2422 *******************                                                            10 02422
               2423 * END OF STATEMENT *                                                           10 02423
               2424 *******************                                                            10 02424
003451 007400 A 2425         ROF                   RESET OVFL TO FLAG NO OVERFLOW                   10 02425
003452 005301 A 2426 SSC6    DECR    1                                                              10 02426
003453 056001 A 2427         STA     1,B           FLAG CHAIN END BY REPLACING 077 WITH -1          10 02427
003454 005122 A 2428         IBR                   POINT B AT CHAIN END                             10 02428
003455 014007 A 2429         LDA     SSCK          RELOAD ENTRY KEY                                 10 02429
003456 124007 A 2430         ADD     SSCK+1                                                         10 02430
003457 005014 A 2431         TAX                   POINT X AT SSP BLOCK                             10 02431
003460 065000 A 2432         STB     0,X           STORE POINTER TO END OF CHAIN IN SSP BLOCK       10 02432
003461 001001 A 2433         JOF     TER3          MEMORY OVERFLOW                                  10 02433
003462 077747 R
003463 001000 A 2434         JMP     CRT                                                            10 02434
003464 077616 R
003465               2435 SSCK    BSS     1             SAVE ENTRY KEY                           10 02435
003466 177562 R      2436         DATA    SSP+2                                                    10 02436
               2437         EJEC                                                                   10 02437
               2438 ***************************************************************************** 10 02438
               2439 *                                                                           * 10 02439
               2440 *      P R O C E S S   T I T L E   S T A T E M E N T ( T I P R )            * 10 02440
               2441 *                                                                           * 10 02441
               2442 * FUNCTION: TO PROCESS THE FORTRAN SOURCE STATEMENT:                        * 10 02442
               2443 *                                                                           * 10 02443
               2444 *               'TITLE XX...'                                               * 10 02444
               2445 *                                                                           * 10 02445
               2446 * ENTRY: DIRECT FROM SID                                                    * 10 02446
               2447 *                                                                           * 10 02447
               2448 * EXIT : TO STI1 IF NO ERRORS                                              * 10 02448
               2449 *         TITLE STRING PACKED IN OBUF AND TITN                              * 10 02449
               2450 *                                                                           * 10 02450
               2451 * ERRORS: ER16 IF TITLE NOT 1ST STATEMENT                                   * 10 02451
               2452 *                                                                           * 10 02452
               2453 ***************************************************************************** 10 02453
003467 017000 I 2455 TIPR    LDA     DTFL                                                           10 02455
003470 001010 A 2456         JAZ     TIPRE6        ERROR 16/NOT 1ST STATEMENT/                      10 02456
003471 003547 R
003472 017000 I 2457         LDA     T2            GET 'TITLE' FLAG                                 10 02457
003473 001016 A 2458         JANZ    TIPRE6        ERROR 16/MULTIPLE 'TITLE'/                       10 02458
003474 003547 R
003475 047000 I 2459         INR     T2            SET 'TITLE' FLAG                                 10 02459
003476 010000 L 2460         LDA     ='  '                                                          10 02460
003477 057000 I 2461         STA     TITN          BLANK NAME FIELD IN TITLE                        10 02461
003500 057000 I 2462         STA     TITN+1                                                         10 02462
003501 057000 I 2463         STA     TITN+2                                                         10 02463
003502 057000 I 2464         STA     TITN+3                                                         10 02464
003503 005001 A 2465         TZA                                                                    10 02465
003504 057000 I 2466         STA     T0            CLEAR CHAR COUNTER                               10 02466
003505 002000 A 2467         CALL    ICH                                                            10 02467
003506 077654 R
```

```
001724 R DAS7    001010 R DAT     001027 R DAT0    001014 R DAT00
001017 R DAT02   001071 R DAT1    001542 R DAT11   001112 R DAT2
001350 R DAT3    001435 R DAT4    001450 R DAT5    001527 R DAT7
001552 R DAT9    001565 R DATA    001602 R DATA1   001604 R DATA2
001632 R DATA2   001447 R DATB    001400 R DATT    001123 R DAU0
001134 R DAU1    001140 R DAU2    001156 R DAU3    001170 R DAU4
001210 R DAU6    001242 R DAU7    001246 R DAU8    001270 R DAU9
001341 R DAV1    001520 R DAV10   001366 R DAV2    001374 R DAV3
001375 R DAV4    001401 R DAV5    001410 R DAV6    001427 R DAV7
001456 R DAV8    001471 R DAV9    077620 R DEK     177353 R DF
177354 R DFPP    077621 R DFT     177355 R DH      177356 R DI
001751 R DMN     177326 R DPB     177357 R DPCA    177327 R DPX
177373 R DR      177374 R DS      177375 R DSAV    077622 R DSM
177376 R DT      177377 R DTFL    177401 R DV      177402 R EC
177403 R EH      177405 R EHBK    000424 A EIGHT   177406 R EL
001761 R ENT     001773 R ENT0    002007 R ENT1    002044 R ENT2
002053 R ENT3    002103 R ENT35   002117 R ENT4    002130 R ENT5
177623 R EOLSW   002132 R EQU     002135 R EQU0    002145 R EQU1
002161 R EQU3    002216 R EQU4    002222 R EQU5    002231 R EQU6
002253 R EQU7    002260 R EQU8    002264 R EQU9    002201 R EQUB
002156 R EQUC    002166 R EQUD    077624 R ER1     077632 R ER11
077633 R ER12    077634 R ER13    077635 R ER14    077636 R ER15
077637 R ER16    077640 R ER17    077641 R ER18    077625 R ER2
077642 R ER20    077643 R ER21    077644 R ER22    077645 R ER24
077626 R ER3     077627 R ER6     077630 R ER7     077631 R ER8
177120 R ERBF    077646 R EXA     177407 R EXAD    077647 R EXL
002305 R EXT     177410 R F       105035 A F$DDI   105027 A F$DDI1
105036 A F$SEI   105503 A FADDD   105410 A FADDS   105535 A FDIVD
105401 A FDIVS   177411 R FFPFL   105400 A FFPOP   000465 A FIVE
105621 A FIX     105226 A FLAIF   105522 A FLDD    105032 A FLDI
105420 A FLDS    105167 A FLIOP   105125 A FLJAG   002313 R FLN
105024 A FLREL   105425 A FLT     105037 A FMOVI   105506 A FMULD
105416 A FMULS   077650 R FNS1    077651 R FORT1   000423 A FOUR
105127 A FSQRT   105710 A FSTD    105033 A FSTI    105600 A FSTS
105543 A FSUBD   105450 A FSUBS   002330 R FUN     002344 R FUN1
002346 R FUN2    002365 R FUNT    177262 R GLFCB   177412 R GOBLON
177321 R GOBLFL  000000 E GOFCB   077652 R GSE     177413 R HCC
177414 R I       077653 R IAC     077654 R ICH     077655 R ICO
077656 R ICORNL  077657 R ICRD    077660 R ICRR    077661 R ICSI
177415 R ID      077662 R IDI     077663 R IHW     077664 R IIV
177665 R ILB     002413 R ILE     002386 R ILE0    002411 R ILE1
002400 R ILE2    077666 R ILT     177421 R IM      002437 R IMP
002516 R IMP07   002557 R IMP09   002564 R IMP10   002602 R IMP11
002447 R IMP6    002470 R IMP61   002471 R IMP62   077667 R INA
177422 R INBP    077670 R INI     077671 R INN     077672 R INS
077673 R INT     177423 R IOFL    177424 R IP      177435 R IS
002603 R ISB     002653 R ISB3    002656 R ISB4    002660 R ISB5
002620 R ISBL    002637 R ISBN    002676 R ISBX    002702 R ISC
002722 R ISCE    002717 R ISCX    077674 R ISN     177445 R IT
177446 R IU      077675 R IVA     077676 R IVC     077677 R IWI
177447 R J       177450 R JPFL    177454 R JT      177455 R K
000424 A K10     000471 A K12     000472 A K17     001742 R K1D9
000422 A K2      000425 A K20     001740 R K2DA    000470 A K37
001744 R K3DA    000423 A K4      001745 R K4DA    001746 R K5DA
000466 A K6      001747 R K8DA    000460 A K77     001750 R K7DA
000432 A KJMP    177456 R KT      001741 R KTEMP   077700 R LAY
000300 A LC      000050 A LCJP    077701 R LDX     077702 R LEX
177457 R LF      000462 A LHW     177460 R LIF     077703 R LIST
177274 R LLFCB   177461 R LLOP    177300 R LOBLFL  077704 R LOCT
000000 E LOFCB   077705 R LTX     177462 R MAXOPC  177463 R MDTB
177516 R MF      177517 R MM      002702 R MOD     002764 R MOD1
002773 R MOD2    003022 R MOD3    003116 R MOD4    003043 R MOD5
003061 R MOD6    003065 R MOD7    003102 R MOD8    077706 R MOVE
177520 R MR      000420 A MT      000500 A MTE     000426 A MTWO
077707 R MXL     003123 R NAM     177522 R NAME    177523 R ND
000461 A NEG     177127 R NERR    177524 R NF      177525 R NFPW
000470 A NINE    177526 R NS      177527 R NT      177530 R NTFL
177536 R O1      177537 R O2      077710 R OAB     010224 R OBUF
077711 R ODB     077712 R ODS     177505 R OITFL   000401 R ONE
077713 R ONEN    177531 R OP      177532 R OPBK    177533 R OPCNT
077714 R OPK     177534 R OPW     077715 R ORE     077716 R OSR
077717 R OTJ     077720 R OUT     010150 A OVERSZ  077721 R OWD
077722 R OWS     003131 R PAD     003166 R PAD1    003251 R PADE
003217 R PADP    177540 R PC      003341 R PCB1    003370 R PCBM
003220 R PCL1    003222 R PCL2    003265 R PCL3    003316 R PCLE
003331 R PCLX    003404 R PCRL    003240 R PCS     077723 R PDS
077724 R PER     002135 R PES     177544 R PIBLCN  177545 R PIBLFL
000000 E PIFCB   177306 R PLFCB   077725 R PTR     077726 R PTS
177545 R QFL     077727 R RCC     077730 R RCCS    077731 R RCH
000463 A RHW     077732 R RID     177546 R RL      077733 R SAX
177550 R SBFL    077734 R SBX     000467 A SEVEN   177551 R SF
077735 R SIOTB1  000000 E SIFCB   077736 R SIS     000464 A SIX
000740 R SIXTY   077737 R SLIT    077740 R SLOP    177560 R SLOT
177554 R SPFL    003406 R SSC     003430 R SSC2    003452 R SSC6
003465 R SSCK    177560 R SSP     077741 R STC     177552 R STFFL
077742 R STI1    077743 R STN     177556 R STNB    077744 R STS
177557 R STSW    002331 R SUB     177561 R SXF     177574 R T0
001727 R T0DA    177575 R T1      001730 R T1DA    177576 R T2
001731 R T2DA    177577 R T2IN    177600 R T3      001732 R T3DA
177601 R T4      001733 R T4DA    177602 R T5      001734 R T5DA
177603 R T6      001740 R T6DA    177604 R T7      177605 R T8
```

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77606 R T9      177566 R TC      000741 R TEMP    000471 A TEN
77745 R TER1    077755 R TER11   077756 R TER12   077757 R TER13
77760 R TER14   077761 R TER15   077762 R TER17   077763 R TER18
77764 R TER19   077746 R TER2    077765 R TER20   077766 R TER24
77767 R TER26   077747 R TER3    077750 R TER4    077751 R TER5
77752 R TER7    077753 R TER8    077754 R TER9    177570 R TERF
00027 A TFVCSZ  000464 A THREE   003467 R TIPR    003547 R TIPRE6
03507 R TIPRL   003551 R TIPRX   177212 R TITD    177217 R TITJ
77204 R TITL    177243 R TITM    177236 R TITN    177207 R TITP
77250 R TITQ    177571 R TM      077770 R TOF     077771 R TSB
77572 R TSFL    077772 R TST     177573 R TU      077773 R TVR
00422 A TWO     000000 R V       000360 A V$CTAD  000070 A V$DATE
00355 A V$DSTB  000000 E V$EXEC  000000 E V$IOC   000000 E V$IOST
00412 A V$JCB   000055 A V$JCFG  000056 A V$JFCB  000050 A V$JNAM
00054 A V$LCNT  000317 A V$LLUP  000345 A V$LUNT  000400 A V$LUT1
00401 A V$LUT2  000402 A V$LUT3  000417 A V$STSZ  000357 A V$TKSZ
77112 R VARBLO  000666 A VARBLS  177330 R VBLOBG  177611 R VBLOND
77774 R WROBO   077775 R WROGO   077776 R WROT    000001 A X
77607 R XRPT    077777 R ZEB     000420 A ZERO
  0 ERRORS ASSEMBLY COMPLETE

  614  $BUF      615   995
  230  $PCW      862   916
  240  AF        241   654   660   696   697   700   715
  241  AIFW      242
 1021  ANB       985   992
  242  AS        243
  352  ASI       837   842   850   859   874   883   897   910   927
  620  ASP       593
  648  ASP0      646
  644  ASP1      658
  741  ASP10     728   752
  751  ASP11     755   757
  753  ASP12     748
  756  ASP13     745
  659  ASP2      652
  670  ASP3      634
  691  ASP4      657   687   689   698
  709  ASP5      707
  714  ASP6      720
  721  ASP7      680
  694  ASP8      708
  675  ASP9      690   719
  632  ASPS      663   669
  354  ASS       826
  243  AT        244   682
  141  B         808   935   940   948   951   953   955   956   957
                 958   966   968   970   972   997   998  1002
  244  BDF       245   673  1038
  789  BGN       594
 1017  BGN3     1012
  790  BGN4      794
  824  BGN6      834
  933  BGN65     863   917
  935  BGN7      937
  940  BGN8      942
 1038  BLD       595
  103  BM17      185
  109  BM1777    110
  104  BM37      187
  107  BM377     188   756  1040
  245  BOBLCN    246
    0  BOFCB     126
   71  BRO       180
   58  BS3       183
   59  BS4       186
   64  BS9       189
  246  CF        247
  247  CFPTSW    248
  248  CL        249   664   885   899   912
  249  CLOP      250
  250  CMFL      251   632
    0  CMN       596
  251  CNP       252   637   804
    0  COMP        2
  252  D         253   802
    0  DAT       597
    0  DAT00     732
  253  DF        254
  254  DFPP      255
  368  DFT       717
  255  DH        256
  256  DI        257
    0  DMN       598
  232  DPB       671   809
  257  DPCA      260   829   839   844   852   861   876   888   902
                 915   929
  233  DPX       239   798
  260  DR        261
  261  DS        262
```

262	DSAV	263							
263	DT	264	630	801					
264	DTFL	265	816						
265	DV	266							
266	EC	267							
267	EH	268							
268	EHBK	269							
0	EJEC	3							
269	EL	270	670	676	823	846	854	855	871	895
		923							
0	ENT	607							
0	ENTR	4							
372	EOLSW	1009							
0	EQU	599							
270	EXAD	271	621						
0	EXT	600							
271	F	272	640	672	675	677	706		
272	FFPFL	273							
162	FFPOP	163	164	165	166	167	168	169	170	171
		172	173	174	175	176			
94	FIVE	735	833	870	922				
0	FLN	647	694	718					
414	FNS1	726	740						
93	FOUR	181	822						
0	FUN	601							
273	GOBLCN	274							
0	GOFCB	127							
274	HCC	275							
275	I	276	641	645	678	705	828	838	843	851
		860	875	887	901	914	928		
422	ICH	1039							
424	ICO	628	727	733	1016				
426	ICORNL	1008							
428	ICRD	1010							
430	ICRR	1011							
432	ICSI	625	629	1013					
276	ID	277	821	827	832	836	841	848	849	857
		858	865	867	878	880	890	892	894	904
		906	908	919	921				
440	ILB	1004							
277	IM	278	845	853	882	896	909	925		
0	IMP	602							
278	INBP	279	1015						
279	IOFL	280							
280	IP	281							
281	IS	282	653	699					
0	ISC	624							
282	IT	283	679	725	730	737	810		
283	IU	284	685	873	926				
284	J	285	731	739	742	750	812		
285	JPFL	286	817						
286	JT	287	724	738	744	811			
287	K	288	800						
179	K2	683	825						
186	K20	1000							
189	KJMP	721							
288	KT	289	631	799					
462	LAX	681							
33	LC	34	35	36	37	38	39	40	41	42
		45							
15	LCJP	16	17	18	24	25			
289	LF	290							
290	LIF	291							
291	LLOP	292							
0	LOFCB	128							
292	MAXOPC	293							
293	MDTB	294	935	940					
0	MERG	5							
294	MF	295							
295	MM	296							
0	MOD	603							
296	MR	297							
53	MT	54	55	56	57	58	59	60	61	62
		63	64	65	66	67	68	69	70	71
		72	73	74	75	76	77	78	79	80
		81	82	83	84	85	86	87	88	89
		90	91	92	93	94	95	96	97	98
		99	100	101	102	103	104	105	106	107
		108	109						
0	NAM	604	1043						
297	NAME	298							
298	ND	299							
87	NEG	840							
203	NEPR	939	1003						
299	NF	300							
300	NFFW	301							
301	NS	302							
302	NT	303	684	869					
303	NTFL	304							
309	O1	310							
310	O2	311							

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615  OBUF      616   946
308  OITFL     309
484  ONEN      668
304  OP        305
305  OPBK      306
306  OPCNT     307
307  OPW       308
492  OTJ       674
197  OVERSZ    614
498  OWS       723
311  PC        312
  0  PCS       626
312  PIBLCN    313
  0  PIFCB     129
313  QFL       314
508  RCC       627
510  RCCS      622
512  RCH      1042
314  RL        315   620   710   713   722
516  SAX       661   886   900   913
315  SBFL      316
316  SF        317
  0  SIFCB     130
 95  SIX       182   939
1019 SIXTY     977
  0  SPAC        6
317  SPFL      318
321  SSP       322   633   635   636   649   805
318  STFFL     319
530  STI1     1018  1041
319  STNB      320
320  STSW      321
  0  SUB       605
322  SXF       323
328  T0        329   643   656   659   662   667   691   695   709
                711   714
329  T1        330   693   702   704   712
330  T2        331
331  T2IN      332
332  T3        333
333  T4        334
334  T5        335
335  T6        336
336  T7        337
337  T8        338
338  T9        339
323  TC        324   751
1020 TEMP      980   988
 99  TEN       184   950   982   989
324  TERF      325
198  TFVCSZ    608
 92  THREE     872   924   934
  0  TIPR      606
205  TITL      996  1001
210  TITM      975
209  TITN      959
325  TM        326
326  TSFL      327
327  TU        328
 91  TWO       179   881   933
350  V         352   353   354   355   356   357   358   359   360
               361   362   363   364   365   366   367   368   369
               370   371   372   373   374   375   376   377   378
               379   380   381   382   383   384   385   386   387
               388   389   390   391   392   393   394   395   396
               397   398   399   400   401   402   403   404   405
               406   407   408   409   410   411   412   413   414
               415   416   417   418   419   420   421   422   423
               424   425   426   427   428   429   430   431   432
               433   434   435   436   437   438   439   440   441
               442   443   444   445   446   447   448   449   450
               451   452   453   454   455   456   457   458   459
               460   461   462   463   464   465   466   467   468
               469   470   471   472   473   474   475   476   477
               478   479   480   481   482   483   484   485   486
               487   488   489   490   491   492   493   494   495
               496   497   498   499   500   501   502   503   504
               505   506   507   508   509   510   511   512   513
               514   515   516   517   518   519   520   521   522
               523   524   525   526   527   528   529   530   531
               532   533   534   535   536   537   538   539   540
               541   542   543   544   545   546   547   548   549
               550   551   552   553   554   555   556   557   558
               559   560   561   562   563   564   565   566   567
               568   569   570   571   572   573   574   575   576
               577   578   579   580   581   582   583   584   585
               586   587   588   608   614
 25  V$DATE    964
  0  V$EXEC    131
  0  V$FOR1      7
  0  V$IOC     132
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0	V$IOST	133								
200	VARBLO	202	203	204	205	206	207	208	209	210
		211	212	213	214	215	226	227	228	229
		230	231	232	233					
199	VARBLS	200								
239	VBLOBG	240	789							
340	VBLOND	350	793							
142	X	729	736	746	754	791	829	960	961	962
		963	965	967	969	971	986	993		
339	XRPT	340	814							
588	ZERO	623								

```
                 1 *NEW FORTRAN - OVERLAY 2                                                10 00001
                 2 COMPL   OPSY    COMP                                                    10 00002
                 3 EJECT   OPSY    EJEC                                                    10 00003
                 4 ENTRY   OPSY    ENTR                                                    10 00004
                 5 MERGE   OPSY    MERG                                                    10 00005
                 6 SPACE   OPSY    SPAC                                                    10 00006
                 7         TITLE   V$FOR2                                                  10 00007
                 8         EJEC                                                            10 00008
                 9 ******************************************************************      10 00009
                10 *                                                                       10 00010
                11 ***      JOB PROCESSOR LOW CORE EQUATES                             **  10 00011
                12 *                                                                       10 00012
                13 ******************************************************************      10 00013
000050 A        15 LCJP    EQU     050                                                     10 00015
000050 A        16 V$JNAM  EQU     LCJP            JCP NAME                                10 00016
000054 A        17 V$LCNT  EQU     LCJP+4          LINE COUNT                              10 00017
000055 A        18 V$JCFG  EQU     LCJP+5          JCP FLAGS                               10 00018
                19 *                               BIT 2-0   = LOAD AND GO FLAGS           10 00019
                20 *                               BIT  3    = DUMP FLAG  1=DUMP, 0=NO DUMP 10 00020
                21 *                               BIT 9-4   = UNUSED                      10 00021
                22 *                               BIT 15-10 = BG EXTRA CORE BLOCKS TO ALLOC 10 00022
000056 A        24 V$JFCB  EQU     LCJP+6          JCP FILE CONTROL BLOCK                  10 00024
000070 A        25 V$DATE  EQU     LCJP+16         JCP DATA RECORD                         10 00025
                26         EJEC                                                            10 00026
                27 ******************************************************************      10 00027
                28 *                                                                       10 00028
                29 ****     LOW CORE DESCRIPTION                                      ***  10 00029
                30 *                                                                       10 00030
                31 ******************************************************************      10 00031
000300 A        33 LC      EQU     0300                                                    10 00033
000317 A        34 V$LLUP  EQU     LC+15           LOC. OF LAST UNPROTECTED WORD           10 00034
000345 A        35 V$LUNT  EQU     LC+37           ADDR. OF LOGICAL UNIT NAME TABLE        10 00035
000355 A        36 V$DSTB  EQU     LC+45           BASE ADDR. FOR DST BLOCK                10 00036
000357 A        37 V$TKSZ  EQU     LC+47           RMD TRACK SIZE                          10 00037
000360 A        38 V$CTAD  EQU     LC+48           BASE ADDR. FOR CONTROLLER ADDR. TABLE   10 00038
000400 A        39 V$LUT1  EQU     LC+64           START LUN ADDR FOR JCP/OPCOM ASSIGNABLE 10 00039
000401 A        40 V$LUT2  EQU     LC+65           START LUN ADDR FOR UNASSIGNABLE         10 00040
000402 A        41 V$LUT3  EQU     LC+66           START LUN ADDR FOR OPCOM ASSIGNABLE     10 00041
000412 A        42 V$JCB   EQU     LC+74           ALL SYSTEM BACKGROUND PROGRAMS AND JCP USE 10 00042
                43 *                               THIS SYSTEM BUFFER TO READ DIRECTIVES AND 10 00043
                44 *                               SOURCE RECORDS IN.                      10 00044
000417 A        45 V$STSZ  EQU     LC+79           ACTURAL SECTOR SIZE                     10 00045
                46         EJEC                                                            10 00046
                47 ******************************************************************      10 00047
                48 *                                                                       10 00048
                49 ****     MASK TABLE DESCRIPTION                                    ***  10 00049
                50 *                                                                       10 00050
                51 ******************************************************************      10 00051
000420 A        53 MT      SET     0420                                                    10 00053
000420 A        54 ZERO    EQU     MT              ZERO WORD                               10 00054
000421 A        55 BS0     EQU     MT+1            BIT MASK CONTENTS 000001                10 00055
000422 A        56 BS1     EQU     MT+2                              000002                10 00056
000423 A        57 BS2     EQU     MT+3                              000004                10 00057
000424 A        58 BS3     EQU     MT+4                              000010                10 00058
000425 A        59 BS4     EQU     MT+5                              000020                10 00059
000426 A        60 BS5     EQU     MT+6                              000040                10 00060
000427 A        61 BS6     EQU     MT+7                              000100                10 00061
000430 A        62 BS7     EQU     MT+8                              000200                10 00062
000431 A        63 BS8     EQU     MT+9                              000400                10 00063
000432 A        64 BS9     EQU     MT+10                             001000                10 00064
000433 A        65 BS10    EQU     MT+11                             002000                10 00065
000434 A        66 BS11    EQU     MT+12                             004000                10 00066
000435 A        67 BS12    EQU     MT+13                             010000                10 00067
000436 A        68 BS13    EQU     MT+14                             020000                10 00068
000437 A        69 BS14    EQU     MT+15                             040000                10 00069
000440 A        70 BS15    EQU     MT+16                            0100000                10 00070
000441 A        71 BR0     EQU     MT+17           BIT MASK CONTENTS  0177776              10 00071
000442 A        72 BR1     EQU     MT+18                              0177775              10 00072
000443 A        73 BR2     EQU     MT+19                              0177773              10 00073
000444 A        74 BR3     EQU     MT+20                              0177767              10 00074
000445 A        75 BR4     EQU     MT+21                              0177757              10 00075
000446 A        76 BR5     EQU     MT+22                              0177737              10 00076
000447 A        77 BR6     EQU     MT+23                              0177677              10 00077
000450 A        78 BR7     EQU     MT+24                              0177577              10 00078
000451 A        79 BR8     EQU     MT+25                              0177377              10 00079
000452 A        80 BR9     EQU     MT+26                              0176777              10 00080
000453 A        81 BR10    EQU     MT+27                              0175777              10 00081
000454 A        82 BR11    EQU     MT+28                              0173777              10 00082
000455 A        83 BR12    EQU     MT+29                              0167777              10 00083
000456 A        84 BR13    EQU     MT+30                              0157777              10 00084
000457 A        85 BR14    EQU     MT+31                              0137777              10 00085
000460 A        86 BR15    EQU     MT+32                              0077777              10 00086
000461 A        87 NEG     EQU     MT+33           SET ALL BITS                            10 00087
000462 A        88 LHW     EQU     MT+34           LEFT HALF WORD MASK 0177400             10 00088
000463 A        89 RHW     EQU     MT+35           RIGHT HALF WORD MASK    0377            10 00099
000421 A        90 ONE     EQU     MT+1            CONTAINS NUMBER  1                      10 00090
000422 A        91 TWO     EQU     MT+2            CONTAINS NUMBER  2                      10 00091
000464 A        92 THREE   EQU     MT+36           CONTAINS NUMBER  3                      10 00092
000423 A        93 FOUR    EQU     MT+3            CONTAINS NUMBER  4                      10 00093
000465 A        94 FIVE    EQU     MT+37           CONTAINS NUMBER  5                      10 00094
000466 A        95 SIX     EQU     MT+38           CONTAINS NUMBER  6                      10 00095
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000467 A    96 SEVEN   EQU     MT+39          CONTAINS NUMBER  7                          10 00096
000424 A    97 EIGHT   EQU     MT+4           CONTAINS NUMBER  8                          10 00097
000470 A    98 NINE    EQU     MT+40          CONTAINS NUMBER  9                          10 00098
000471 A    99 TEN     EQU     MT+41          CONTAINS NUMBER 10                          10 00099
000421 A   100 BM1     EQU     MT+1           BIT MASK WORD 00001                         10 00100
000464 A   101 BM3     EQU     MT+36          BIT MASK WORD  00003                        10 00101
000467 A   102 BM7     EQU     MT+39          BIT MASK WORD  00007                        10 00102
000472 A   103 BM17    EQU     MT+42          BIT MASK WORD  00017                        10 00103
000473 A   104 BM37    EQU     MT+43          BIT MASK WORD  00037                        10 00104
000474 A   105 BM77    EQU     MT+44          BIT MASK WORD  00077                        10 00105
000475 A   106 BM177   EQU     MT+45          BIT MASK WORD  00177                        10 00106
000463 A   107 BM377   EQU     MT+35          BIT MASK WORD  00377                        10 00107
000476 A   108 BM777   EQU     MT+46          BIT MASK WORD  00777                        10 00108
000477 A   109 BM1777  EQU     MT+47          BIT MASK WORD  01777                        10 00109
000500 A   110 MTE     EQU     BM1777+1                                                FF 10 00110
           111         EJECT                                                              10 00111
           112 ********************************************************************** 10 00112
           113 *                                                                    * 10 00113
           114 *       P   R   O   G   R   A   M       C   O   N   T   R   O   L    * 10 00114
           115 *                                                                    * 10 00115
           116 *                           B   L   O   C   K                        * 10 00116
           117 *                                                                    * 10 00117
           118 ********************************************************************** 10 00118
           120 ********************************************************************** 10 00120
           121 *                                                                    * 10 00121
           122 *                       E X T E R N A L S                            * 10 00122
           123 *                                                                    * 10 00123
           124 ********************************************************************** 10 00124
           126         EXT     $OFCB          SYSTEM $O FCB                           10 00126
           127         EXT     GOFCB          SYSTEM GO FCB                           10 00127
           128         EXT     LOFCB          SYSTEM LO FCB                           10 00128
           129         EXT     PIFCB          SYSTEM PI FCB                           10 00129
           130         EXT     SIFCB          SYSTEM SI FCB                           10 00130
           131         EXT     V$EXEC         ENTRY TO RTE SERVICES                   10 00131
           132         EXT     V$IOC          ENTRY TO IOC                            10 00132
           133         EXT     V$IOST         ENTRY TO IOC STATUS CALL                10 00133
           134 ********************************************************************** 10 00134
           135 *                                                                    * 10 00135
           136 *                   S Y S T E M   V A R I A B L E S                  * 10 00136
           137 *                                                                    * 10 00137
           138 ********************************************************************** 10 00138
000020 A   140 $BIT    SET     16             SELECT 16-BIT V$M 620 COMPUTER          10 00140
000002 A   141 B       SET     2              B-REGISTER                              10 00141
000001 A   142 X       SET     1              X-REGISTER                              10 00142
           143 *                                                                      10 00143
           144 *                                                                      10 00144
           145 *  ..    PARAMETERS FOR WCS V74 FORTRAN                               10 00145
           146 *                                                                      10 00146
           147 *                                                                      10 00147
105032 A   148 FLDI    EQU     0105032        FLD BCS OPCODE                          10 00148
105033 A   149 FSTI    EQU     0105033        FST BCS OPCODE                          10 00149
105035 A   150 F$DOI   EQU     0105035        $DO BCS OPCODE                          10 00150
105027 A   151 F$DOI1  EQU     0105027        $DO BCS OPCODE(INCREMENT=1)             FF 10 00151
105036 A   152 F$$EI   EQU     0105036        $SE BCS OPCODE                          10 00152
105037 A   153 FMOVI   EQU     0105037        FMOV BCS INSTRUCTION                    10 00153
105327 A   154 FSQRT   EQU     0105327        FLOATING SQUARE-ROOT BCS INSTRUCTION    10 00154
105024 A   155 FLREL   EQU     0105024        FLOATING RELATIONAL BASE OP-CODE        10 00155
105125 A   156 FLJAG   EQU     0105125        BCS JMP A.GT.0                          10 00156
105226 A   157 FLAIF   EQU     0105226        FLOATING ARITHMETIC-IF OP-CODE          10 00157
105367 A   158 FLIOP   EQU     0105367        BCS SUBSCRIPT OPERATOR                  10 00158
           159 *                                                                   FF 10 00159
           160 *  FAST FLOATING-POINT BOX OP CODES                                 FF 10 00160
           161 *                                                                    FF 10 00161
105400 A   162 FFPOP   EQU     0105400        BASIC FFP OP                            10 00162
105503 A   163 FADDD   EQU     FFPOP+0103     DP ADD                                  10 00163
105410 A   164 FADDS   EQU     FFPOP+010      SP ADD                                  10 00164
105535 A   165 FDIVD   EQU     FFPOP+0135     DP DIVIDE                               10 00165
105401 A   166 FDIVS   EQU     FFPOP+1        SP DIVIDE                               10 00166
105621 A   167 FIX     EQU     FFPOP+0221     FIX FP                                  10 00167
105420 A   168 FLDS    EQU     FFPOP+020      LOAD SP                                 10 00168
105522 A   169 FLDD    EQU     FFPOP+0122     LOAD DP                                 10 00169
105425 A   170 FLT     EQU     FFPOP+025      FLOAT INTEGER                           10 00170
105506 A   171 FMULD   EQU     FFPOP+0106     MULTIPLY DP                             10 00171
105416 A   172 FMULS   EQU     FFPOP+016      MULTIPLY SP                             10 00172
105710 A   173 FSTD    EQU     FFPOP+0310     STORE DP                                10 00173
105600 A   174 FSTS    EQU     FFPOP+0200     STORE SP                                10 00174
105543 A   175 FSUBD   EQU     FFPOP+0143     SUBTRACT DP                             10 00175
105452 A   176 FSUBS   EQU     FFPOP+050      SUBTRACT SP                             10 00176
           177 *                                                                      10 00177
           178 *                                                                      10 00178
000422 A   179 K2      EQU     TWO                                                    10 00179
000441 A   180 MTWO    EQU     $$0                                                    10 00180
000423 A   181 K4      EQU     FOUR                                                   10 00181
000466 A   182 K6      EQU     SIX                                                    10 00182
000424 A   183 K10     EQU     $$0                                                    10 00183
000471 A   184 K12     EQU     TEN                                                    10 00184
000472 A   185 K17     EQU     BM17                                                   10 00185
000425 A   186 K20     EQU     $$+                                                    10 00186
000473 A   187 K37     EQU     BM37                                                   10 00187
000433 A   188 K77     EQU     BM77                                                   10 00188
000432 A   189 K INF   EQU     $$9                                                    10 00189
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                190          EJECT                                                                          10 00190
                191 ******************************************************************************      10 00191
                192 *                                                                            *      10 00192
                193 * I/O BUFFER, VARIABLE BLOCK, AND TRANSFER VECTOR DEFINITIONS                *      10 00193
                194 *                                                                            *      10 00194
                195 ******************************************************************************      10 00195
010150 A        197 OVERSZ SET      4200          MAXIMUM OVERLAY SIZE                                 10 00197
000027 A        198 TFVCSZ SET      027           FROM-COMPILER TRANSFER VECTOR SIZE                   10 00198
000666 A        199 VARBLS SET      0666          VARIABLE BLOCK SIZE                                  10 00199
177112 R        200 VARBLO EQU      *-VARBLS      VARIABLE BLOCK START ADDRESS                         10 00200
177120 R        202 ERBF   EQU      VARBLO+06     ERROR BUFFER                                         10 00202
177127 R        203 NERR   EQU      VARBLO+015    ERROR COUNT                                          10 00203
177160 R        204 SLOT   EQU      VARBLO+0046   SPECIAL LIST BUFFER                                  10 00204
177204 R        205 TITL   EQU      VARBLO+0072   TITLE BUFFER                                         10 00205
177207 R        206 TITP   EQU      VARBLO+0075         TITLE PAGE NUMBER                              10 00206
177212 R        207 TITD   EQU      VARBLO+0100         TITLE DATE                                     10 00207
177217 R        208 TITJ   EQU      VARBLO+0105         TITLE JOB NAME                                 10 00208
177236 R        209 TITN   EQU      VARBLO+0124   TITLE NAME                                           10 00209
177243 R        210 TITM   EQU      VARBLO+0131         TIME                                           10 00210
177250 R        211 TITQ   EQU      VARBLO+0136         END                                            10 00211
177250 R        212 BLFCB  EQU      VARBLO+0136   BO FCB                                               10 00212
177262 R        213 GLFCB  EQU      VARBLO+0150   GO FCB                                               10 00213
177274 R        214 LLFCB  EQU      VARBLO+0162   LO FCB                                               10 00214
177306 R        215 PLFCB  EQU      VARBLO+0174   PI FCB                                               10 00215
                216        EJEC                                                                        10 00216
                217 ******************************************************************************      10 00217
                218 *                                                                            *      10 00218
                219 *              C O M P I L E R   V A R I A B L E   B L O C K                  *      10 00219
                220 *                                                                            *      10 00220
                221 ******************************************************************************      10 00221
                223 **********************************                                                 10 00223
                224 * FIXED ON LOADING BY ROUTINE FORT *                                               10 00224
                225 **********************************                                                 10 00225
177320 R        226 BOBLFL EQU      VARBLO+0206   BO BLOCKING FLAG                                     10 00226
177321 R        227 GOBLFL EQU      VARBLO+0207   GO BLOCKING FLAG                                     10 00227
177322 R        228 LOBLFL EQU      VARBLO+0210   LO BLOCKING FLAG                                     10 00228
177323 R        229 PIBLFL EQU      VARBLO+0211   PI BLOCKING FLAG                                     10 00229
177324 R        230 $PCW   EQU      VARBLO+0212   COMPILER CONTROL FLAGS                               10 00230
177325 R        231 $ECW   EQU      VARBLO+0213   ERROR CONTROL WORD                                   10 00231
177326 R        232 DPB    EQU      VARBLO+0214   AVAILABLE CORE START ADDRESS                         10 00232
177327 R        233 DPX    EQU      VARBLO+0215   AVAILABLE CORE END ADDRESS                           10 00233
                235 **********************************                                                 10 00235
                236 * CLEARED FOR EACH COMPILATION *                                                   10 00236
                237 **********************************                                                 10 00237
177330 R        239 VBLOBG EQU      DPX+1         START OF CLEARED VARIABLES                           10 00239
177330 R        240 AF     EQU      VBLOBG        ADDRESS FIELD                                     01 10 00240
177331 R        241 AIFW   EQU      AF+1          SCAN FORWARD I POINTER                            01 10 00241
177332 R        242 AS     EQU      AIFW+1        ARRAY SUBSCRIPTS                                  07 10 00242
177341 R        243 AT     EQU      AS+7          ADDRESS TYPE                                      01 10 00243
177342 R        244 BDF    EQU      AT+1          BLOCK DATA FLAG                                   01 10 00244
177343 R        245 BOBLCN EQU      BDF+1         BO BLOCKING FLAG                                  01 10 00245
177344 R        246 CF     EQU      BOBLCN+1      SCAN COMPLIMENT FLAG                              01 10 00246
177345 R        247 CFPTSW EQU      CF+1          FINAL POINT CHECK SWITCH                          01 10 00247
177346 R        248 CL     EQU      CFPTSW+1                                                        01 10 00248
177347 R        249 CLOP   EQU      CL+1          LIST OUTPUT PACK COUNT                            01 10 00249
177350 R        250 CMFL   EQU      CLOP+1        COMMON FLAGS                                      01 10 00250
177351 R        251 CNP    EQU      CMFL+1        COMMON NAME POINTER                               01 10 00251
177352 R        252 D      EQU      CMP+1         DO POINTER                                        01 10 00252
177353 R        253 DF     EQU      D+1           DELIMITER FLAG                                    01 10 00253
177354 R        254 DFPP   EQU      DF+1          FLOATING POINT DISABLE FLAG                       01 10 00254
177355 R        255 DH     EQU      DFPP+1        DO LIMIT POINTER                                  01 10 00255
177356 R        256 DI     EQU      DH+1          DO INCREMENT POINTER                              01 10 00256
177357 R        257 DPCA   EQU      DI+1          DATA POOL CONTSANTS - I-POINTER FOR:                 10 00257
                258 *                                    1,2,0,4,0.0,0D0,A$C,SORT,IFIX,FLOAT           10 00258
                259 *                                  ,-1,DFLOAT                                      10 00259
177373 R        260 DR     EQU      DPCA+12       DO RETURN ADDRESS                                    10 00260
177374 R        261 DS     EQU      DR+1                                                            01 10 00261
177375 R        262 DSAV   EQU      DS+1          DT SAVE FOR RD/WR PROCESSING                      01 10 00262
177376 R        263 DT     EQU      DSAV+1        DO TOP POINTER                                    01 10 00263
177377 R        264 DTFL   EQU      DT+1          DO TERMINATION FLAG                               02 10 00264
177401 R        265 DV     EQU      DTFL+2        DO VARIABLE POINTER                               01 10 00265
177402 R        266 EC     EQU      DV+1          ERROR COUNT                                       01 10 00266
177403 R        267 EH     EQU      EC+1          EXPRESSION HIERARCHYS                             02 10 00267
177405 R        268 EHBK   EQU      EH+2          SCAN BACKWARD EXPRESSION HEIRARCHY                01 10 00268
177406 R        269 EL     EQU      EHBK+1        ENTRY LENGTH                                      01 10 00269
177407 R        270 EXAD   EQU      EL+1          EXECUTEABLE ADDRESS                               01 10 00270
177410 R        271 F      EQU      EXAD+1        ALTERNATE I POINTER                               01 10 00271
177411 R        272 FFPFL  EQU      F+1           FLOATING POINT PROCESSOR FLAG                     01 10 00272
177412 R        273 GOBLCN EQU      FFPFL+1       GO BLOCKING COUNT                                 01 10 00273
177413 R        274 HCC    EQU      GOBLCN+1      HOLLERITH COLUMN COUNTER                          01 10 00274
177414 R        275 I      EQU      HCC+1         ASSIGNMENT TABLE POINTER                          01 10 00275
177415 R        276 ID     EQU      I+1           IDENTIFICATION                                    04 10 00276
177421 R        277 IM     EQU      ID+4          ITEM MODE                                         01 10 00277
177422 R        278 INBP   EQU      IM+1          INPUT BUFFER POINTER                              01 10 00278
177423 R        279 IOFL   EQU      INBP+1        I/O FLAG                                          01 10 00279
177424 R        280 IP     EQU      IOFL+1        ARRAY POINTERS                                    09 10 00280
177435 R        281 IS     EQU      IP+9          ARRAY DIMENSIONS                                  08 10 00281
177445 R        282 IT     EQU      IS+8          ASSIGNMENT TOP POINTER                            01 10 00282
177446 R        283 IU     EQU      IT+1          ITEM USAGE                                        01 10 00283
177447 R        284 J      EQU      IU+1          TRIAD POINTER                                     01 10 00284
177450 R        285 JPFL   EQU      J+1           JUMP FLAGS                                        04 10 00285
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177454 R   286 JT       EQU     JPFL+4          TRIAD TOP POINTER                       01  10  00286
177455 R   287 K        EQU     JT+1            EXPRESSION POINTER                      01  10  00287
177456 R   288 KT       EQU     K+1             EXPRESSION TOP POINTER                  01  10  00288
177457 R   289 LF       EQU     KT+1            LOCATION FIELD                          01  10  00289
177460 R   290 LIF      EQU     LF+1            LOGICAL IF FLAG                         01  10  00290
177461 R   291 LLOP     EQU     LIF+1           NO. OF LINES LEFT ON PAGE               01  10  00291
177462 R   292 MAXOPC   EQU     LLOP+1          MAXIMUM FPP OPERATION COUNT             01  10  00292
177463 R   293 MDTB     EQU     MAXOPC+1        OPERAND IMPLICIT MODE TABLE             26  10  00293
177516 R   294 MF       EQU     MDTB+27         MODE FLAG                                   10  00294
177517 R   295 MM       EQU     MF+1            MAX/MIN LIST FLAG                       01  10  00295
177520 R   296 MR       EQU     MM+1            MULTIPLY REGISTERS                      02  10  00296
177522 R   297 NAME     EQU     MR+2            SUBROUTINE GENERATION NAME              01  10  00297
177523 R   298 ND       EQU     NAME+1          NUMBER OF DIMENSIONS                    01  10  00298
177524 R   299 NF       EQU     ND+1            NEGATION FLAG                           01  10  00299
177525 R   300 NFFW     EQU     NF+1            SCAN FORWARD NEGATION FLAG              01  10  00300
177526 R   301 NS       EQU     NFFW+1          NUMBER OF SUBSCRIPTS                    01  10  00301
177527 R   302 NT       EQU     NS+1            NAME TAG                                01  10  00302
177530 R   303 NTFL     EQU     NT+1            NO TAG-USAGE FLAG                       01  10  00303
177531 R   304 OP       EQU     NTFL+1          OPERATION                               01  10  00304
177532 R   305 OPBK     EQU     OP+1            SCAN BACKWARD OPERATION                 01  10  00305
177533 R   306 OPCNT    EQU     OPBK+1          OPERATION COUNT                         01  10  00306
177534 R   307 OPW      EQU     OPCNT+1         OUTPUT PACK WORD                        01  10  00307
177535 R   308 OITFL    EQU     OPW+1           OUTPUT-ITEM FLAG                        01  10  00308
177536 R   309 O1       EQU     OITFL+1         LEFT OPERAND                            01  10  00309
177537 R   310 O2       EQU     O1+1            RIGHT OPERAND                           01  10  00310
177540 R   311 PC       EQU     O2+1            PACK CONTROL                            04  10  00311
177544 R   312 PIBLCN   EQU     PC+4            PI BLOCKING COUNT                       01  10  00312
177545 R   313 QFL      EQU     PIBLCN+1        QUOTE FLAG                              01  10  00313
177546 R   314 RL       EQU     QFL+1           RELATIVE PROGRAM LOCATIONS              02  10  00314
177550 R   315 SBFL     EQU     RL+2            SUBPROGRAM FLAGS                        02  10  00315
177553 R   316 SF       EQU     SBFL+3          STORAGE FLAG                                10  00316
177554 R   317 SPFL     EQU     SF+1            SPECIFICATION FLAG                      01  10  00317
177555 R   318 STFFL    EQU     SPFL+1          STATEMENT FUNCTION FLAG                 01  10  00318
177556 R   319 STNB     EQU     STFFL+1         STATEMENT NUMBER                        01  10  00319
177557 R   320 STSW     EQU     STNB+1          STATEMENT SWITCH                        01  10  00320
177560 R   321 SSP      EQU     STSW+1          SPECIFICATION STACK POINTERS            05  10  00321
177565 R   322 SXF      EQU     SSP+5           COMPLEX FLAG                            01  10  00322
177566 R   323 TC       EQU     SXF+1           TERM CHARACTER/ CHARACTER IMAGE         02  10  00323
177570 R   324 TERF     EQU     TC+2            TERMINATING ERROR FLAG                  01  10  00324
177571 R   325 TM       EQU     TERF+1          TRIAD MODE                              01  10  00325
177572 R   326 TSFL     EQU     TM+1            TEMPORARY STORAGE FLAG                  01  10  00326
177573 R   327 TU       EQU     TSFL+1          TRIAD USE                               01  10  00327
177574 R   328 T0       EQU     TU+1            TEMPORARY STORAGE                       01  10  00328
177575 R   329 T1       EQU     T0+1            TEMPORARY STORAGE                       01  10  00329
177576 R   330 T2       EQU     T1+1            TEMPORARY STORAGE                       01  10  00330
177577 R   331 T2IN     EQU     T2+1                                                    01  10  00331
177600 R   332 T3       EQU     T2IN+1          TEMPORARY STORAGE                       01  10  00332
177601 R   333 T4       EQU     T3+1            TEMPORARY STORAGE                       01  10  00333
177602 R   334 T5       EQU     T4+1            TEMPORARY STORAGE                       01  10  00334
177603 R   335 T6       EQU     T5+1            TEMPORARY STORAGE                       01  10  00335
177604 R   336 T7       EQU     T6+1            TEMPORARY STORAGE                       01  10  00336
177605 R   337 T8       EQU     T7+1            TEMPORARY STORAGE                       01  10  00337
177606 R   338 T9       EQU     T8+1            TEMPORARY STORAGE                       01  10  00338
177607 R   339 XRPT     EQU     T9+1            OBJECT X-REGISTER POINTER               01  10  00339
177611 R   340 VBLOND   EQU     XRPT+2          END OF CLEARED VARIABLES                    10  00340
           341          EJECT                                                           10  00341
           342 ********************************************************************** 10  00342
           343 *                                                                    *   10  00343
           344 *          C O M P I L E R   T R A N S F E R   V E C T O R           *   10  00344
           345 *                                                                    *   10  00345
           346 ********************************************************************** 10  00346
           348 *       T O - C O M P I L E R                                        *   10  00348
077611 R   350 V        SET     VBLOND-0100000                                          10  00350
077611 R   352 ASI      EQU     V               ASSIGN ITEM                             10  00352
077612 R   353 V        SET     V+1                                                     10  00353
077612 R   354 ASS      EQU     V               ASSIGN SPECIAL                          10  00354
077613 R   355 V        SET     V+1                                                     10  00355
077613 R   356 CAN      SET     V               "ALL NAME                               10  00356
077614 R   357 V        SET     V+1                                                     10  00357
077614 R   358 CBA      SET     V               CONVERT BINARY TO ASCII                 10  00358
077615 R   359 V        SET     V+1                                                     10  00359
077615 R   360 CCR      EQU     V               COMMA OR C/R TEST                       10  00360
077616 R   361 V        SET     V+1                                                     10  00361
077616 R   362 CRT      EQU     V               C/R TEST                                10  00362
077617 R   363 V        SET     V+1                                                     10  00363
077617 R   364 CTS      EQU     V               COMMA TEST                              10  00364
077620 R   365 V        SET     V+1                                                     10  00365
077620 R   366 DEK      SET     V               DEKREMENT K                             10  00366
077621 R   367 V        SET     V+1                                                     10  00367
077621 R   368 DFT      EQU     V               DEFINE AF,AT                            10  00368
077622 R   369 V        SET     V+1                                                     10  00369
077622 R   370 DSM      SET     V               DEFINE STATEMENT MODE                   10  00370
077623 R   371 V        SET     V+1                                                     10  00371
077623 R   372 EOLSW    SET     V                                                       10  00372
077624 R   373 V        SET     V+1                                                     10  00373
077624 R   374 ER1      SET     V                                                       10  00374
077625 R   375 V        SET     V+1                                                     10  00375
077625 R   376 ER2      EQU     V               USAGE ERROR                             10  00376
077626 R   377 V        SET     V+1                                                     10  00377
077626 R   378 ER3      EQU     V               MODE ERROR                              10  00378
077627 R   379 V        SET     V+1                                                     10  00379
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077627 R  380 ER6     EQU     V                 COMMON BASE LOWERED                    10 00380
077630 R  381 V       SET     V+1                                                      10 00381
077630 R  382 ER7     EQU     V                 ILLEGAL EQUIVALENCE GROUP              10 00382
077631 R  383 V       SET     V+1                                                      10 00383
077631 R  384 ER8     SET     V                                                        10 00384
077632 R  385 V       SET     V+1                                                      10 00385
077632 R  386 ER11    SET     V                                                        10 00386
077633 R  387 V       SET     V+1                                                      10 00387
077633 R  388 ER12    SET     V                                                        10 00388
077634 R  389 V       SET     V+1                                                      10 00389
077634 R  390 ER13    SET     V                                                        10 00390
077635 R  391 V       SET     V+1                                                      10 00391
077635 R  392 ER14    SET     V                                                        10 00392
077636 R  393 V       SET     V+1                                                      10 00393
077636 R  394 ER15    EQU     V                 TRUNCATED VALUE ERROR                  10 00394
077637 R  395 V       SET     V+1                                                      10 00395
077637 R  396 ER16    EQU     V                 STATEMENT OUT OF ORDER                 10 00396
077640 R  397 V       SET     V+1                                                      10 00397
077640 R  398 ER17    EQU     V                 MORE THAN 29 COMMON REGIONS            10 00398
077641 R  399 V       SET     V+1                                                      10 00399
077641 R  400 ER18    EQU     V                 NON-COMMON DATA ERROR                  10 00400
077642 R  401 V       SET     V+1                                                      10 00401
077642 R  402 ER20    EQU     V                 DO INDEX NOT REFERENCED                10 00402
077643 R  403 V       SET     V+1                                                      10 00403
077643 R  404 ER21    SET     V                                                        10 00404
077644 R  405 V       SET     V+1                                                      10 00405
077644 R  406 ER22    EQU     V                 ARRAY NAME PREVIOUSLY DECLARED         10 00406
077645 R  407 V       SET     V+1                                                      10 00407
077645 R  408 ER24    SET     V                                                        10 00408
077646 R  409 V       SET     V+1                                                      10 00409
077646 R  410 EXA     EQU     V                 EXAMINE NEXT CHARACTER                 10 00410
077647 R  411 V       SET     V+1                                                      10 00411
077647 R  412 EXL     EQU     V                 EXCHANGE LINKS                         10 00412
077650 R  413 V       SET     V+1                                                      10 00413
077650 R  414 FNSY    EQU     V                 ENTRY TO FNS                           10 00414
077651 R  415 V       SET     V+1                                                      10 00415
077651 R  416 FORT1   SET     V                                                        10 00416
077652 R  417 V       SET     V+1                                                      10 00417
077652 R  418 GSE     EQU     V                 GENERATE SUBPROGRAM ENTRANCE           10 00418
077653 R  419 V       SET     V+1                                                      10 00419
077653 R  420 IAC     SET     V                 INPUT (A) CHARACTERS                   10 00420
077654 R  421 V       SET     V+1                                                      10 00421
077654 R  422 ICH     EQU     V                 INPUT CHARACTER                        10 00422
077655 R  423 V       SET     V+1                                                      10 00423
077655 R  424 ICO     EQU     V                 INPUT COLUMN                           10 00424
077656 R  425 V       SET     V+1                                                      10 00425
077656 R  426 ICORML  SET     V                                                        10 00426
077657 R  427 V       SET     V+1                                                      10 00427
077657 R  428 ICRD    SET     V                                                        10 00428
077660 R  429 V       SET     V+1                                                      10 00429
077660 R  430 ICRR    SET     V                                                        10 00430
077661 R  431 V       SET     V+1                                                      10 00431
077661 R  432 ICSI    EQU     V                 INPUT SOURCE CONTROL SWITCH            10 00432
077662 R  433 V       SET     V+1                                                      10 00433
077662 R  434 IDI     SET     V                 INPUT DIGIT                            10 00434
077663 R  435 V       SET     V+1                                                      10 00435
077663 R  436 IHW     EQU     V                 INPUT HOLLERITH WORD                   10 00436
077664 R  437 V       SET     V+1                                                      10 00437
077664 R  438 IIV     EQU     V                 INPUT INTEGER VARIABLE                 10 00438
077665 R  439 V       SET     V+1                                                      10 00439
077665 R  440 ILB     SET     V                 INITIALIZE LIST BUFFER                 10 00440
077666 R  441 V       SET     V+1                                                      10 00441
077666 R  442 ILT     EQU     V                 ILLEGAL DO TERMINATION/CONTROL CONTINUE 10 00442
077667 R  443 V       SET     V+1                                                      10 00443
077667 R  444 INA     EQU     V                 INPUT NAME                             10 00444
077670 R  445 V       SET     V+1                                                      10 00445
077670 R  446 INI     EQU     V                 INPUT ITEM                             10 00446
077671 R  447 V       SET     V+1                                                      10 00447
077671 R  448 INN     EQU     V                 INPUT (DO NOT ASSIGN)                  10 00448
077672 R  449 V       SET     V+1                                                      10 00449
077672 R  450 INS     SET     V                 INPUT NORMAL STATEMENT NUMBER          10 00450
077673 R  451 V       SET     V+1                                                      10 00451
077673 R  452 INT     EQU     V                 INTEGER TEST                           10 00452
077674 R  453 V       SET     V+1                                                      10 00453
077674 R  454 ISN     SET     V                 INPUT STATEMENT NUMBER                 10 00454
077675 R  455 V       SET     V+1                                                      10 00455
077675 R  456 IVA     EQU     V                 INPUT VARIABLE                         10 00456
077676 R  457 V       SET     V+1                                                      10 00457
077676 R  458 IVC     SET     V                 INPUT INTEGER VARIABLE/CONSTANT        10 00458
077677 R  459 V       SET     V+1                                                      10 00459
077677 R  460 IWI     EQU     V                 WORDS/ITEM                             10 00460
077700 R  461 V       SET     V+1                                                      10 00461
077700 R  462 LAX     EQU     V                 LOAD ASSIGNMENT DATA                   10 00462
077701 R  463 V       SET     V+1                                                      10 00463
077701 R  464 LDX     SET     V                 LOAD DO                                10 00464
077702 R  465 V       SET     V+1                                                      10 00465
077702 R  466 LEX     SET     V                 LOAD EXPRESSION                        10 00466
077703 R  467 V       SET     V+1                                                      10 00467
077703 R  468 LIST    EQU     V                 LIST A LINE                            10 00468
077704 R  469 V       SET     V+1                                                      10 00469
077704 R  470 LOCT    SET     V                                                        10 00470
```

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077705 R  471 V      SET    V+1
077705 R  472 LTX    SET    V                 LOAD TRIADS                                  10 00472
077706 R  473 V      SET    V+1               MOVE ALPHA DATA                              10 00473
077706 R  474 MOVE   EQU    V                 MAKE EXIT LABEL                              10 00474
077707 R  475 V      SET    V+1               OUTPUT ABSOLUTE                              10 00475
077707 R  476 MXL    EQU    V                 OUTPUT DOUBLE                                10 00476
077710 R  477 V      SET    V+1               OUTPUT DATA STRING                           10 00477
077710 R  478 OAB    EQU    /                 OUTPUT NAME                                  10 00478
077711 R  479 V      SET    V+1               OUTPUT PACK                                  10 00479
077711 R  480 ODB    SET    V                 OUTPUT RELATIVE                              10 00480
077712 R  481 V      SET    V+1               OUTPUT STRING RELATIVE                       10 00481
077712 R  482 ODS    SET    V                 OUTPUT JUMP                                  10 00482
077713 R  483 V      SET    V+1               OUTPUT OPERATOR/OPERAND                      10 00483
077713 R  484 ONEN   EQU    V                 OUTPUT WORD                                  10 00484
077714 R  485 V      SET    V+1               OUTPUT WORDS                                 10 00485
077714 R  486 OPK    SET    V                 PACK DATA STRING                             10 00486
077715 R  487 V      SET    V+1               PACK ERROR BUFFER                            10 00487
077715 R  488 ORE    SET    V                 PURGE TRIADS                                 10 00488
077716 R  489 V      SET    V+1               '(' TEST                                     10 00489
077716 R  490 OSR    SET    V                 RESTORE SCAN PARAMETERS                      10 00490
077717 R  491 V      SET    V+1               SAVE SCAN PARAMETERES                        10 00491
077717 R  492 OTJ    EQU    V                 REREAD CHARACTER                             10 00492
077720 R  493 V      SET    V+1               RIGHT INPUT OPERATOR                         10 00493
077720 R  494 OUT    SET    V                 STORE ASSIGNMENT DATA                        10 00494
077721 R  495 V      SET    V+1               STORE DO                                     10 00495
077721 R  496 OWD    SET    V                 END OF MODE-SETTING IN SIDTB                 10 00496
077722 R  497 V      SET    V+1               STATEMENT IDENTIFICATION SCAN                10 00497
077722 R  498 OWS    EQU    V                                                              10 00498
077723 R  499 V      SET    V+1                                                            10 00499
077723 R  500 PDS    SET    V                 SPECIAL LIST OUTPUT                          10 00500
077724 R  501 V      SET    V+1               STATEMENT COMPLETION                         10 00501
077724 R  502 PEB    SET    V                 ENTRY TO STI                                 10 00502
077725 R  503 V      SET    V+1               ILLEGAL DO TERM./NO CONTROL CONTINUE         10 00503
077725 R  504 PTR    SET    V                 STATEMENT SCAN                               10 00504
077726 R  505 V      SET    V+1               CONSTRUCTION                                 10 00505
077726 R  506 PTS    EQU    V                 NOT IN SUBPROGRAM                            10 00506
077727 R  507 V      SET    V+1               DATA POOL FULL                               10 00507
077727 R  508 RCC    EQU    V                 ILLEGAL STATEMENT                            10 00508
077730 R  509 V      SET    V+1                                                            10 00509
077730 R  510 RCCS   EQU    V                                                              10 00510
077731 R  511 V      SET    V+1                                                            10 00511
077731 R  512 RCH    EQU    V                                                              10 00512
077732 R  513 V      SET    V+1                                                            10 00513
077732 R  514 RIO    EQU    V                 IMPROPER DO NEST                             10 00514
077733 R  515 V      SET    V+1               ITEM NOT OPERAND                             10 00515
077733 R  516 SAX    EQU    V                 ITEM NOT FUNCTION                            10 00516
077734 R  517 V      SET    V+1                                                            10 00517
077734 R  518 SDX    SET    V                 SUBSCRIPT VARIABLE NOT DUMMY                 10 00518
077735 R  519 V      SET    V+1                                                            10 00519
077735 R  520 SIDTB1 SET    V                                                              10 00520
077736 R  521 V      SET    V+1                                                            10 00521
077736 R  522 SIS    EQU    V                                                              10 00522
077737 R  523 V      SET    V+1                                                            10 00523
077737 R  524 SLIT   SET    V                                                              10 00524
077740 R  525 V      SET    V+1                                                            10 00525
077740 R  526 SLOP   SET    V                                                              10 00526
077741 R  527 V      SET    V+1                                                            10 00527
077741 R  528 STC    SET    V                                                              10 00528
077742 R  529 V      SET    V+1                                                            10 00529
077742 R  530 STI1   EQU    V                                                              10 00530
077743 R  531 V      SET    V+1                                                            10 00531
077743 R  532 STN    EQU    V                                                              10 00532
077744 R  533 V      SET    V+1                                                            10 00533
077744 R  534 STS    SET    V                                                              10 00534
077745 R  535 V      SET    V+1                                                            10 00535
077745 R  536 TER1   EQU    V                                                              10 00536
077746 R  537 V      SET    V+1                                                            10 00537
077746 R  538 TER2   EQU    V                                                              10 00538
077747 R  539 V      SET    V+1                                                            10 00539
077747 R  540 TER3   EQU    V                                                              10 00540
077750 R  541 V      SET    V+1                                                            10 00541
077750 R  542 TER4   EQU    V                                                              10 00542
077751 R  543 V      SET    V+1                                                            10 00543
077751 R  544 TER5   SET    V                                                              10 00544
077752 R  545 V      SET    V+1                                                            10 00545
077752 R  546 TER7   SET    V                                                              10 00546
077753 R  547 V      SET    V+1                                                            10 00547
077753 R  548 TER8   SET    /                                                              10 00548
077754 R  549 V      SET    V+1                                                            10 00549
077754 R  550 TER9   EQU    V                                                              10 00550
077755 R  551 V      SET    V+1                                                            10 00551
077755 R  552 TER11  EQU    V                                                              10 00552
077756 R  553 V      SET    V+1                                                            10 00553
077756 R  554 TER12  EQU    V                                                              10 00554
077757 R  555 V      SET    V+1                                                            10 00555
077757 R  556 TER13  SET    V                                                              10 00556
077760 R  557 V      SET    V+1                                                            10 00557
077760 R  558 TER14  EQU    V                                                              10 00558
077761 R  559 V      SET    V+1                                                            10 00559
077761 R  560 TER15  SET    /                                                              10 00560
077762 R  561 V      SET    V+1                                                            10 00561
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077762 R  562 TER17   EQU     V                                                                10 00562
077763 R  563 V       SET     V+1                                                              10 00563
077763 R  564 TER18   SET     V                                                                10 00564
077764 R  565 V       SET     V+1                                                              10 00565
077764 R  566 TER19   SET     V                                                                10 00566
077765 R  567 V       SET     V+1                                                              10 00567
077765 R  568 TER20   SET     V                                                                10 00568
077766 R  569 V       SET     V+1                                                              10 00569
077766 R  570 TER24   SET     V                                                                10 00570
077767 R  571 V       SET     V+1                                                              10 00571
077767 R  572 TER26   EQU     V                                                                10 00572
077770 R  573 V       SET     V+1                                                              10 00573
077770 R  574 TOF     SET     V                                                                10 00574
077771 R  575 V       SET     V+1                                                              10 00575
077771 R  576 TSB     EQU     V                                                                10 00576
077772 R  577 V       SET     V+1                                                              10 00577
077772 R  578 TST     EQU     V                                                                10 00578
077773 R  579 V       SET     V+1                                                              10 00579
077773 R  580 TVR     EQU     V                                                                10 00580
077774 R  581 V       SET     V+1                                                              10 00581
077774 R  582 WROBO   SET     V                                                                10 00582
077775 R  583 V       SET     V+1                                                              10 00583
077775 R  584 WROGO   SET     V                                                                10 00584
077776 R  585 V       SET     V+1                                                              10 00585
077776 R  586 WROT    SET     V                                                                10 00586
077777 R  587 V       SET     V+1                                                              10 00587
077777 R  588 ZCB     EQU     V                ZERO ERROR BUFFER                               10 00588
          590 *       F R O M - C O M P I L E R                                             * 10 00590
000000 R  592 V       SET     *                                                                10 00592
000000 000026 R  593          DATA    ASSI             ASSIGNED GO TO                        10 00593
000001 000065 R  594          DATA    AST              ASSIGNMENT STATEMENT                  10 00594
000002 000056 R  595          DATA    ASTM             REGISTER ASSIGNMENT                   10 00595
000003 000072 R  596          DATA    BSP              BACKSPACE                             10 00596
000004 000076 R  597          DATA    CAL              CALL                                  10 00597
000005 000561 R  598          DATA    DEC              DECODE                                10 00598
000006 000427 R  599          DATA    DOP              DO STATEMENT                          10 00599
000007 000465 R  600          DATA    DOT              DO TERMINATION                        10 00600
000010 000072 R  601          DATA    EFI              END FILE                              10 00601
000011 000565 R  602          DATA    ENC              ENCODE                                10 00602
000012 002073 R  603          DATA    FND              FIND                                  10 00603
000013 000203 R  604          DATA    DEF              DEFINE FILE                           10 00604
000014 002153 R  605          DATA    GOT              GO TO                                 10 00605
000015 002417 R  606          DATA    IFP              IF STATEMENT                          10 00606
000016 004326 R  607          DATA    OTR              OUTPUT TRIADS                         10 00607
000017 007314 R  608          DATA    PSE              PAUSE                                 10 00608
000020 005566 R  609          DATA    RED              READ                                  10 00609
000021 006173 R  610          DATA    RET              RETURN                                10 00610
000022 000072 R  611          DATA    REW              REWIND                                10 00611
000023 007165 R  612          DATA    STF              STATEMENT FUNCTION                    10 00612
000024 007314 R  613          DATA    STP              STOP                                  10 00613
000025 005571 R  614          DATA    WRI              WRITE                                 10 00614
000026           615          BSS     TFVCSZ-*+V-1                                           10 00615
                 616          EJECT                                                          10 00616
                 617 ****************                                                        10 00617
                 618 * I/O BUFFERS *                                                        10 00618
                 619 ****************                                                        10 00619
010151 R  621 $BUF    EQU     V+OVERSZ+1       INPUT BUFFER AREA                             10 00621
010224 R  622 OBUF    EQU     $BUF+43          OBJECT BUFFER                                 10 00622
010320 R  623 BLBF1   EQU     OBUF+60          BLOCKING BUFFER 1                             10 00623
          624          EJECT                                                                10 00624
          625 ********************************************************************************10 00625
          626 *                                                                            * 10 00626
          627 *     P R O C E S S   A S S I G N   S T A T E M E N T ( A S S I )            * 10 00627
          628 *                                                                            * 10 00628
          629 * FUNCTION: TO PROCESS THE FORTRAN SOURCE STATEMENT:                        * 10 00629
          630 *                                                                            * 10 00630
          631 *              'ASSIGN N TO I'  N=STATEMENT LABEL                            * 10 00631
          632 *                               I=INTEGER VARIABLE                           * 10 00632
          633 *                                                                            * 10 00633
          634 * ENTRY: DIRECT FROM SID                                                     * 10 00634
          635 *                                                                            * 10 00635
          636 * EXIT : DIRECT TO STYY                                                      * 10 00636
          637 *        CODING OUTPUT TO DO: LDB N                                          * 10 00637
          638 *                             STB I                                          * 10 00638
          639 *                                                                            * 10 00639
          640 ********************************************************************************10 00640
000026 002000 A  642 ASSI   CALL    INS                                                     10 00642
000027 077672 R
000030 006010 A  643        LDAI    06020                                                   10 00643
000031 006020 A
000032 002000 A  644        CALL    ODB                                                     10 00644
000033 077711 R
000034 006010 A  645        LDAI    'T'                                                     10 00645
000035 000324 A
000036 002000 A  646        CALL    TST                                                     10 00646
000037 077772 R
000040 002000 A  647        CALL    ICH                                                     10 00647
000041 077654 R
000042 006010 A  648        LDAI    'O'                                                     10 00648
000043 000317 A
000044 002000 A  649        CALL    TST                                                     10 00649
```

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000045 077772 R
000046 002000 A  650          CALL     IVA                                                    10 00650
000047 077675 R
000050 006010 A  651          LDAI     065000                                                 10 00651
000051 065000 A
000052 002000 A  652          CALL     OUT            'STB  I'                                10 00652
000053 077720 R
000054 001000 A  653          JMP      CRT                                                    10 00653
000055 077616 R
                 654          EJECT                                                           10 00654
                 655 ************************************************************************ 10 00655
                 656 *                                                                      * 10 00656
                 657 *   A R I T H M E T I C  R E P L A C E M E N T  S T A T E M E N T      * 10 00657
                 658 *                                                                      * 10 00658
                 659 *              P R O C E S S O R ( A S T , A S T M )                   * 10 00659
                 660 *                                                                      * 10 00660
                 661 * FUNCTION: TO PROCESS THE FORTRAN SOURCE STATEMENTS:                   * 10 00661
                 662 *                                                                      * 10 00662
                 663 *              A=EXPRESSION  WHERE A=VARIABLE OR ARRAY ELEMENT         * 10 00663
                 664 *               =EXPRESSION                                            * 10 00664
                 665 *                                                                      * 10 00665
                 666 * ENTRY: DIRECT FROM STS                                               * 10 00666
                 667 *        TO AST  FOR A=EXPRESSION.SCAN AFTER 'A='                      * 10 00667
                 668 *        TO ASTM FOR  =EXPRESSION.SCAN AT START OF STATEMENT           * 10 00668
                 669 *                                                                      * 10 00669
                 670 * EXIT : DIRECT TO STYY                                                * 10 00670
                 671 *                                                                      * 10 00671
                 672 ************************************************************************ 10 00672
000056 002000 A  674 ASTM     CALL     ICH            '='                                     10 00674
000057 077654 R
000060 002000 A  675          CALL     INI                                                    10 00675
000061 077670 R
000062 005001 A  676          TZA                                                             10 00676
000063 001000 A  677          JMP      AST1           CALL EXP WITH A=0                       10 00677
000064 000066 R
                 678 *                                                                       10 00678
000065 010441 A  679 AST      LDA      MTWO                                                   10 00679
000066 002000 A  680 AST1     CALL     EXP            CALL EXP WITH A=-2                      10 00680
000067 000754 R
000070 001000 A  681          JMP      CRT                                                    10 00681
000071 077616 R
                 682          EJECT                                                          10 00682
                 683 ************************************************************************ 10 00683
                 684 *                                                                      * 10 00684
                 685 *           A U X I L I A R Y   I / O   S T A T E M E N T S            * 10 00685
                 686 *                                                                      * 10 00686
                 687 *                        ( B S P , E F I , R E W )                     * 10 00687
                 688 *                                                                      * 10 00688
                 689 * FUNCTION: TO PROCESS THE FORTRAN SOURCE STATEMENTS:                   * 10 00689
                 690 *                                                                      * 10 00690
                 691 *              BACKSPACE                                               * 10 00691
                 692 *              ENDFILE                                                 * 10 00692
                 693 *              REWIND                                                  * 10 00693
                 694 *                                                                      * 10 00694
                 695 * ENTRY: DIRECT FROM SID TO:                                           * 10 00695
                 696 *                                                                      * 10 00696
                 697 *              BSP(BACKSPACE). NAME HOLDS 'BA'                         * 10 00697
                 698 *              EFI(ENDFILE). NAME HOLDS 'EN'                           * 10 00698
                 699 *              REW(REWIND). NAME HOLDS 'RE'                            * 10 00699
                 700 *                                                                      * 10 00700
                 701 * EXIT : DIRECT TO STATEMENT COMPLETION ENTRY CRT                      * 10 00701
                 702 *                                                                      * 10 00702
                 703 ************************************************************************ 10 00703
          000072 R  705 BSP      EQU      *              BACKSPACE ENTRY                     10 00705
          000072 R  706 EFI      EQU      *              ENDFILE ENTRY                       10 00706
          000072 R  707 REW      EQU      *              REWIND ENTRY                        10 00707
                 708 *                                                                       10 00708
000072 002000 A  709          CALL     OIL            OUTPUT I/O LINK                         10 00709
000073 002735 R
000074 001000 A  710          JMP      CRT                                                    10 00710
000075 077616 R
                 711          EJECT                                                          10 00711
                 712 ************************************************************************ 10 00712
                 713 *                                                                      * 10 00713
                 714 *              P R O C E S S   C A L L   S T A T E M E N T ( C A L )   * 10 00714
                 715 *                                                                      * 10 00715
                 716 * FUNCTION: TO PROCESS THE FORTRAN SOURCE STATEMENT:                   * 10 00716
                 717 *                                                                      * 10 00717
                 718 *               'CALL A...                                             * 10 00718
                 719 *                                                                      * 10 00719
                 720 * ENTRY: DIRECT FROM SID                                               * 10 00720
                 721 *                                                                      * 10 00721
                 722 * EXIT : TO STYY IF NO PARAMETERS                                      * 10 00722
                 723 *        OTHERWISE THRU AST1 TO EXP WITH A=-1 TO PROCESS CALL SEQ      * 10 00723
                 724 *                                                                      * 10 00724
                 725 ************************************************************************ 10 00725
000076 047000 I  727 CAL      INR      MTFL           DONT FLAG NAME IN ASI                   10 00727
000077 002000 A  728          CALL     INA                                                    10 00728
000100 077667 R
000101 002000 A  729          CALL     FCP                                                    10 00729
000102 077771 R
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000103 017000 I  730          LDA     TC                                                    10 00730
000104 140000 L  731          SUB     ='('                                                  10 00731
000105 001016 A  732          JANZ    CAL1        HAS NO PARAMETERS                         10 00732
000106 000116 R
000107 005211 A  733          CPA                                                           10 00733
000110 002000 A  734          CALL    EXP         DO EXPRESSION WITH AR=-1                  10 00734
000111 000754 R
000112 002000 A  735          CALL    PTR                                                   10 00735
000113 077725 R
000114 001000 A  736          JMP     CRT                                                   10 00736
000115 077616 R
000116 017000 I  737 CAL1     LDA     I                                                     10 00737
000117 054003 A  738          STA     *+4                                                   10 00738
000120 002000 A  739          CALL    PTR                                                   10 00739
000121 077725 R
000122 006010 A  740          LDAI    **                                                    10 00740
000123 100122 R
000124 057000 I  741          STA     I                                                     10 00741
000125 014000 A  742          LDA     *+1                                                   10 00742
000126 002000 A  743          CALL    DDB                                                   10 00743
000127 077711 R
000130 001000 A  744          JMP     CRT                                                   10 00744
000131 077616 R
                 745          EJECT                                                         10 00745
                 746 ********************************************************************** 10 00746
                 747 *                                                                    * 10 00747
                 748 *      C O R R E C T   M O D E   ( C M D )                           * 10 00748
                 749 *                                                                    * 10 00749
                 750 * ENTRANCE:  (A)=MODE                                                * 10 00750
                 751 *                                                                    * 10 00751
                 752 * EXIT:  (A)=ENTRANCE MODE OR 1(IF ENTRANCE MODE = CMP)             * 10 00752
                 753 *                                                                    * 10 00753
                 754 ********************************************************************** 10 00754
000132 000000 A  756 CMD      ENTRY                                                         10 00756
000133 140465 A  757          SUB     FIVE                                                  10 00757
000134 001016 A  758          JANZ    CMD1                                                  10 00758
000135 000137 R
000136 140423 A  759          SUB     FOUR                                                  10 00759
000137 120465 A  760 CMD1     ADD     FIVE                                                  10 00760
000140 001000 A  761          JMP*    CMD                                                   10 00761
000141 100132 R
                 762          EJECT                                                         10 00762
                 763 ********************************************************************** 10 00763
                 764 *                                                                    * 10 00764
                 765 *      C H E C K   R E G I S T E R   P O S I T I O N   ( C R P )     * 10 00765
                 766 *                                                                    * 10 00766
                 767 ********************************************************************** 10 00767
000142 000000 A  769 CRP      ENTRY                                                         10 00769
000143 017000 I  770          LDA     $PCW                                                  10 00770
000144 006445 A  771          BT      045,CRP2    NOT 'H'                                   10 00771
000145 000201 R
000146 017000 I  772          LDA     F                                                     10 00772
000147 001016 A  773          JANZ    CRP2        FPP ALREADY LOADED                        10 00773
000150 000201 R
000151 002000 A  774          CALL    SAV                                                   10 00774
000152 006334 R
000153 006020 A  775          LDBI    FLDD                                                  10 00775
000154 105522 A
000155 017000 I  776          LDA     MF                                                    10 00776
000156 140464 A  777          SUB     THREE                                                 10 00777
000157 001004 A  778          JAN     CRP2-2      INTEGER                                   10 00778
000160 000177 R
000161 005311 A  779          DAR                                                           10 00779
000162 001010 A  780          JAZ     CRP1        DBL                                       10 00780
000163 000173 R
000164 001002 A  781          JAP     CRP2-2      NOT REAL                                  10 00781
000165 000177 R
000166 005004 A  782          TZX                                                           10 00782
000167 002000 A  783          CALL    TRA         (A,B) TO A$C                              10 00783
000170 007506 R
000171 006020 A  784          LDBI    FLDS                                                  10 00784
000172 105420 A
000173 005021 A  785 CRP1     TBA                                                           10 00785
000174 002000 A  786          CALL    JDB         ACC TO FPP                                10 00786
000175 077711 R
000176 047000 I  787          INR     F           MARK FPP LOADED                           10 00787
000177 002000 A  788          CALL    RST                                                   10 00788
000200 006325 R
000201 001000 A  789 CRP2     JMP*    CRP                                                   10 00789
000202 100142 R
                 790          EJECT                                                         10 00790
                 791 ********************************************************************** 10 00791
                 792 *                                                                    * 10 00792
                 793 *      D I R E C T   A C C E S S   D E F I N E   F I L E   ( D E F ) * 10 00793
                 794 *                                                                    * 10 00794
                 795 ********************************************************************** 10 00795
000203 006010 A  797 DEF      LDAI    'DX'                                                  10 00797
000204 142330 A
000205 002000 A  798          CALL    CAN                                                   10 00798
000206 077613 R
000207 002000 A  799          CALL    IIV                                                   10 00799
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000210 077664 R
000211 005021 A   800          TBA                                                          10 00800
000212 002000 A   801          CALL     DAB      'DATA  DATA-SET-REFERENCE-NUMBER'        10 00801
000213 077710 R
000214 002000 A   802          CALL     PTS                                               10 00802
000215 077726 R
000216 002000 A   803          CALL     IIV                                               10 00803
000217 077664 R
000220 005021 A   804          TBA                                                        10 00804
000221 002000 A   805          CALL     DAB      'DATA  NUMBER-OF-RECORDS'                10 00805
000222 077710 R
000223 002000 A   806          CALL     CTS                                               10 00806
000224 077617 R
000225 002000 A   807          CALL     IIV                                               10 00807
000226 077664 R
000227 005021 A   808          TBA                                                        10 00808
000230 002000 A   809          CALL     DAB      'DATA  RECORD-SIZE'                      10 00809
000231 077710 R
000232 002000 A   810          CALL     CTS                                               10 00810
000233 077617 R
000234 002000 A   811          CALL     ICH                                               10 00811
000235 077654 R
000236 006140 A   812          SUBI     'E'                                               10 00812
000237 000305 A
000240 001010 A   813          JAZ      DEF1                                              10 00813
000241 000250 R
000242 140467 A   814          SUB      SEVEN                                             10 00814
000243 001010 A   815          JAZ      DEF1     'L'                                      10 00815
000244 000250 R
000245 140470 A   816          SUB      NINE                                              10 00816
000246 001016 A   817          JANZ     TER1     NOT 'U'                                  10 00817
000247 077745 R
000250 017000 I   818 DEF1     LDA      IC                                                10 00818
000251 002000 A   819          CALL     DAB      'DATA  CONTROL CHARACTER'                10 00819
000252 077710 R
000253 002000 A   820          CALL     ICH                                               10 00820
000254 077654 R
000255 002000 A   821          CALL     CTS                                               10 00821
000256 077617 R
000257 002000 A   822          CALL     IVA                                               10 00822
000260 077675 R
000261 005001 A   823          TEA                                                        10 00823
000262 002000 A   824          CALL     DUT      'DATA  ASSOCIATED VARIABLE'              10 00824
000263 077720 R
000264 002000 A   825          CALL     RID                                               10 00825
000265 077732 R
000266 002000 A   826          CALL     DCR                                               10 00826
000267 077615 R
                  827          EJECT                                                      10 00827
                  828 ********************************************************************** 10 00828
                  829 *                                                                    * 10 00829
                  830 *            I N P U T   D O   P A R A M E T E R S ( D O I )         * 10 00830
                  831 *                                                                    * 10 00831
                  832 * FUNCTION: TO INPUT A DO PARAMETER LIST AND STORE IN DO TABLE       * 10 00832
                  833 *                                                                    * 10 00833
                  834 * ENTRY:  A=PTR TO TARGET STMT NUMBER IN ASSIGNMENT TABLE           * 10 00834
                  835 *         I=PTR TO DO VARIABLE IN ASSIGNMENT TABLE                 * 10 00835
                  836 *                                                                    * 10 00836
                  837 * EXIT :  PARAMETERS STORED IN DO TABLE                             * 10 00837
                  838 *         DT=D=DT-5                                                * 10 00838
                  839 *                                                                    * 10 00839
                  840 ********************************************************************** 10 00840
000270 000000 A   842 DOI      ENTRY                                                      10 00841
000271 057000 I   843          STA      DS       TARGET STMT NO PTR TO DS                 10 00843
000272 017000 I   844          LDA      I                                                 10 00844
000273 057000 I   845          STA      DV       DO VARIABLE PTR TO DV                    10 00845
000274 017000 I   846          LDA      DT                                                10 00846
000275 140465 A   847          SUB      FIVE                                              10 00847
000276 057000 I   848          STA      D        POINT D AT DT-5                          10 00848
000277 002000 A   849          CALL     IIN                                               10 00849
000300 002535 R
000301 002000 A   850          CALL     CTS                                               10 00850
000302 077617 R
000303 017000 I   851          LDA      I                                                 10 00851
000304 057000 I   852          STA      DR       INITIAL VALUE PTR TO DR                  10 00852
000305 002000 A   853          CALL     IIN                                               10 00853
000306 002535 R
000307 017000 I   854          LDA      I                                                 10 00854
000310 057000 I   855          STA      DH       LIMIT VALUE PTR TO DH                    10 00855
000311 017000 I   856          LDA      DPB                                               10 00856
000312 057000 I   857          STA      I        INITIALIZE INCREMENT TO 1                10 00857
000313 017000 I   858          LDA      IC                                                10 00858
000314 140000 L   859          SUB      =',                                               10 00859
000315 002010 A   860          JAZM     *IN                                               10 00860
000316 002535 R
000317 017000 I   861          LDA      I                                                 10 00861
000320 057000 I   862          STA      DI       INCREMENT PTR TO DI                      10 00862
000321 002000 A   863          CALL     *DX      STORE PARAMS IN DO TABLE                 10 00863
000322 077734 R
000323 001000 A   864          JMP*     DOI      EXIT                                     10 00864
000324 100270 R
```

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                    865          EJECT                                                                          10 00865
                    866 ***********************************************************************************  10 00866
                    867 *                                                                                 *  10 00867
                    868 *     O U T P U T   D O   I N I T I A L I Z E   C O D E ( D O N )                 *  10 00868
                    869 *                                                                                 *  10 00869
                    870 * FUNCTION: TO OUTPUT CODE NECESSARY TO INITIALIZE A DO LOOP                       *  10 00870
                    871 *                                                                                 *  10 00871
                    872 * ENTRY: D POINTS TO ENTRY IN DO TABLE                                            *  10 00872
                    873 *        D(DR) POINTS TO INITIAL VALUE ENTRY                                      *  10 00873
                    874 *                                                                                 *  10 00874
                    875 * EXIT : CODING OUTPUT TO DO: 'LDA  INITIAL VALUE'                                *  10 00875
                    876 *                              'STA  DO VARIABLE'                                 *  10 00876
                    877 *                                                                                 *  10 00877
                    878 *        D(DR) HOLDS DO LOOP ENTRY ADDRESS                                        *  10 00878
                    879 *        XRPT=-1 TO KILL X-REG ASSIGNMENT                                         *  10 00879
                    880 *                                                                                 *  10 00880
                    881 ***********************************************************************************  10 00881
000325 000000 A     883 DON      ENTRY                                                                        10 00883
000326 002000 A     884          CALL     LDX                                                                 10 00884
000327 077701 R
000330 017000 I     885          LDA      DV                                                                  10 00885
000331 057000 I     886          STA      I                                                                   10 00886
000332 002000 A     887          CALL     LAX                                                                 10 00887
000333 077700 R
000334 017000 I     888          LDA      IM                                                                  10 00888
000335 057000 I     889          STA      T1          VARIABLE MODE                                           10 00889
000336 017000 I     890          LDA      DI                                                                  10 00890
000337 020421 A     891          LDB      ONE                                                                 10 00891
000340 002000 A     892          CALL     DON1                                                                10 00892
000341 000372 R
000342 057000 I     893          STA      DI          INCREMENT POINTER                                       10 00893
000343 017000 I     894          LDA      DH                                                                  10 00894
000344 020422 A     895          LDB      TWO                                                                 10 00895
000345 002000 A     896          CALL     DON1                                                                10 00896
000346 000372 R
000347 057000 I     897          STA      DH          LIMIT POINTER                                           10 00897
000350 017000 I     898          LDA      DR                                                                  10 00898
000351 005002 A     899          SZB                                                                          10 00899
000352 002000 A     900          CALL     DON1        INITIALIZE POINTER                                      10 00900
000353 000372 R
000354 017000 I     901          LDA      DV                                                                  10 00901
000355 057000 I     902          STA      I           POINT I AT DO VARIABLE                                  10 00902
000356 006010 A     903          LDAI     055000                                                              10 00903
000357 055000 A
000360 002000 A     904          CALL     ORT         'STA  DO-VARIABLE'                                      10 00904
000361 004201 R
000362 017000 I     905          LDA      RL                                                                  10 00905
000363 057000 I     906          STA      DR          LOAD DR WITH DO LOOP ENTRY ADDRESS                      10 00906
000364 005301 A     907          DECR     1                                                                   10 00907
000365 057000 I     908          STA      XRPT        KILL X-REG ASSIGNMENT                                   10 00908
000366 002000 A     909          CALL     SDX         STORE NEW DR IN DO TABLE                                10 00909
000367 077734 R
000370 001000 A     910          JMP*     DON                                                                 10 00910
000371 100325 R
000372 000000 A     911 DON1     ENTRY                                                                        10 00911
000373 057000 I     912          STA      I           OLD POINTER VALUE                                       10 00912
000374 067000 I     913          STB      T0                                                                  10 00913
000375 002000 A     914          CALL     LAX                                                                 10 00914
000376 077700 R
000377 017000 I     915          LDA      IM                                                                  10 00915
000400 057000 I     916          STA      MF                                                                  10 00916
000401 147000 I     917          SUB      T1                                                                  10 00917
000402 027000 I     918          LDB      T0                                                                  10 00918
000403 001020 A     919          JBZ      *+4         INITIALIZE VALUE                                        10 00919
000404 000407 R
000405 001010 A     920          JAZ      DON2        MODE CORRECT                                            10 00920
000406 000424 R
000407 010425 A     921          LDA      BS4         (020)                                                   10 00921
000410 002000 A     922          CALL     CIT                                                                 10 00922
000411 003040 R
000412 017000 I     923          LDA      T1                                                                  10 00923
000413 057000 I     924          STA      IM                                                                  10 00924
000414 002000 A     925          CALL     MODE        CORRECT MODE                                            10 00925
000415 002552 R
000416 027000 I     926          LDB      T0                                                                  10 00926
000417 001020 A     927          JBZ*     DON1        INITIALIZE REQUIRES NO TEMP STORE                       10 00927
000420 100372 R
000421 047000 I     928          INR      MR+1        SET DON FLAG                                            10 00928
000422 002000 A     929          CALL     GTS                                                                 10 00929
000423 002323 R
000424 017000 I     930 DON2     LDA      I                                                                   10 00930
000425 001000 A     931          JMP*     DON1                                                                10 00931
000426 100372 R
                    932          EJECT                                                                        10 00932
                    933 ***********************************************************************************  10 00933
                    934 *                                                                                 *  10 00934
                    935 *          P R O C E S S   D O   S T A T E M E N T ( D O P )                       *  10 00935
                    936 *                                                                                 *  10 00936
                    937 * FUNCTION: TO PROCESS THE FORTRAN SOURCE STATEMENT:                               *  10 00937
                    938 *                                                                                 *  10 00938
                    939 *              'DO N V=L,H,I'   N=TARGET STATEMENT NUMBER                         *  10 00939
```

```
                        940 *                                                                                  * 10 00940
                        941 *                                V=DO VARIABLE                                     * 10 00941
                        942 *                                L=INITIAL VALUE OF V                              * 10 00942
                        943 *                                H=UPPER LIMIT VALUE OF V                          * 10 00943
                        944 *                                I=INCREMENT VALUE OF V                            * 10 00944
                        945 * ENTRY: DIRECT FROM STS AFTER FINDING PATTERN '..=DP,                              * 10 00945
                        946 *                                                                                  * 10 00946
                        947 * EXIT : DIRECT TO STYN                                                           * 10 00947
                        948 *                                                                                  * 10 00948
                        949 * ERRORS: TER18 IF TARGET STATEMENT PRECEDES DO                                    * 10 00949
                        950 *           TER8  IF STATEMENT DOES NOT START WITH DO                              * 10 00950
                        951 *                                                                                  * 10 00951
                        952 ************************************************************************************ 10 00952
000427 010422 A         954 DOF     LDA     K2                                                                 10 00954
000430 002000 A         955         CALL    IAC                                                                10 00955
000431 077653 R
000432 144057 A         956         SUB     DOT1                                                               10 00956
000433 001016 A         957         JANZ    TER8                                                               10 00957
000434 077753 R
000435 002000 A         958         CALL    INS                                                                10 00958
000436 077672 R
000437 057000 I         959         STA     T0          SAVE POINTER TO TARGET STMT. NO.                       10 00959
000440 017000 I         960         LDA     AT                                                                 10 00960
000441 005311 A         961         DAR                                                                        10 00961
000442 001010 A         962         JAZ     TER18       TARGET STATEMENT PRECEEDS 'DO'                         10 00962
000443 077763 R
000444 002000 A         963         CALL    RCH                                                                10 00963
000445 077731 R
000446 002000 A         964         CALL    IIN                                                                10 00964
000447 002535 R
000450 017000 I         965         LDA     NT                                                                 10 00965
000451 001016 A         966         JANZ    TER11       NOT VARIABLE                                           10 00966
000452 077755 R
000453 010000 L         967         LDA     ='='                                                               10 00967
000454 002000 A         968         CALL    TST                                                                10 00968
000455 077772 P
000456 017000 I         969         LDA     T0          RELOAD PTR TO TARGET STMT                              10 00969
000457 002000 A         970         CALL    DOI         INPUT DO PARAMETERS                                    10 00970
000460 000270 R
000461 002000 A         971         CALL    DON         OUTPUT DO INITIALIZE CODE                              10 00971
000462 000325 R
000463 001000 A         972         JMP     ILT                                                                10 00972
000464 077666 R
                        973         EJECT                                                                      10 00973
                        974 ************************************************************************************ 10 00974
                        975 *                                                                                  * 10 00975
                        976 *                    D O   T E R M I N A T E ( D O T )                             * 10 00976
                        977 *                                                                                  * 10 00977
                        978 * FUNCTION: TO OUTPUT CODING TO PROCESS END OF A DO LOOP                           * 10 00978
                        979 *                                                                                  * 10 00979
                        980 * ENTRY: D=ADDRESS OF ENTRY IN DO TABLE                                           * 10 00980
                        981 *                                                                                  * 10 00981
                        982 * EXIT : DT=DT+5 TO WIPE OUT ENTRY                                                * 10 00982
                        983 *        CODING OUTPUT:                                                            * 10 00983
                        984 *                                                                                  * 10 00984
                        985 *                JMPM   $DO                                                        * 10 00985
                        986 *                DATA   DO INCREMENT ADDR                                          * 10 00986
                        987 *                DATA   DO VARIABLE ADDR                                           * 10 00987
                        988 *                DATA   DO LIMIT ADDR                                              * 10 00988
                        989 *                DATA   DO LOOP START ADDRESS                                      * 10 00989
                        990 *                                                                                  * 10 00990
                        991 ************************************************************************************ 10 00991
000465 000000 A         993 DOT     ENTRY                                                                      10 00993
000466 002000 A          994        CALL    LDX                                                                10 00994
000467 077701 R
000470 017000 I          995        LDA     DT                                                          C      10 00995
000471 120465 A          996        ADD     FIVE        CLEAR ENTRY FROM DO TABLE                       C      10 00996
000472 057000 I          997        STA     DT                                                          C      10 00997
000473 017000 I          998        LDA     DV                                                                 10 00998
000474 057000 I          999        STA     I                                                                  10 00999
000475 002000 A         1000        CALL    LAX                                                                10 01000
000476 077700 R
000477 027000 I         1001        LDB     IM                                                                 10 01001
000500 005322 A         1002        DBR                                                                        10 01002
000501 005322 A         1003        DBR                                                                        10 01003
000502 006010 A         1004        LDAI    'D2'                                                               10 01004
000503 142262 A
000504 001026 A         1005        JBNZ    DOT1+1      DP-INTEGER                                             10 01005
000505 000513 R
000506 017000 I         1006        LDA     FPCW                                                               10 01006
000507 006404 A         1007        BT      04,DOT2     GO IF FIRMWARE FLOATING ON                             10 01007
000510 000517 R
000511 006010 A         1008        LDAI    'DO'                                                               10 01008
000512 142317 A
000512                  1009 DOT1   BES     0                                                                  10 01009
000513 002000 A         1010        CALL    CAN         OUTPUT 'JMPM $DO'                                      10 01010
000514 077613 R
000515 001000 A         1011        JMP     DOT3                                                               10 01011
000516 000535 R
000517 017000 I         1012 DOT2   LDA     DFCA        PROCESS 'F' OPTION                                     10 01012
000520 147000 I         1013        SUB     DI                                                          FF     10 01013
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000521 001016 A 1014.          JANZ    DOT2A          INCREMENT=1 ?                          FF  10 01014
000522 000531 R
000523 006010 A 1015           LDAI    F$DOI1         YES                                    FF  10 01015
000524 105027 A
000525 002000 A 1016           CALL    OAB                                                       10 01016
000526 077710 R
000527 001000 A 1017           JMP     DOT4                                                   FF  10 01017
000530 000542 R
000531 006010 A 1018 DOT2A     LDAI    F$DOI          STANDARD WCS DO                         FF  10 01018
000532 105035 A
000533 002000 A 1019           CALL    OAB                                                       10 01019
000534 077710 R
000535         1020 DOT3       BSS     0                                                         10 01020
000535 017000 I 1021           LDA     DI                                                        10 01021
000536 057000 I 1022           STA     I                                                         10 01022
000537 005001 A 1023           TZA                                                               10 01023
000540 002000 A 1024           CALL    OUT            'DATA  DO-INCREMENT'                       10 01024
000541 077720 R
000542 017000 I 1025 DOT4      LDA     DV                                                     FF  10 01025
000543 057000 I 1026           STA     I                                                         10 01026
000544 005001 A 1027           TZA                                                               10 01027
000545 002000 A 1028           CALL    OUT            'DATA  DO-VARIABLE'                        10 01028
000546 077720 R
000547 017000 I 1029           LDA     DH                                                        10 01029
000550 057000 I 1030           STA     I                                                         10 01030
000551 005001 A 1031           TZA                                                               10 01031
000552 002000 A 1032           CALL    OUT            'DATA  DO-LIMIT'                           10 01032
000553 077720 R
000554 017000 I 1033           LDA     DR                                                        10 01033
000555 002000 A 1034           CALL    ORE            'DATA  DO-LOOP-START-ADDRESS'              10 01034
000556 077715 R
000557 001000 A 1035           JMP*    DOT            EXIT                                       10 01035
000560 100465 R
               1036            EJECT                                                         PD  10 01036
               1037 ********************************************************************** PD  10 01037
               1038 *                                                                        PD  10 01038
               1039 *              E N C O D E / D E C O D E   P R O C E S S O R             PD  10 01039
               1040 *                                                                        PD  10 01040
               1041 *      FUNCTION:  TO PROCESS THE FORTRAN STATEMENTS ENCODE/DECODE        PD  10 01041
               1042 *                                                                        PD  10 01042
               1043 *      ENTRY:     DIRECT FROM SID                                        PD  10 01043
               1044 *                                                                        PD  10 01044
               1045 *      EXIT:      TO READ/WRITE PROCESSOR FOR LIST PROCESSING            PD  10 01045
               1046 *                                                                        PD  10 01046
               1047 ********************************************************************** PD  10 01047
000561 006010 A 1049 DEC       LDAI    'DQ'           DECODE ENTRY                               10 01049
000562 142321 A
000563 001000 A 1050           JMP     ENC00                                                     10 01050
000564 000567 R
000565 006010 A 1051 ENC       LDAI    'EQ'           ENCODE ENTRY                               10 01051
000566 142721 A
000567 057000 I 1052 ENC00     STA     NAME                                                      10 01052
000570 002000 A 1053           CALL    OIL                                                       10 01053
000571 002735 R
000572 002000 A 1054           CALL    CTS                                                       10 01054
000573 077617 R
000574 002000 A 1055           CALL    EXA                                                       10 01055
000575 077646 R
000576 001004 A 1056           JAN     ENC02          FORMAT STATEMENT NUMBER                 PD  10 01056
000577 000604 R
000600 002000 A 1057           CALL    IAR                                                    PD  10 01057
000601 002406 R
000602 001000 A 1058           JMP     ENC04                                                  PD  10 01058
000603 000611 R
000604 002000 A 1059 ENC02     CALL    ISN                                                       10 01059
000605 077674 R
000606 002000 A 1060           CALL    DSM                                                       10 01060
000607 077622 R
000610 005001 A 1061           TZA                                                            PD  10 01061
000611 002000 A 1062 ENC04     CALL    OUT                                                       10 01062
000612 077720 R
000613 002000 A 1063           CALL    CTS                                                       10 01063
000614 077617 R
000615 002000 A 1064           CALL    IAR                                                    PD  10 01064
000616 002406 R
000617 002000 A 1065           CALL    OUT            'DATA  ARRAY-POINTER'                      10 01065
000620 077720 R
000621 017000 I 1066           LDA     TC                                                     PD  10 01066
000622 140000 L 1067           SUB     =','                                                      10 01067
000623 001010 A 1068           JAZ     ENC06                                                  PD  10 01068
000624 000632 R
000625 005001 A 1069           TZA                                                            PD  10 01069
000626 002000 A 1070           CALL    OAB            'DATA  0' FOR NO VARIABLE                  10 01070
000627 077710 R
000630 001000 A 1071           JMP     ENC08                                                  PD  10 01071
000631 000637 R
000632 002000 A 1072 ENC06     CALL    IVA                                                       10 01072
000633 077675 R
000634 005001 A 1073           TZA                                                            PD  10 01073
000635 002000 A 1074           CALL    OUT            'DATA  INT.-VAR.-POINTER'                  10 01074
000636 077720 R
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000637 002000 A 1075 ENC08  CALL     RIO                                                    10 01075
000640 077732 R
000641 001000 A 1076        JMP      WR13          PROCESS DATA LIST                   PD   10 01076
000642 005746 R
                1077        EJEC                                                          10 01077
                1079 *      ETT      ENTER TRIAD                                          10 01079
000643 000000 A 1081 ETT    ENTRY                                                         10 01081
000644 017000 I 1082        LDA      JT                                                   10 01082
000645 120464 A 1083        ADD      THREE                                                10 01083
000646 057000 I 1084        STA      JT                                                   10 01084
000647 057000 I 1085        STA      J                                                    10 01085
000650 147000 I 1086        SUB      KT                                                   10 01086
000651 002002 A 1087        JAPM     TOF                                                  10 01087
000652 077770 R
000653 005001 A 1088        TZA                                                           10 01088
000654 057000 I 1089        STA      SF            SF:0                                   10 01089
000655 057000 I 1090        STA      TU            TRIAD USE = 0                          10 01090
000656 027000 I 1091        LDB      B2                                                   10 01091
000657 017000 I 1092        LDA      OP                                                   10 01092
000660 006140 A 1093        SUBI     017           'E'                                    10 01093
000661 000017 A
000662 001010 A 1094        JAZ      *+6                                                  10 01094
000663 000670 R
000664 006140 A 1095        SUBI     035           ','                                    10 01095
000665 000035 A
000666 001010 A 1096        JANZ     *+3                                                  10 01096
000667 000671 R
000670 027000 I 1097        LDB      01            USE 01 FOR MODE OF EXPONENTIATE        10 01097
000671 005021 A 1098        TBA                                                           10 01098
000672 002000 A 1099        CALL     GOM                                                  10 01099
000673 002127 R
000674 057000 I 1100        STA      TM            TRIAD MODE                             10 01100
000675 017000 I 1101        LDA      OP                                                   10 01101
000676 006140 A 1102        SUBI     035           '='                                    10 01102
000677 000055 A
000700 001010 A 1103        JANZ     ET4                                                  10 01103
000701 000733 R
000702 027000 I 1104        LDB      IT            TEST FOR POSSIBLE PRIOR USE            10 01104
000703 005021 A 1105 ET4    TBA                                                           10 01105
000704 120422 A 1106        ADD      K2                                                   10 01106
000705 005113 A 1107        INCR     013           (A)=(B)=(A+1)                          10 01107
000706 147000 I 1108        SUB      JT                                                   10 01108
000707 001002 A 1109        JAP      ET4           TABLE SCANNED                          10 01109
000710 000733 R
000711 016002 A 1110        LDA      2,B                                                  10 01110
000712 150433 A 1111        ANA      BS10                                                 10 01111
000713 001010 A 1112        JANZ     ET1           USE FLAG SET                           10 01112
000714 000703 R
000715 016002 A 1113        LDA      2,B                                                  10 01113
000716 150000 L 1114        ANA      =0176                                                10 01114
000717 006140 A 1115        SUBI     0104                                                 10 01115
000720 000104 A
000721 001010 A 1116        JAZ      ET2           INDEX (X)                              10 01116
000722 000726 R
000723 016000 A 1117        LDA      0,B                                                  10 01117
000724 002000 A 1118        JAPM     ET6                                                  10 01118
000725 000743 R
000726 016001 A 1119 ET2    LDA      1,B                                                  10 01119
000727 002000 A 1120        JAPM     ET6                                                  10 01120
000730 000743 R
000731 001000 A 1121        JMP      ET1           NO USE OF THIS TRIAD                   10 01121
000732 000703 R
000733 002000 A 1122 ET4    CALL     ET2                                                  10 01122
000734 007377 R
000735 017000 I 1123.       LDA      DPY                                                  10 01123
000736 127000 I 1124        ADD      IT                                                   10 01124
000737 147000 I 1125.       SUB      JT                                                   10 01125
000740 057000 I 1126        STA      J             INDEPENDANT 01                         10 01126
000741 001000 A 1127        JMP*     ETT                                                  10 01127
000742 100643 R
000743 000000 A 1128 ET6    ENTRY                  (A)=POINTER VALUE                      10 01128
000744 147000 I 1129        SUB      02                                                   10 01129
000745 001010 A 1130        JANZ*    ET6           NOT USED                               10 01130
000746 100743 R
000747 016002 A 1131        LDA      2,B           SET USE FLAG                           10 01131
000750 110433 A 1132        ORA      BS10                                                 10 01132
000751 056002 A 1133.       STA      2,B                                                  10 01133
000752 001000 A 1134        JMP      ET1                                                  10 01134
000753 000703 R
                1135        EJECT                                                         10 01135
                1136 ********************************************************************** 10 01136
                1137 *                                                                    * 10 01137
                1138 *          E X P R E S S I O N   P R O C E S S O R ( E X P )          * 10 01138
                1139 *                                                                    * 10 01139
                1140 * FUNCTION: EXP SCANS EXPRESSIONS, LEFT TO RIGHT, PICKING UP        * 10 01140
                1141 *           OPERAND/OPERATOR PAIRS AND STORING THEM IN THE           * 10 01141
                1142 *           EXPRESSION TABLE. EXP THEN CALLS SCN TO SCAN THE         * 10 01142
                1143 *           EXPRESSION TABLE AND BUILD THE TRIAD TABLE. THEN EXP     * 10 01143
                1144 *           CALLS OTR TO GENERATE CODE FROM THE TRIAD TABLE.         * 10 01144
                1145 *                                                                    * 10 01145
                1146 * ENTRY: AS SHOWN IN TABLE BELOW, WHERE:                            * 10 01146
```

```
                 1147 *                                                                     * 10 01147
                 1148 *       ARN: ARRAY NAME                                               * 10 01148
                 1149 *       EXP: EXPRESSION                                               * 10 01149
                 1150 *       ORN: OPERAND NAME                                             * 10 01150
                 1151 *       @ : OPERATOR                                                  * 10 01151
                 1152 *       S: ARRAY SUBSRIPT                                             * 10 01152
                 1153 *       SFN: STATEMENT FUNCTION NAME                                  * 10 01153
                 1154 *       SRN: SUBROUTINE NAME                                          * 10 01154
                 1155 *       VRN: VARIABLE NAME                                            * 10 01155
                 1156 *                                                                     * 10 01156
                 1157 *       XXX↑ GIVES SCAN ROUTINE NAME XXX AND SCAN POSITION            * 10 01157
                 1158 *                                                                     * 10 01158
                 1159 *   STRING..                      A     I       IM      TC    COMMENT * 10 01159
                 1160 *                                                                     * 10 01160
                 1161 *   VRN = EXP                    -2    VRN     VRN     '='            * 10 01161
                 1162 *   INA  ↑                                                            * 10 01162
                 1163 *                                                                     * 10 01163
                 1164 *       = ORN@                    0    ORN     ORN     '@'            * 10 01164
                 1165 *         INI ↑                                                       * 10 01165
                 1166 *                                                                     * 10 01166
                 1167 *       = @                       0    ---      0      '@'            * 10 01167
                 1168 *        INI↑                                                         * 10 01168
                 1169 *                                                                     * 10 01169
                 1170 *   ARN( S ) = EXP               -2    ARN     ARN     '('            * 10 01170
                 1171 *    INA↑                                                             * 10 01171
                 1172 *                                                                     * 10 01172
                 1173 *   CALL SRN( ...                -1    SRN     SRN     '('            * 10 01173
                 1174 *         INA↑                                                        * 10 01174
                 1175 *                                                                     * 10 01175
                 1176 *   IF( ORN@                      0    ORN     ORN     '@'            * 10 01176
                 1177 *        INI↑                                                         * 10 01177
                 1178 *                                                                     * 10 01178
                 1179 *   IF( @                         0    ---     0       '@'            * 10 01179
                 1180 *      INI↑                                                           * 10 01180
                 1181 *                                                                     * 10 01181
                 1182 *   READ/WRITE(U,F) ...ARN(       1    ARN     ARN     '('            * 10 01182
                 1183 *                      INI↑                                           * 10 01183
                 1184 *                                                                     * 10 01184
                 1185 *   SFN(...) = EXP               -2     0      SFN     '='    IU=0    * 10 01185
                 1186 *          ↑                                                          * 10 01186
                 1187 *                                                                     * 10 01187
                 1188 * EXIT : CODE OUTPUT BY OTR                                           * 10 01188
                 1189 *                                                                     * 10 01189
                 1190 * ERRORS: TER1: INVALID EXPRESSION STRUCTURE                          * 10 01190
                 1191 *         TER7: INVALID ARRAY SUBSCIPT                                * 10 01191
                 1192 *         TER13 INVALID UNARY +,-                                       10 01192
                 1193 *         TER15 INVALID =                                               10 01193
                 1194 *         ER12: MISSPELLED OP                                         * 10 01194
                 1195 *                                                                     * 10 01195
                 1196 ******************************************************************** 10 01196
000754 000000 A 1198 EXP    ENTRY                                                            10 01198
000755 057000 I 1199        STA    T3        TYPE                                            10 01199
000756 017000 I 1200        LDA    DT                                                        10 01200
000757 140466 A 1201        SUB    K6                                                        10 01201
000760 057000 I 1202        STA    K                                                         10 01202
000761 057000 I 1203        STA    KT                                                        10 01203
000762 005014 A 1204        TAX                                                              10 01204
000763 005001 A 1205        TZA                                                              10 01205
000764 055005 A 1206        STA    5,1                                                       10 01206
000765 055004 A 1207        STA    4,1                                                       10 01207
000766 057000 I 1208        STA    EH        HIERARCHY                                       10 01208
000767 057000 I 1209        STA    EH+1      LEVEL                                           10 01209
000770 057000 I 1210        STA    OP                                                        10 01210
000771 057000 I 1211        STA    NF                                                        10 01211
000772 057000 I 1212        STA    T0EX                                                    V 10 01212
000773 057000 I 1213        STA    T7EX                                                    V 10 01213
000774 017000 I 1214        LDA    DPX                                                       10 01214
000775 055002 A 1215        STA    2,1                                                       10 01215
000776 006010 A 1216        LDAI   0132      '=,0'                                           10 01216
000777 000132 A
001000 055003 A 1217        STA    3,1                                                       10 01217
001001 017000 I 1218 EXP1   LDA    IM                                                        10 01218
001002 001010 A 1219        JAZ    EXP3      NOT OPERAND                                     10 01219
001003 001024 R
001004 005001 A 1220        TZA                                                              10 01220
001005 057000 I 1221        STA    EH                                                        10 01221
001006 017000 I 1222        LDA    IU                                                        10 01222
001007 140422 A 1223        SUB    K2                                                        10 01223
001010 001004 A 1224        JAN    EXP4      VAR/CST                                         10 01224
001011 001106 R
001012 017000 I 1225        LDA    TC                                                        10 01225
001013 140000 L 1226        SUB    ='('                                                      10 01226
001014 001010 A 1227        JAZ    EXPA                                                      10 01227
001015 001520 R
001016          1228 EXLK   BSS    0                                                       V 10 01228
001016 017000 I 1229        LDA    OP                                                        10 01229
001017 140000 L 1230        SUB    =054                                                      10 01230
001020 001010 A 1231        JAZ    EXP5      SUB. CONTINUE                                   10 01231
001021 001136 R
001022 001000 A 1232        JMP    TER1                                                      10 01232
001023 077745 R
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001024 017000 1 1233 EXP3   LDA     TC                                          10 01233
001025 006140 A 1234        SUBI    0246        '&'                             10 01234
001026 000246 A
001027 001010 A 1235        JAZ     EXP31                                       10 01235
001030 001071 R
001031 140422 A 1236        SUB     TWO                                         10 01236
001032 001010 A 1237        JAZ     EXP6        '('                             10 01237
001033 001057 R
001034 140422 A 1238        SUB     TWO                                         10 01238
001035 001010 A 1239        JAZ     EXPJ        '*'                             10 01239
001036 001365 R
001037 005311 A 1240        DAR                                                 10 01240
001040 001010 A 1241        JAZ     EXP2        '+'                             10 01241
001041 001076 R
001042 140422 A 1242        SUB     TWO                                         10 01242
001043 001010 A 1243        JAZ     EXP2        '-'                             10 01243
001044 001076 R
001045 120466 A 1244        ADD     SIX                                         10 01244
001046 001010 A 1245        JAZ     EXLH        '.'                             10 01245
001047 001279 R
001050 006140 A 1246        SUBI    041                                         10 01246
001051 000041 A
001052 001010 A 1247        JAZ     EXLH        'H'                             10 01247
001053 001270 R
001054 006140 A 1248        SUBI    0147414     'OT'                            10 01248
001055 147414 A
001056 001016 A 1249        JANZ    TER1                                        10 01249
001057 077745 R
001060 017000 I 1250        LDA     PC+2                                        10 01250
001061 006140 A 1251        SUBI    ' N'                                        10 01251
001062 120316 A
001063 002016 A 1252        JANZM   ER12                                        10 01252
001064 077630 R
001065 002000 A 1253        JMPM    EXLU        SET T7, EH+1                V 10 01253
001066 001333 R
001067 001000 A 1254        JMP     EXPK                                        V 10 01254
001070 001446 R
001071 057000 I 1255 EXP31  STA     EH          PROCESS STATEMENT-NUMBER IN CALL    10 01255
001072 002000 A 1256        CALL    ISN                                         10 01256
001073 077674 R
001074 001000 A 1257        JMP     EXLK                                        10 01257
001075 001016 R
001076 017000 I 1258 EXP2   LDA     EH+1                                        10 01258
001077 147000 I 1259        SUB     EH                                          10 01259
001100 001004 A 1260        JAN     TER13                                       10 01260
001101 077757 R
001102 005001 A 1261        TZA                                                 10 01261
001103 057000 I 1262        STA     I                                           10 01262
001104 057000 I 1263        STA     EH                                          10 01263
001105 057000 I 1264        STA     OP                                          10 01264
001106 006020 A 1265 EXP4   LDRI    010                                         10 01265
001107 000010 A
001110 017000 I 1266        LDA     TC                                          10 01266
001111 140000 L 1267        SUB     ='+'                                        10 01267
001112 001010 A 1268        JAZ     EXP7                                        10 01268
001113 001377 R
001114 140422 A 1269        SUB     TWO         '-'                             10 01269
001115 001010 A 1270        JAZ     EXP7                                        10 01270
001116 001377 R
001117 020000 L 1271        LDB     =015                                        10 01271
001120 120464 A 1272        ADD     THREE       '*'                             10 01272
001121 001010 A 1273        JAZ     EXP7                                        10 01273
001122 001377 R
001123 140465 A 1274        SUB     FIVE        '/'                             10 01274
001124 001010 A 1275        JAZ     EXP7                                        10 01275
001125 001377 R
001126 006140 A 1276        SUBI    016         '='                             10 01276
001127 000016 A
001130 001010 A 1277        JAZ     EXP8                                        10 01277
001131 001452 R
001132 017000 I 1278        LDA     TC+1                                        10 01278
001133 140000 L 1279        SUB     ='.'                                        10 01279
001134 001010 A 1280        JAZ     EXLG        LOGICAL OR RELATIONAL           V 10 01280
001135 001204 R
001136 017000 I 1281 EXP5   LDA     EH+1                                        V 10 01281
001137 001010 A 1282        JAZ     EXPH        TERMINATE IF BASE=0             V 10 01282
001140 001462 R
001141 002000 A 1283        JMPM    TXLV        GET EFF. T7EX-(EH+1)            V 10 01283
001142 001323 R
001143 001004 A 1284        JAN     EXL3                                        V 10 01284
001144 001174 R
001145 054724 A 1285 EXL4   STA     T7EX                                        V 10 01285
001146 017000 I 1286        LDA     EH+1                                        V 10 01286
001147 140425 A 1287        SUB     =20                                         V 10 01287
001150 057000 I 1288        STA     EH+1                                        V 10 01288
001151 120471 A 1289        ADD     =12                                         10 01289
001152 057000 I 1290        STA     EH                                          10 01290
001153 014715 A 1291        LDI     T3EX,                                       V 10 01291
001154 001012 A 1292        JMP     *+4                                         10 01292
001155 001160 R
001156 006010 A 1293        LDRI    #61         .NOT. FORCE                     10 01293
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001157 000061 A
001160 057000 I 1294          STA     OP                                    V 10 01294
001161 002000 A 1295          JMPM    SEX     STORE EXPRESSION ENTRIES      V 10 01295
001162 006704 R
001163 002000 A 1296          CALL    DEK                                     10 01296
001164 077620 R
001165 005001 A 1297          TZA                                           V 10 01297
001166 054702 A 1298          STA     TOEX                                  V 10 01298
001167 057000 I 1299          STA     EH                                    V 10 01299
001170 010461 A 1300          LDA     NEG     RELATIONAL FLAG                 10 01300
001171 057000 I 1301          STA     I                                     V 10 01301
001172 001000 A 1302          JMP     EXP4                                  V 10 01302
001173 001106 R
001174         1303 EXL3      BSS     0                                     V 10 01303
001174 017000 I 1304          LDA     TC                                      10 01304
001175 140000 L 1305          SUB     =',                                     10 01305
001176 001010 A 1306          JAZ     EXP9                                    10 01306
001177 001473 R
001200 002000 A 1307 EXPR     CALL    RID                                     10 01307
001201 077732 R
001202 001000 A 1308          JMP     EXP4                                    10 01308
001203 001106 R
001204 020424 A 1309 EXLG     LDB     EIGHT   CHECK FOR RELATIONAL/LOGICAL OPS 10 01309
001205 017000 I 1310          LDA     TC                                      10 01310
001206 006146 A 1311          SUBE    EXLG1-1,B                               10 01311
001207 001216 R
001210 001010 A 1312          JAZ     EXLG2                                   10 01312
001211 001227 R
001212 005322 A 1313          DBR                                             10 01313
001213 001026 A 1314          JBNZ    EXLG+1                                  10 01314
001214 001205 R
001215 001000 A 1315          JMP     TER1    ILLEGAL OPERATOR                10 01315
001216 077745 R
001217 147305 A 1316 EXLG1    DATA    'NE'                                    10 01316
001220 142721 A 1317          DATA    'EQ'                                    10 01317
001221 146324 A 1318          DATA    'LT'                                    10 01318
001222 143705 A 1319          DATA    'GE'                                    10 01319
001223 147722 A 1320          DATA    'DR'                                    10 01320
001224 147304 A 1321          DATA    'ND'                                    10 01321
001225 146305 A 1322          DATA    'LE'                                    10 01322
001226 143724 A 1323          DATA    'GT'                                    10 01323
001227 005021 A 1324 EXLG2    TBA                                             10 01324
001230 006120 A 1325          ADDI    067     MAKE LOG/REL OPERATOR           10 01325
001231 000067 A
001232 004460 A 1326          LLRL    16      (A)::(B)                        10 01326
001233 140465 A 1327          SUB     FIVE                                    10 01327
001234 001004 A 1328          JAN     EXL0    RELATIONAL                      10 01328
001235 001241 R
001236 140422 A 1329          SUB     TWO                                     10 01329
001237 001004 A 1330          JAN     EXL1    LOGICAL                         10 01330
001240 001255 R
001241 005001 A 1331 EXL0     TZA             PROCESS RELATIONAL              10 01331
001242 144626 A 1332          SUB     TOEX                                    10 01332
001243 001004 A 1333          JAN     TER1                                    10 01333
001244 077745 R
001245 064623 A 1334          STB     TOEX                                  V 10 01334
001246 002000 A 1335          JMPM    EXLU    SET T7, EH+1                  V 10 01335
001247 001333 R
001250 010000 L 1336          LDA     =046                                    10 01336
001251 057000 I 1337          STA     TC                                    V 10 01337
001252 020443 A 1338          LDB     BR2     -5                              10 01338
001253 001000 A 1339          JMP     EXP7                                  V 10 01339
001254 001377 R
001255 002000 A 1340 EXL1     JMPM    EXLV    GET EFF. T7EX-(EH+1)            10 01340
001256 001323 R
001257 001002 A 1341          JAP     EXL4    TERMINATE                     V 10 01341
001260 001145 R
001261 067000 I 1342          STB     TC                                    V 10 01342
001262 004461 A 1343          LLRL    $BIT+1                                V 10 01343
001263 006140 A 1344          SUBI    0163                                  V 10 01344
001264 000163 A
001265 005012 A 1345          TAB                                           V 10 01345
001266 001000 A 1346          JMP     EXP7                                  V 10 01346
001267 001377 R
001270 017000 I 1347 EXLH     LDA     RL                                    V 10 01347
001271 054022 A 1348          STA     EXLJ+1                                V 10 01348
001272 002000 A 1349          CALL    DTJ                                     10 01349
001273 077717 R
001274 005003 A 1350          ZERO    3       DEFINE LOC OF STRING          V 10 01350
001275 002000 A 1351          CALL    ASS                                     10 01351
001276 077612 R
001277 017000 I 1352          LDA     RL                                    V 10 01352
001300 005102 A 1353          INCR    2                                     V 10 01353
001301 002000 A 1354          CALL    DFT                                     10 01354
001302 077621 R
001303 002000 A 1355 EXLI     CALL    IHW                                     10 01355
001304 077663 R
001305 002000 A 1356          CALL    DAB                                     10 01356
001306 077710 R
001307 017000 I 1357          LDA     HCC                                   V 10 01357
001310 057000 I 1358          STA     EH      ZERO EH                       V 10 01358
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001311 001016 6 1359          JANZ    EXLI                                          10 01359
001312 001303 5
001313 006010 A 1360 EXLJ     LDAI    0-0                                        V  10 01360
001314 000000 6
001315 002004 6 1361          CALL    DSR                                           10 01361
001316 077711 5
001317 002000 6 1362          CALL    ICH                                           10 01362
001320 077654 5
001321 001000 6 1363          JMP     EXLK                                       V  10 01363
001322 001116 5
001323 000000 6 1364 EXLV     ENTR                GET EFF. T7EX-(EH+1)           V  10 01364
001324 002000 6 1365          JMPM    EXLS        T7 EQUIV. OF EH+1              V  10 01365
001325 001345 5
001326 005211 6 1366          CPA                 NEGATE                         V  10 01366
001327 005111 6 1367          IAR                                                V  10 01367
001330 124561 6 1368          ADD     T7EX        ADD T7                         V  10 01368
001331 001000 6 1369          JMP*    EXLV        RETURN                         V  10 01369
001332 101225 5
001333 000000 6 1370 EXLU     ENTR                SET T7, EH+1                   V  10 01370
001334 017000 1 1371          LDA     EH+1        (EH+1)=(EH+1)+16               V  10 01371
001335 120425 6 1372          ADD     K20                                        V  10 01372
001336 057000 1 1373          STA     EH+1                                       V  10 01373
001337 002000 6 1374          JMPM    EXLS        T7 EQUIV. OF EH+1              V  10 01374
001340 001345 5
001341 124561 6 1375          ADD     T7EX            TO T7                      V  10 01375
001342 054561 6 1376          STA     T7EX                                       V  10 01376
001343 001000 6 1377          JMP*    EXLU        RETURN                         V  10 01377
001344 101225 5
001345 000000 6 1378 EXLS     ENTR                                               10 01378
001346 017000 1 1379          LDA     EH+1                                       10 01379
001347 004420 6 1380          LGRA    4                                          10 01380
001350 140063 6 1381          ORA     EXLT                                       10 01381
001351 054001 6 1382          STA     *+2                                        10 01382
001352 005101 6 1383          INCR    1                                          10 01383
001353 004240 6 1384          LRLA    0                                          10 01384
001354 001000 6 1385          JMP*    EXLS                                       10 01385
001355 101345 5
001356 004240 6 1386 EXLT     LRLA    0                                          10 01386
001357 017000 1 1387 EXP6     LDA     EH+1                                       10 01387
001360 120425 6 1388          ADD     K20                                        10 01388
001361 057000 1 1389          STA     EH+1        PARENTHETIC COUNT              10 01389
001362 057000 1 1390          STA     OP                                         V  10 01390
001363 001000 6 1391          JMP     EXPK                                       10 01391
001364 001446 5
001365 017000 1 1392 EXPJ     LDA     OP                                         10 01392
001366 140000 1 1393          SUB     =047        '*'                            10 01393
001367 001016 6 1394          JANZ    EXP1                                       10 01394
001370 077745 5
001371 047000 1 1395          IAR                 .                              10 01395
001372 047000 1 1396          IAR                 .                              10 01396
001373 017000 1 1397          LDA     OP          'E'                            10 01397
001374 047000 1 1398          IAR                 E                              10 01398
001375 001000 6 1399          JMP     EXPL                                       10 01399
001376 001401 5
001377 067000 1 1400 EXP7     STB     S4                                         10 01400
001400 017000 1 1401          LDA     S4+1                                       10 01401
001401 120000 1 1402          ADD     =3          '3'                            10 01402
001402 001004 6 1403          JAN     EXP1                                       10 01403
001403 077744 5
001404 017000 1 1404 EXP0     LDA     S4+1                                       10 01404
001405 120001 1 1405          ADD     =4          '4'                            10 01405
001406 057001 1 1406 EXPM     STA     *+1         ?                              10 01406
001407 017000 1 1407          LDA     **          ??                             10 01407
001410 057000 1 1408          STA     S3          ?                              10 01408
001411 140427 6 1409          SUB     =56         '.'                            10 01409
001412 001001 6 1410          JAP     EXPL+1      OP ALREADY CONVERTED           10 01410
001413 001442 5
001414 030124 6 1411          LDX     =EIGHT                                     10 01411
001415 006015 6 1412 EXPM2    LDAE    EXPM4-1,X   CONVERT ASCII OP TO INTERNAL   10 01412
001416 001427 5
001417 004550 6 1413          CLCR    1           ?                              10 01413
001420 147000 1 1414          SUB     S3          ??                             10 01414
001421 001015 6 1415          JPZ     EXPL-1      FOUND                          10 01415
001422 001417 5
001423 030000 6 1416          LDX     =0                                         10 01416
001424 001406 6 1417          JXCZ    EXPM2                                      10 01417
001425 001410 5
001426 001000 6 1418          JMP     TER1        ILLEGAL OPERATOR               10 01418
001427 077715 5
               1419 Q         EQUM    $-3                                        10 01419
001430 125455 6 1420 EXPM4    DATA    '+',045                                    10 01420
001431 126440 6 1421          DATA    ' ',046                                    10 01421
001432 125047 6 1422          DATA    '*',047                                    10 01422
001433 127450 6 1423          DATA    '-',050                                    10 01423
001434 124056 6 1424          DATA    '/',052                                    10 01424
001435 124057 6 1425          DATA    '(',053                                    10 01425
001436 126051 6 1426          DATA    ')',054                                    10 01426
001437 126453 6 1427          DATA    '+',055                                    10 01427
001440 004450 6 1428          CLRL    8           (A)=CONVERTED OP CODE          10 01428
001441 057000 1 1429 EXPL     STA     OP                                         10 01429
001442 002000 6 1430          JMPM    EXPX        STORE EXPRESSION               10 01430
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001443 006704 R
001444 002000 A 1431          CALL    DEK                                    10 01431
001445 077620 R
001446 002000 A 1432 EXPK     CALL    INI                                    10 01432
001447 077670 R
001450 001000 A 1433          JMP     EXP1+1                                 10 01433
001451 001002 R
001452 017000 I 1434 EXP8     LDA     T3          = SIGN CHECK               10 01434
001453 120422 A 1435          ADD     K2                                     10 01435
001454 057000 I 1436          STA     T3                                     10 01436
001455 127000 I 1437          ADD     EH+1                                   10 01437
001456 001010 A 1438          JAZ     EXPN                                   10 01438
001457 001406 R
001460 001000 A 1439          JMP     TER15                                  10 01439
001461 077761 R
001462 057000 I 1440 EXPN     STA     OP                                     10 01440
001463 002000 A 1441          JMPM    SEX         FINISHED, STORE EXPRESSION 10 01441
001464 006704 R
001465 005001 A 1442          TZA                                            10 01442
001466 147000 I 1443          SUB     T3                                     10 01443
001467 002002 A 1444          JAPM    SCN                                    10 01444
001470 006372 R
001471 001000 A 1445          JMP*    EXP                                    10 01445
001472 100754 R
001473 017000 I 1446 EXP9     LDA     I                                      10 01446
001474 057000 I 1447          STA     T4                                     10 01447
001475 017000 I 1448          LDA     K                                      10 01448
001476 057000 I 1449          STA     T5                                     10 01449
001477 047000 I 1450 EXPP     INR     K                                      10 01450
001500 047000 I 1451          INR     K                                      10 01451
001501 002000 A 1452          CALL    LEX                                    10 01452
001502 077702 R
001503 017000 I 1453          LDA     EH+1                                   10 01453
001504 147000 I 1454          SUB     EH                                     10 01454
001505 001004 A 1455          JAN     EXPP                                   10 01455
001506 001477 R
001507 001016 A 1456          JANZ    TER1                                   10 01456
001510 077745 R
001511 057000 I 1457          STA     EH                                     10 01457
001512 017000 I 1458          LDA     T4                                     10 01458
001513 057000 I 1459          STA     I                                      10 01459
001514 017000 I 1460          LDA     T5                                     10 01460
001515 057000 I 1461          STA     K                                      10 01461
001516 001000 A 1462          JMP     EXPQ                                   10 01462
001517 001404 R
001520 017000 I 1463 EXPA     LDA     EH+1        ARRAY/FUNCTION REFERENCE   10 01463
001521 120425 A 1464          ADD     K20                                    10 01464
001522 057000 I 1465          STA     EH+1                                   10 01465
001523 017000 I 1466          LDA     IU                                     10 01466
001524 140422 A 1467          SUB     K2                                     10 01467
001525 001010 A 1468          JAZ     *+6         ARRAY                      10 01468
001526 001533 R
001527 010000 L 1469          LDA     =',                                    10 01469
001530 057000 I 1470          STA     TC                                     10 01470
001531 001000 A 1471          JMP     EXP7+1                                 10 01471
001532 001400 R
001533 017000 I 1472          LDA     K           PROCESS ARRAYS             10 01472
001534 006140 A 1473          SUBI    021                                    10 01473
001535 000021 A
001536 057000 I 1474          STA     K                                      10 01474
001537 005012 A 1475          TAB                                            10 01475
001540 147000 I 1476          SUB     JT                                     10 01476
001541 002004 A 1477          JANM    TOF                                    10 01477
001542 077770 R
001543 017000 I 1478          LDA     I           SAVE EXPRESSION PARAMETERS 10 01478
001544 056003 A 1479          STA     3,B                                    10 01479
001545 017000 I 1480          LDA     EH+1        LEVEL                      10 01480
001546 056004 A 1481          STA     4,B                                    10 01481
001547 017000 I 1482          LDA     T3          EXPRESSION TYPE            10 01482
001550 056005 A 1483          STA     5,B                                    10 01483
001551 014320 A 1484          LDA     T7EX        EFFECTIVE HIERARCHY        10 01484
001552 056006 A 1485          STA     6,B                                    10 01485
001553 014315 A 1486          LDA     T0EX        RELATIONAL FLAG            10 01486
001554 056007 A 1487          STA     7,B                                    10 01487
001555 017000 I 1488          LDA*    EXP20+1     EXP EXIT                   10 01488
001556 056010 A 1489          STA     8,B                                    10 01489
001557 005001 A 1490          TZA                                            10 01490
001560 056002 A 1491          STA     2,B         DIMENSION COUNT            10 01491
001561 057000 I 1492          STA     T3                                     10 01492
001562 054306 A 1493          STA     T0EX                                   10 01493
001563 054306 A 1494          STA     T7EX                                   10 01494
001564 057000 I 1495          STA     EH+1                                   10 01495
001565 006010 A 1496          LDAI    EXP11                                  10 01496
001566 001575 R
001567 057000 I 1497          STA*    EXP20+1     SET EXP EXIT               10 01497
001570 005001 A 1498 EXP10    TZA                                            10 01498
001571 057000 I 1499          STA     I                                      10 01499
001572 057000 I 1500          STA     EH                                     10 01500
001573 001000 A 1501          JMP     EXPL        PROCESS SUBSCRIPT          10 01501
001574 001441 R
001575 037000 I 1502 EXP11    LDX     K                                      10 01502
```

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001576 045002 A 1503          INR     2,X       INCREMENT DIMENSION COUNT                    10 01503
001577 003C41 A 1504          TXA                                                            10 01504
001600 125000 A 1505          ADD     2,X                                                    10 01505
001601 005012 A 1506          TAB                                                            10 01506
001602 017000 I 1507          LDA     I         EFFECTIVE POINTER                            10 01507
001603 056011 A 1508          STA     0,B                                                    10 01508
001604 015000 A 1509          LDX     2,X       ARRAY POINTER                                10 01509
001605 057000 I 1510          STA     ,I                                                     10 01510
001606 002000 E 1511          CALL    CAX                                                    10 01511
001607 077700 R
001610 037000 I 1512          LDY     I                                                      10 01512
001611 013002 A 1513          LDB     2,X                                                    10 01513
001612 147000 I 1514          SUB     ND                                                     10 01514
001613 001000 A 1515          JAZ     EXP12                                                  10 01515
001614 001401 R
001615 002000 E 1516          CALL    CTS                                                    10 01516
001616 077700 R
001617 001000 A 1517          JMP     EXP10                                                  10 01517
001620 001570 R
001621 056000 A 1518 EXP12    STA     2,X       MAKE FINAL CALCULATION                       10 01518
001622 057000 I 1519          STA     T2                                                     10 01519
001623 057000 I 1520          STA     OFFSET                                                 10 01520
001624 057000 I 1521          STB     CONSTANT FLAG                                          10 01521
001625 057000 I 1522          STA     T1        DIMENSION COUNTER                            10 01522
001626 005000 A 1523          INCA                                                           10 01523
001627 005040 A 1524          EXR                                                            10 01524
001630 074200 I 1525          STX     T2EX      TABLE POINTER                                10 01525
001631 017000 I 1526          LDA     T1                                                     10 01526
001632 054000 A 1527          TAB     T1EX                                                   10 01527
001633 017000 I 1528          LDA     A1                                                     10 01528
001634 140400 A 1529          SUB     SEVEN                                                  10 01529
001635 001000 A 1530          JAMZ    EXP13                                                  10 01530
001636 001651 R
001637 054231 A 1531          STA     T1EX      DUMMY ARRAY                                  10 01531
001640 010400 A 1532          LDA     NINE                                                   10 01532
001641 020000 L 1533          LDB     =013      'A'                                          10 01533
001642 002000 E 1534          CALL    EXP21                                                  10 01534
001643 002054 R
001644 017000 I 1535          LDA     T1+1                                                   10 01535
001645 001000 A 1536          JAMZ    EXP13     NOT DUMMY DIMENSIONS                         10 01536
001646 001651 R
001647 005311 A 1537          DAR                                                            10 01537
001650 057000 I 1538          STA     T6        SET NO-CONSTANT FLAG                         10 01538
001651 037000 I 1539 EXP13    LDX     T2                                                     10 01539
001652 006025 A 1540          LDBE    IP,X      DIMENSION POINTER                            10 01540
001653 127420 R
001654 067000 I 1541          STB     T                                                      10 01541
001655 010000 L 1542          LDA     =015                                                   10 01542
001656 020000 L 1543          LDB     =042      '*'                                          10 01543
001657 002000 E 1544          CALL    EXP21     MAKE DIMENSION MULTIPLY                      10 01544
001660 002054 R
001661 017000 I 1545          LDA     T1                                                     10 01545
001662 047000 I 1546          INM     T1        RAISE DIMENSION COUNT                        10 01546
001663 124000 A 1547          JBS     T2EX                                                   10 01547
001664 005010 A 1548          TBA                                                            10 01548
001665 015000 A 1549          LDX     0,X       EFFECTIVE POINTER                            10 01549
001666 057000 I 1550          STX     ,I                                                     10 01550
001667 002000 E 1551          CALL    GUN                                                    10 01551
001670 002127 R
001671 140422 A 1552          SUB     TWO                                                    10 01552
001672 001000 A 1553          JAM2    EXP135    NOT INTEGER                                  10 01553
001673 001714 R
001674 017000 I 1554          LDA     I                                                      10 01554
001675 027001 A 1555          LDT     1                                                      10 01555
001676 006000 A 1556          BT      EXP14                                                  10 01556
001677 001714 R
001700 001000 A 1557          JAE                                                            10 01557
001701 140400 A 1558          SUB     ONE                                                    10 01558
001702 001000 A 1559          JAZ     EXP14     TRIAD POINTER                                10 01559
001703 001714 R
001704 016001 A 1560          LDA     0,X                                                    10 01560
001705 001000 A 1561          JAZ     EXP14     VARIABLE (NT=0)                              10 01561
001706 001714 R
001707 016001 A 1562          LDA     1,X       ID,I)                                        10 01562
001710 001000 A 1563          JAZ     EXP16                                                  10 01563
001711 001716 R
001712 016000 A 1564 EXP135   LDA     =016                                                   10 01564
001713 005012 A 1565          TAB               'INTEGER-CONVERT'                            10 01565
001714 002000 E 1566          CALL    EXP21                                                  10 01566
001715 002054 R
001716 010000 L 1567 EXP14    LDA     =013                                                   10 01567
001717 020000 L 1568          LDB     =053      '+'                                          10 01568
001720 002000 E 1569          CALL    EXP21                                                  10 01569
001721 002054 R
001722 011777 A 1570          LDA     -6                                                     10 01570
001723 002000 E 1571          CALL    EXP15                                                  10 01571
001724 002135 R
001725 016000 A 1572          LDA     T1+10     MAKE -1 FOR DUMMY DIMENSIONS                 10 01572
001726 005000 A 1573          INCA                                                           10 01573
001727 010000 L 1574          LDA     =013                                                   10 01574
001730 020000 L 1575          LDB     =045                                                   10 01575
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001731 002000 A 1576          CALL    EXP21                                                    10 01576
001732 002054 R
001733 001000 A 1577          JMP     EXP17                                                    10 01577
001734 001753 R
001735 047000 I 1578 EXP15.   INR     T6          SET NON CONSTANT                             10 01578
001736 005001 A 1579          TZA                                                              10 01579
001737 005311 A 1580 EXP16    DAR                                                              10 01580
001740 004560 A 1581          LLSR    16                                                       10 01581
001741 167000 I 1582          MUL     IS                                                       10 01582
001742 004417 A 1583          LASL    15                                                       10 01583
001743 127000 I 1584          ADD     T5                                                       10 01584
001744 057000 I 1585          STA     T5          OFFSET                                       10 01585
001745 005001 A 1586          TZA                                                              10 01586
001746 027000 I 1587          LDB     IS                                                       10 01587
001747 037000 I 1588          LDX     T7                                                       10 01588
001750 006163 A 1589          MULE    IS,X        GET NEXT MULTIPLY FACTOR                     10 01589
001751 177435 R
001752 067000 I 1590          STB     IS                                                       10 01590
001753 017000 I 1591 EXP17    LDA     T7                                                       10 01591
001754 147000 I 1592          SUB     ND                                                       10 01592
001755 001016 A 1593          JANZ    EXP13                                                    10 01593
001756 001651 R
001757 057000 I 1594          STA     T7                                                       10 01594
001760 002000 A 1595 EXP175   CALL    LEX         CHECK FOR UNNECESSARY MULTIPLIES             10 01595
001761 077702 R
001762 047000 I 1596          INR     K                                                        10 01596
001763 047000 I 1597          INR     K                                                        10 01597
001764 017000 I 1598          LDA     OP                                                       10 01598
001765 140000 L 1599          SUB     =047        '*'                                          10 01599
001766 001010 A 1600          JAZ     EXP175                                                   10 01600
001767 001760 R
001770 017000 I 1601          LDA     T6                                                       10 01601
001771 001016 A 1602          JANZ    EXP18                                                    10 01602
001772 002003 R
001773 017000 I 1603          LDA     T5          CONSTANTS ONLY                               10 01603
001774 117000 I 1604          ORA     IS+1                                                     10 01604
001775 001010 A 1605          JAZ     EXP19       INDIRECT ONLY                                10 01605
001776 002033 R
001777 017000 I 1606          LDA     OPX                                                      10 01606
002000 057000 I 1607          STA     I                                                        10 01607
002001 002000 A 1608          CALL    DEK                                                      10 01608
002002 077620 R
002003 010421 A 1609 EXP18    LDA     ONE                                                      10 01609
002004 005002 A 1610          TZB                                                              10 01610
002005 002000 A 1611          CALL    EXP21       MAKE ARRAY HEADER ENTRY                      10 01611
002006 002054 R
002007 017000 I 1612          LDA     T5                                                       10 01612
002010 124060 A 1613          ADD     T0EX        BASE OFFSET                                  10 01613
002011 057000 I 1614          STA     I                                                        10 01614
002012 010422 A 1615          LDA     TWO                                                      10 01615
002013 006020 A 1616          LDBI    042         'X'                                          10 01616
002014 000042 A
002015 002000 A 1617          CALL    EXP21                                                    10 01617
002016 002054 R
002017 034052 A 1618          LDX     T7EX                                                     10 01618
002020 015001 A 1619          LDA     1,X         ARRAY BASE                                   10 01619
002021 057000 I 1620          STA     I                                                        10 01620
002022 005003 A 1621          MERGE   03                                                       10 01621
002023 002000 A 1622          CALL    EXP21                                                    10 01622
002024 002054 R
002025 002000 A 1623          CALL    SCN                                                      10 01623
002026 006372 R
002027 037000 I 1624          LDX     J                                                        10 01624
002030 015002 A 1625          LDA     2,X                                                      10 01625
002031 110421 A 1626          ORA     ONE                                                      10 01626
002032 055002 A 1627          STA     2,X         SET STORAGE FLAG                             10 01627
002033 034036 A 1628 EXP19    LDX     T7EX        RESTORE ORIGINAL PARAMETERS                  10 01628
002034 015002 A 1629          LDA     2,X                                                      10 01629
002035 057000 I 1630          STA     EH+1                                                     10 01630
002036 015003 A 1631          LDA     3,X                                                      10 01631
002037 057000 I 1632          STA     T3                                                       10 01632
002040 015004 A 1633          LDA     4,X                                                      10 01633
002041 054030 A 1634          STA     T7EX                                                     10 01634
002042 015005 A 1635          LDA     5,X                                                      10 01635
002043 054025 A 1636          STA     T0EX                                                     10 01636
002044 015006 A 1637          LDA     6,X                                                      10 01637
002045 006057 A 1638 EXP20    STAE    EXP                                                      10 01638
002046 000754 R
002047 005041 A 1639          TXA                                                              10 01639
002050 120472 A 1640          ADD     BM17                                                     10 01640
002051 057000 I 1641          STA     K                                                        10 01641
002052 001000 A 1642          JMP     EXPR                                                     10 01642
002053 001200 R
002054 000000 A 1643 EXP21    ENTRY                (A)=OPERAND HIERARCHY, (B)=OPERATOR         10 01643
002055 057000 I 1644          STA     EH                                                       10 01644
002056 067000 I 1645          STB     OP                                                       10 01645
002057 017000 I 1646          LDA     T7                                                       10 01646
002060 004204 A 1647          ASLA    4                                                        10 01647
002061 127000 I 1648          ADD     EH                                                       10 01648
002062 057000 I 1649          STA     EH                                                       10 01649
002063 002000 A 1650          CALL    DEK                                                      10 01650
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002064 077620 R
002065 002000 A 1651          CALL    TEX                                    10 01651
002066 006704 P
002067 001000 A 1652          JMP*    EXP21                                  10 01652
002070 102054 P
002071 000000 A 1653 T0EX     DATA    0                                      10 01653
002072 000001 A 1654 T7EX     DATA    1                                      10 01654
                1655          EJECT                                          10 01655
                1656 **********************************************************10 01656
                1657 *                                                        *10 01657
                1658 *      D I R E C T   A C C E S S   F I N D   ( F N D )    *10 01658
                1659 *                                                        *10 01659
                1660 **********************************************************10 01660
002073 002000 A 1662 FND      CALL    $IL                                    10 01662
002074 002735 R
002075 002000 A 1663          CALL    FIO                                    10 01663
002076 077730 P
002077 001040 A 1664          JMP     *+1                                    10 01664
002100 077616 P
                1665          EJECT                                          10 01665
                1666 **********************************************************10 01666
                1667 *                                                        *10 01667
                1668 *      G E T   D O U B L E   V A L U E   ( G D V )        *10 01668
                1669 *                                                        *10 01669
                1670 **********************************************************10 01670
002101 000000 A 1672 GDV      ENTRY
002102 002000 A 1673          CALL    $FX                                    10 01673
002103 007435 R
002104 017000 A 1674          LDA     =1                                     10 01674
002105 140420 A 1675          STA     $IL,0                                  10 01675
002106 001016 A 1676          JUMP    GDV5            IS MODE DP ?           10 01676
002107 002114 P
002110 006010 A 1677          CPA1    'D'             YES                    10 01677
002111 155300 A
002112 002000 A 1678          JMPM    $XI             CALL $XI TO XFER SIGN WORD TO A-REG 10 01678
002113 072613 P
002114 001000 A 1679          JMP*    GDV             NO                     10 01679
002115 102101 P
002116 140400 A 1680 GDV3     SUB     =1D0
002117 001010 A 1681          SANZ*   GDV             DP INTEGER ?           10 01681
002120 102101 P
002121 006010 A 1682          LDBI    0,31            YES                    10 01682
002122 000031 A
002123 002000 A 1683          CALL    D&B             MERGE B WITH A         10 01683
002124 077710 P
002125 001000 A 1684          JMP*    +1              NO                     10 01684
002126 102131 P
                1685          EJECT                                          10 01685
                1686 **********************************************************10 01686
                1687 *                                                        *10 01687
                1688 *      S E T   O P E R A N D   M O D E                   *10 01688
                1689 *                                                        *10 01689
                1690 * FUNCTION: TO SET THE MODE OF AN OPERAND                10 01690
                1691 *                                                        10 01691
                1692 * ENTRY: A/B HAS OPERAND POINTER                         10 01692
                1693 *                                                        10 01693
                1694 * EXIT:  CPU=MODE                                        10 01694
                1695 *                                                        10 01695
                1696 **********************************************************10 01696
002127 000000 A 1697 SOM      ENTRY           A/B = POINTER                  10 01697
002130 005012 A 1698          SZC             CLEAR ASSIGNMENT MODE          10 01698
002131 147400 A 1699          SUB     =2,3                                   10 01699
002132 001002 A 1700          JLT     SOM1            TRIAD POINTER          10 01700
002133 002111 P
002134 016002 A 1701          LDX     =2,0            GET ASSIGNMENT MODE    10 01701
002135 000400    1702          SRA     8,EN                                   10 01702
002136 150100 A 1703          STX     1,3                                    10 01703
002137 001000 A 1704          JMP*    SOM             EXIT                   10 01704
002140 102127 P
002141 000000 A 1705 SOM1     ENTRY           A/B = TRIAD POINTER            10 01705
002142 005011 A 1706          SZC     1,3             CLEAR ASSIGNMENT MODE  10 01706
002143 147400 A 1707          SUB     =3,3                                   10 01707
002144 001002 A 1708          JLT     SOM2            DESCRIPTOR             10 01708
002145 002150 P
002146 016003 A 1709          LDX     =3,0            GET TRIAD MODE         10 01709
002147 000400    1710          SRA     8,EN                                   10 01710
002150 150100 A 1711          STX     1,3                                    10 01711
002151 001000 A 1712          JMP*    SOM             EXIT                   10 01712
002152 102127 P
                1713          EJECT                                          10 01713
                1714 **********************************************************10 01714
                1715 *                                                        *10 01715
                1716 *      G O   T O   P R O C E S S O R  ( G O T )          *10 01716
                1717 *                                                        *10 01717
                1718 * FUNCTION: TO ACCESS THE FORTRAN SOURCE STATEMENT 'GO TO' 10 01718
                1719 *                                                        10 01719
                1720 * ENTRY: DIRECT LSCM SID                                 10 01720
                1721 *                                                        10 01721
                1722 * EXIT:  UNCONDITIONAL GO TO(GO TO N): DIRECT TO IFU     10 01722
                1723 *        COMPUTED GO TO(GO TO(I),...,N),I): EXITS TO SCNN AFTER 10 01723
                1724 *          INSTR  NO:                                    10 01724
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                    1726 *                                                                                  * 10 01726
                    1727 *                        LDA  I (OR EQUIVALENT)                                    * 10 01727
                    1728 *                        JMPM $CG                                                  * 10 01728
                    1729 *                        DATA N                                                    * 10 01729
                    1730 *                        DATA I1                                                   * 10 01730
                    1731 *                          .                                                       * 10 01731
                    1732 *                          .                                                       * 10 01732
                    1733 *                        DATA IN                                                   * 10 01733
                    1734 *                                                                                  * 10 01734
                    1735 *        ASSIGNED GO TO(GO TO I,(I1,...,IN)) EXITS TO SCNN AFTER                   * 10 01735
                    1736 *        GENERATING:                                                               * 10 01736
                    1737 *                                                                                  * 10 01737
                    1738 *                        LDX  I (OR EQUIVALENT)                                    * 10 01738
                    1739 *                        STX  *+2                                                  * 10 01739
                    1740 *                        JMP                                                       * 10 01740
                    1741 *                          0                                                       * 10 01741
                    1742 *                                                                                  * 10 01742
                    1743 ************************************************************************************ 10 01743
002153 002000 A     1745 GOT      CALL     EXA                                                               10 01745
002154 077646 R
002155 001004 A     1746          JAN      IFU          UNCONDITIONAL GO TO IF NUMERIC                       10 01746
002156 002503 R
002157 017000 I     1747          LDA      DF                                                                10 01747
002160 001004 A     1748          JAN      GDA          ASSIGNED GO TO IF ALPHABETIC                         10 01748
002161 002263 R
                    1749 ***************************                                                         10 01749
                    1750 * PROCESS COMPUTED GO TO *                                                         10 01750
                    1751 ***************************                                                         10 01751
002162 002000 A     1752          CALL     ICH                                                               10 01752
002163 077654 R
002164 002000 A     1753          CALL     PTS                                                               10 01753
002165 077726 R
002166 017000 I     1754          LDA      DT                                                                10 01754
002167 057000 I     1755          STA      KT           INITIALIZE KT TO TOP OF AVAILABLE CORE               10 01755
                    1756 ****************************************                                            10 01756
                    1757 * LOOP TO INPUT/STORE STATEMENT NUMBERS *                                           10 01757
                    1758 ****************************************                                            10 01758
002170 017000 I     1759 GDL1     LDA      KT                                                                10 01759
002171 140422 A     1760          SUB      K2           DECREMENT TABLE POINTER                              10 01760
002172 057000 I     1761          STA      K                                                                 10 01761
002173 002000 A     1762          CALL     INS                                                               10 01762
002174 077672 R
002175 002000 A     1763          CALL     SEX          STORE I(POINTS TO STMT NUMB ENTRY)                   10 01763
002176 006704 R
002177 017000 I     1764          LDA      TC                                                                10 01764
002200 140000 L     1765          SUB      =','                                                              10 01765
002201 001010 A     1766          JAZ      GDL1         LOOP BACK FOR NEXT STMT NUMBER ON ','                10 01766
002202 002170 R
                    1767 ************************                                                            10 01767
                    1768 * END OF STMT NO LIST *                                                            10 01768
                    1769 ************************                                                            10 01769
002203 002000 A     1770          CALL     RIO                                                               10 01770
002204 077732 R
002205 002000 A     1771          CALL     CTS                                                               10 01771
002206 077617 R
002207 002000 A     1772          CALL     IVA                                                               10 01772
002210 077675 R
002211 006010 A     1773          LDAI     06037                                                         FF  10 01773
002212 006037 A
002213 002000 A     1774          CALL     DAB          'LDXE'                                               10 01774
002214 077710 R
002215 005001 A     1775          TZA                                                                    FF  10 01775
002216 002000 A     1776          CALL     DUT          'DATA  I'                                            10 01776
002217 077720 R
002220 006010 A     1777          LDAI     06035                                                         FF  10 01777
002221 006035 A
002222 002000 A     1778          CALL     DAB          'LDXE  ,X'                                           10 01778
002223 077710 R
002224 017000 I     1779          LDA      RL                                                            FF  10 01779
002225 120464 A     1780          ADD      THREE                                                         FF  10 01780
002226 002000 A     1781          CALL     DRE          'DATA  RL+3'                                         10 01781
002227 077715 R
002230 006010 A     1782          LDAI     06705                                                         FF  10 01782
002231 006705 A
002232 002000 A     1783          CALL     DAB          'IJMP  0,X'                                          10 01783
002233 077710 R
002234 005001 A     1784          TZA                                                                    FF  10 01784
002235 002000 A     1785          CALL     DAB          'DATA  0'                                            10 01785
002236 077710 R
002237 017000 I     1786          LDA      DT                                                                10 01786
002240 147000 I     1787          SUB      KT                                                                10 01787
002241 004301 A     1788          ASRA     1            GET COUNT N OF STATEMENT NUMBERS                     10 01788
002242 002000 A     1789          CALL     DAB          'DATA  N'                                            10 01789
002243 077710 R
002244 017000 I     1790          LDA      DT                                                                10 01790
                    1791 ************************************************                                    10 01791
                    1792 * LOOP TO OUTPUT LIST OF POINTERS TO STMT NOS *                                    10 01792
                    1793 ************************************************                                    10 01793
002245 140422 A     1794 GDL2     SUB      K2           DECREMENT TABLE POINTER                              10 01794
002246 057000 I     1795          STA      K                                                                 10 01795
002247 002000 A     1796          CALL     LEX                                                               10 01796
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002250 077702 R
002251 005001 A 1797          TZA                                                    10 01797
002252 002000 A 1798          CALL     OUT        'DATA  STATEMENT-NUMBER-ADDRESS'  10 01798
002253 077720 R
002254 017000 I 1799          LDA      K                                            10 01799
002255 147000 I 1800          SUB      KT         TEST FOR FINISH                   10 01800
002256 001010 A 1801          JAZ      STN                                          10 01801
002257 077743 R
002260 017000 I 1802          LDA      K                                            10 01802
002261 001000 A 1803          JMP      GOL2       LOOP BACK TO OUTPUT NEXT STMT NO  10 01803
002262 002245 R
                1804 ********************                                           10 01804
                1805 * ASSIGNED GO TO *                                           10 01805
                1806 ********************                                           10 01806
002263 002000 A 1807 GOA      CALL     IVA                                          10 01807
002264 077675 R
002265 006010 A 1808          LDAI     035000                                       10 01808
002266 035000 A
002267 002000 A 1809          CALL     OUT        'LDX  I'                          10 01809
002270 077720 R
002271 006010 A 1810          LDAI     074001                                       10 01810
002272 074001 A
002273 002000 A 1811          CALL     OAB        'STX  *+2'                        10 01811
002274 077710 R
002275 002000 A 1812          CALL     OTJ                                          10 01812
002276 077717 R
002277 017000 I 1813          LDA      TC                                           10 01813
002300 140463 A 1814          SUB      K77                                          10 01814
002301 001010 A 1815          JAZ      STN                                          10 01815
002302 077743 R
002303 002000 A 1816          CALL     CTS                                          10 01816
002304 077617 R
002305 002000 A 1817          CALL     ICH                                          10 01817
002306 077654 R
002307 002000 A 1818          CALL     PTS                                          10 01818
002310 077726 R
                1819 ********************************                               10 01819
                1820 * LOOP TO SCAN LIST OF STMT NOS *                             10 01820
                1821 ********************************                               10 01821
002311 002000 A 1822 GOL3     CALL     INS                                          10 01822
002312 077672 R
002313 017000 I 1823          LDA      TC                                           10 01823
002314 140000 L 1824          SUB      =','                                         10 01824
002315 001010 A 1825          JAZ      GOL3       LOOP BACK FOR NEXT STMT NUMBER ON ',' 10 01825
002316 002311 R
002317 002000 A 1826          CALL     RIO                                          10 01826
002320 077732 R
002321 001000 A 1827          JMP      STN                                          10 01827
002322 077743 R
                1828          EJECT                                                 10 01828
                1829 ********************************************************************** 10 01829
                1830 *                                                                *  10 01830
                1831 *     G E N E R A T E   T E M P   S T O R E   ( G T S )           *  10 01831
                1832 *                                                                *  10 01832
                1833 ********************************************************************** 10 01833
002323 000000 A 1835 GTS      ENTRY                                                 10 01835
002324 017000 I 1836          LDA      MF                                           10 01834
002325 057000 I 1837          STA      TM                                           10 01837
002326 006120 A 1838          ADDI     ':0'                                         10 01838
002327 135260 A
002330 057000 I 1839          STA      ID         '$:MODE'                          10 01839
002331 017000 I 1840          LDA      MR+1                                         10 01840
002332 001016 A 1841          JANZ     GTS2       DON INPUT                         10 01841
002333 002367 R
002334 017000 I 1842          LDA      TSFL                                         10 01842
002335 004550 A 1843          LLSR     8                                            10 01843
002336 002000 A 1844          CALL     CBA                                          10 01844
002337 077614 R
002340 057000 I 1845          STA      ID+1       STATEMENT FUNCTION COUNT          10 01845
002341 017000 I 1846          LDA      TSFL                                         10 01846
002342 047000 I 1847          INR      TSFL                                         10 01847
002343 150474 A 1848          ANA      BM77                                         10 01848
002344 002000 A 1849 GTS1     CALL     CBA                                          10 01849
002345 077614 R
002346 057000 I 1850          STA      ID+2       'TEMP-STORE-COUNT'                10 01850
002347 010421 A 1851          LDA      ONE                                          10 01851
002350 057000 I 1852          STA      IU                                           10 01852
002351 010466 A 1853          LDA      SIX                                          10 01853
002352 057000 I 1854          STA      EL                                           10 01854
002353 005001 A 1855          TZA                                                   10 01855
002354 057000 I 1856          STA      NT                                           10 01856
002355 002000 A 1857          CALL     ASI        MAKE TEMP-STORE-VARIABLE          10 01857
002356 077611 R
002357 002000 A 1858          CALL     MMT                                          10 01858
002360 002652 R
002361 005001 A 1859          TZA                                                   10 01859
002362 057000 I 1860          STA      DITFL                                        10 01860
002363 002000 A 1861          CALL     DST                                          10 01861
002364 004234 R
002365 001000 A 1862          JMP*     GTS                                          10 01862
002366 102323 R
```

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002367 017000 I 1863 GTS2   LDA     DPX          PROCESS DO CALL                          10 01863
002370 147000 I 1864        SUB     D                                                     10 01864
002371 004560 A 1865        LLSR    16                                                    10 01865
002372 057000 I 1866        STA     MR+1         TURN OFF FLAG                            10 01866
002373 170465 A 1867        DIV     FIVE                                                  10 01867
002374 005021 A 1868        TBA                                                           10 01868
002375 002000 A 1869        CALL    CBA                                                   10 01869
002376 077614 R
002377 057000 I 1870        STA     ID+1         DO LOOP NEST LEVEL                       10 01870
002400 017000 I 1871        LDA     ID                                                    10 01871
002401 120431 A 1872        ADD     BS8          MAKE '$'                                 10 01872
002402 057000 I 1873        STA     ID                                                    10 01873
002403 017000 I 1874        LDA     T0           VARIABLE NAME                            10 01874
002404 001000 A 1875        JMP     GTS1                                                  10 01875
002405 002344 R
                1876        EJECT                                                      PD 10 01876
                1877 ********************************************************************PD 10 01877
                1878 *              I N P U T   A R R A Y                               PD 10 01878
                1879 *                                                                  PD 10 01879
                1880 *      FUNCTION:  TO INPUT A NAME AND VERIFY THAT IT IS AN ARRAY   PD 10 01880
                1881 *                                                                  PD 10 01881
                1882 *      ENTRY:     NO SPECIAL CONDITIONS                            PD 10 01882
                1883 *                                                                  PD 10 01883
                1884 *      EXIT:      (A) = 0,  I = ARRAY POINTER                      PD 10 01884
                1885 *                                                                  PD 10 01885
                1886 *      ERRORS:    TER5 IF OPERAND INPUT IS NOT AN ARRAY            PD 10 01886
                1887 *                                                                  PD 10 01887
                1888 ********************************************************************PD 10 01888
002406 000000 A 1889 IAR    ENTRY                                                      PD 10 01889
002407 002000 A 1890        CALL    INA                                                   10 01890
002410 077667 R
002411 017000 I 1891        LDA     IU                                                 PD 10 01891
002412 140422 A 1892        SUB     TWO                                                PD 10 01892
002413 001010 A 1893        JAZ*    IAR          OPERAND IS ARRAY - (A)=0              PD 10 01893
002414 102406 R
002415 001000 A 1894        JMP     TER5         NOT ARRAY                                10 01894
002416 077751 R
                1895        EJECT                                                         10 01895
                1896 ************************************************************************10 01896
                1897 *                                                                    * 10 01897
                1898 *                                                                    * 10 01898
                1899 * FUNCTION: TO PROCESS THE FORTRAN SOURCE STATEMENT 'IF('            * 10 01899
                1900 *                                                                    * 10 01900
                1901 * ENTRY: DIRECT FROM SID                                            * 10 01901
                1902 *                                                                    * 10 01902
                1903 * EXIT : ARITHMETIC IF: TO ILT                                      * 10 01903
                1904 *                       JPFL+1 POINTS TO LAST STMT NO IN ASSGN TABLE * 10 01904
                1905 *                                                                    * 10 01905
                1906 *        LOGICAL IF: TO STS                                          * 10 01906
                1907 *                    LIF HOLDS RELATIVE ADDRESS OF 'JAZ FALSE'       * 10 01907
                1908 *                                                                    * 10 01908
                1909 * ERRORS: TER1 IF LOGICAL IF FOLLOWED BY LOGICAL IF                 * 10 01909
                1910 *                                                                    * 10 01910
                1911 ************************************************************************10 01911
002417 002000 A 1913 IFP    CALL    PTS                                                   10 01913
002420 077726 R
002421 002000 A 1914        CALL    INI                                                   10 01914
002422 077670 R
                1915 ************************************************                  10 01915
                1916 * TEST FOR STATEMENT 'IF()'. THIS MEANS TEST A-REG *               10 01916
                1917 ************************************************                  10 01917
002423 004210 A 1918        ASLA    8                                                     10 01918
002424 137000 I 1919        ERA     TC           GET TERMINATOR                           10 01919
002425 130000 L 1920        ERA     =')'                                                  10 01920
002426 001010 A 1921        JAZ     *+3                                                   10 01921
002427 002433 R
                1922 ************************                                          10 01922
                1923 * STATEMENT NOT 'IF()' *                                          10 01923
                1924 ************************                                          10 01924
002430 005001 A 1925        TZA                                                           10 01925
002431 002000 A 1926        CALL    EXP          CALL EXP WITH A=0                        10 01926
002432 000754 R
002433 047000 I 1927        INR     DFPP         SET SPECIAL FLOATING POINT IF FLAG       10 01927
002434 002000 A 1928        CALL    PTR                                                   10 01928
002435 077725 R
002436 002000 A 1929        CALL    GDV                                                   10 01929
002437 002101 R
002440 010000 L 1930        LDA     =')'                                                  10 01930
002441 002000 A 1931        CALL    TST                                                   10 01931
002442 077772 R
002443 002000 A 1932        CALL    EMA                                                   10 01932
002444 077646 R
002445 001004 A 1933        JAN     IFA          ARITHMETIC IF IF FOLLOWED BY NUMBER      10 01933
002446 002466 R
002447 017000 I 1934        LDA     LIF                                                   10 01934
002450 001016 A 1935        JANZ    TER1         LOGICAL-IF FOLLOWS LOGICAL-IF            10 01935
002451 077745 R
                1936 ************************                                          10 01936
                1937 * PROCESS LOGICAL IF *                                          10 01937
                1938 ************************                                          10 01938
002452 017000 I 1939        LDA     RL                                                    10 01939
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002453 057000 I 1940          STA     LIF         SAVE LOCATION COUNTER IN LIF                    10 01940
002454 057000 I 1941          STA     JPFL+2                                                      10 01941
002455 006010 A 1942 IF0      LDAI    01010                                                       10 01942
002456 001010 A
002457 002000 A 1943          CALL    DAB         'JAZ'                                           10 01943
002460 077710 R
002461 005001 A 1944          TZA                                                                 10 01944
002462 002000 A 1945          CALL    DAB         'DATA  0'                                       10 01945
002463 077710 R
002464 001000 A 1946          JMP     STS                                                         10 01946
002465 077744 R
002466 017000 I 1947 IFA      LDA     DFPP                                                        10 01947
002467 001004 A 1948          JAN     IFB                                                         10 01948
002470 002510 R
002471 002000 A 1949          CALL    INS                                                         10 01949
002472 077672 R
002473 057000 I 1950          STA     JPFL+2      SET POINTER FOR NEGATIVE JUMP (S1)              10 01950
002474 002000 A 1951          CALL    CTS                                                         10 01951
002475 077617 R
002476 002000 A 1952          CALL    INS                                                         10 01952
002477 077672 R
002500 057000 I 1953          STA     JPFL+3      SET POINTER FOR ZERO JUMP (S2)                  10 01953
002501 002000 A 1954          CALL    CTS                                                         10 01954
002502 077617 R
                1955 ***************************                                               10 01955
                1956 * UNCONDITIONAL BRANCH *                                                   10 01956
                1957 ***************************                                               10 01957
002503 002000 A 1958 IFU      CALL    INS                                                         10 01958
002504 077672 R
002505 057000 I 1959          STA     JPFL+1      JPFL+1 POINTS TO U.STI WILL RESOLVE JUMP        10 01959
002506 001000 A 1960          JMP     *LT                                                         10 01960
002507 077666 R
002510 002000 A 1962 IFB      CALL    INS         PROCESS SPECIAL ARITHMETIC OPERATOR             10 01962
002511 077672 R
002512 005001 A 1963          TZA                                                                 10 01963
002513 002000 A 1964          CALL    OUT                                                         10 01964
002514 077720 R
002515 002000 A 1965          CALL    CTS                                                         10 01965
002516 077617 R
002517 002000 A 1966          CALL    INS                                                         10 01966
002520 077672 R
002521 005001 A 1967          TZA                                                                 10 01967
002522 002000 A 1968          CALL    OUT                                                         10 01968
002523 077720 R
002524 002000 A 1969          CALL    CTS                                                         10 01969
002525 077617 R
002526 002000 A 1970          CALL    INS                                                         10 01970
002527 077672 R
002530 005001 A 1971          TZA                                                                 10 01971
002531 002000 A 1972          CALL    OUT                                                         10 01972
002532 077720 R
002533 001000 A 1973          JMP     *ILT                                                        10 01973
002534 077666 R
                1974          EJECT                                                               10 01974
                1975 ***************************************************************************** 10 01975
                1976 *                                                                           * 10 01976
                1977 *      I N P U T   I N T E G E R   ( I I N )                                * 10 01977
                1978 *                                                                           * 10 01978
                1979 ***************************************************************************** 10 01979
002535 000000 A 1981 IIN      ENTRY                                                               10 01981
002536 002000 A 1982          CALL    INI                                                         10 01982
002537 077670 R
002540 140422 A 1983          SUB     TWO                                                         10 01983
002541 001010 A 1984          JAZ     IIN1        INTEGER                                         10 01984
002542 002546 R
002543 140423 A 1985          SUB     FOUR                                                        10 01985
002544 001016 A 1986          JANZ    TER7        NOT DP-INTEGER                                  10 01986
002545 077752 R
002546 002000 A 1987 IIN1     CALL    TVR                                                         10 01987
002547 077773 R
002550 001000 A 1988          JMP*    IIN                                                         10 01988
002551 102535 R
                1989          EJECT                                                               10 01989
                1990 ***************************************************************************** 10 01990
                1991 *                                                                           * 10 01991
                1992 *      M O D E                                                              * 10 01992
                1993 *                                                                           * 10 01993
                1994 ***************************************************************************** 10 01994
002552 000000 A 1996 MODE     ENTRY                                                               10 01996
002553 002000 A 1997          CALL    SRM                                                         10 01997
002554 006743 R
002555 001010 A 1998          JAZ*    MODE        MODES EQUAL                                     10 01998
002556 102552 R
002557 017000 I 1999          LDA     MF                                                          10 01999
002560 140465 A 2000          SUB     FIVE                                                        10 02000
002561 001016 A 2001          JANZ    MODE1                                                       10 02001
002562 002567 R
002563 010464 A 2002          LDA     THREE                                                       10 02002
002564 057000 I 2003          STA     MF          FORCE REAL REGISTER IF CONVERT FROM CMP.        10 02003
002565 001000 A 2004          JMP     SRM+1                                                       10 02004
002566 006744 R
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002567 005311 A 2005 MODE1  DAR                                                    10 02005
002570 001016 A 2006        JANZ    MODE3       NOT DPI TO INT                     10 02006
002571 002610 R
002572 006010 A 2007        LDAI    04417                                          10 02007
002573 004417 A
002574 002000 A 2008        CALL    DAB         'LASL  15'                         10 02008
002575 077710 R
002576 010422 A 2009        LDA     TWO                                            10 02009
002577 057000 I 2010        STA     MF                                             10 02010
002600 001000 A 2011        JMP*    MODE                                           10 02011
002601 102552 R
002602 006017 A 2012 MODE2  LDAE    MODE                                           10 02012
002603 002552 R
002604 006057 A 2013        STAE    SRM                                            10 02013
002605 006743 R
002606 001000 A 2014        JMP     SRM0        CONVERT REGISTER FOR MF>IM         10 02014
002607 006765 R
002610 017000 I 2015 MODE3  LDA     $PCW                                           10 02015
002611 006445 A 2016        BT      C45,MODE2   NOT 'H'                            10 02016
002612 002602 R
002613 017000 I 2017        LDA     MF                                             10 02017
002614 004543 A 2018        LLSR    3                                              10 02018
002615 017000 I 2019        LDA     IM                                             10 02019
002616 004443 A 2020        LLRL    3                                              10 02020
002617 006140 A 2021        SUBI    023                                            10 02021
002620 000023 A
002621 001010 A 2022        JAZ     MODE4       REA TO INT                         10 02022
002622 002626 R
002623 005311 A 2023        DAR                                                    10 02023
002624 001016 A 2024        JANZ    MODE2       NOT DBL TO INT                     10 02024
002625 002602 R
002626 002000 A 2025 MODE4  CALL    CRP                                            10 02025
002627 000142 R
002630 002000 A 2026        CALL    SAV                                            10 02026
002631 006334 R
002632 006010 A 2027        LDAI    FIX                                            10 02027
002633 105621 A
002634 002000 A 2028        CALL    DDB                                            10 02028
002635 077711 R
002636 006010 A 2029        LDAI    06017                                          10 02029
002637 006017 A
002640 002000 A 2030        CALL    DDB         'LDAE  A$C'                        10 02030
002641 077711 R
002642 005001 A 2031        TZA                                                    10 02031
002643 057000 I 2032        STA     F           SET FPP EMPTY                      10 02032
002644 057000 I 2033        STA     MAXOPC                                         10 02033
002645 002000 A 2034        CALL    RST                                            10 02034
002646 006325 R
002647 057000 I 2035        STA     MF          MF = IM = INT                      10 02035
002650 001000 A 2036        JMP*    MODE                                           10 02036
002651 102552 R
               2037         EJECT                                                  10 02037
               2038 ********************************************************************** 10 02038
               2039 *                                                                * 10 02039
               2040 *      M I N / M A X   T E S T                                   * 10 02040
               2041 *                                                                * 10 02041
               2042 ********************************************************************** 10 02042
002652 000000 A 2044 MMT    ENTRY                                                  10 02044
002653 005001 A 2045        TZA                                                    10 02045
002654 027000 I 2046        LDB     MM                                             10 02046
002655 057003 I 2047        STA     MM                                             10 02047
002656 002026 A 2048        JBNZM   DAB         TERMINATE MIN/MAX CALL             10 02048
002657 077710 R
002660 001000 A 2049        JMP*    MMT                                            10 02049
002661 102652 R
               2050         EJECT                                                  10 02050
               2051 ********************************************************************** 10 02051
               2052 *                                                                * 10 02052
               2053 *      O U T P U T   A R I T H .  O P E R A T I O N ( O A D )     * 10 02053
               2054 *                                                                * 10 02054
               2055 * ENTRY: (B) = LEFT NORMALIZED OPERATION CHARACTER               * 10 02055
               2056 *                                                                * 10 02056
               2057 ********************************************************************** 10 02057
002662 000000 A 2059 OAD    ENTRY                                                  10 02059
002663 064003 A 2060        STB     *+4                                            10 02060
002664 002000 A 2061        CALL    TFA                                            10 02061
002665 007435 R
002666 006020 A 2062        LDBI    **          RESTORE OPERATION                  10 02062
002667 102666 R
002670 017000 I 2063        LDA     IM                                             10 02063
002671 002000 A 2064        CALL    CMD                                            10 02064
002672 000132 R
002673 004543 A 2065        LLSR    3                                              10 02065
002674 017000 I 2066        LDA     MF                                             10 02066
002675 002000 A 2067        CALL    CMD                                            10 02067
002676 000132 R
002677 004443 A 2068        LLRL    3                                              10 02068
002700 006120 A 2069        ADDI    0266        MAKE CHARATER OF MF:IM             10 02069
002701 000266 A
002702 144004 A 2070        SUB     OAD1+1                                         10 02070
002703 001002 A 2071        JAP     OAD1                                           10 02071
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002704 002706 R
002705 140467 A 2072          SUB     SEVEN                                    10 02072
002706 006120 A 2073 OAD1     ADDI    'A'                                      10 02073
002707 000301 A
002710 144011 A 2074          SUB     OAD2+1                                   10 02074
002711 001004 A 2075          JAN     OAD2                                     10 02075
002712 002721 R
002713 001010 A 2076          JAZ     OAD2-2          416                      10 02076
002714 002717 R
002715 006140 A 2077          SUBI    016                                      10 02077
002716 000016 A
002717 006140 A 2078          SUBI    050                                      10 02078
002720 000050 A
002721 006120 A 2079 OAD2     ADDI    0334                                     10 02079
002722 000334 A
002723 004450 A 2080          LLRL    8                                        10 02080
002724 002000 A 2081          CALL    CAN             'CALL  $IMF:IM:OP'       10 02081
002725 077613 R
002726 002000 A 2082          CALL    LAX                                      10 02082
002727 077700 R
002730 005002 A 2083          TZB                                              10 02083
002731 002000 A 2084          CALL    OOA                                      10 02084
002732 004145 R
002733 001000 A 2085          JMP*    OAO                                      10 02085
002734 102662 R
                2086          EJECT                                            10 02086
                2087 ************************************************************ 10 02087
                2088 *                                                          * 10 02088
                2089 *                O U T P U T   I / O   L I N K (O I L)     * 10 02089
                2090 *                                                          * 10 02090
                2091 * FUNCTION: TO OUTPUT A CALL TO A RUN-TIME PACKAGE ENTRY, FOLLOWED * 10 02091
                2092 *            BY A POINTER TO AN INTEGER LOGICAL UNIT NUMBER. * 10 02092
                2093 *                                                          * 10 02093
                2094 * ENTRY: NAME CONTAINS STRING 'XX' SET BY CALLING DIRECTIVE: * 10 02094
                2095 *                                                          * 10 02095
                2096 *          'BA': BACKSPACE                                 * 10 02096
                2097 *          'EN': END OF FILE                               * 10 02097
                2098 *          'FX': DIRECT ACCESS FIND                        * 10 02098
                2099 *          'RD': READ                                      * 10 02099
                2100 *          'RE': REWIND                                    * 10 02100
                2101 *          'RX': DIRECT ACCESS READ                        * 10 02101
                2102 *          'WR': WRITE                                     * 10 02102
                2103 *          'WX': DIRECT ACCESS WRITE                       * 10 02103
                2104 *          'DE': DECODE                                 PD * 10 02104
                2105 *          'EC': ENCODE                                 PD * 10 02105
                2106 *                                                          * 10 02106
                2107 * EXIT : A 'JMPM $XX' IS OUTPUT:                          * 10 02107
                2108 *                                                          * 10 02108
                2109 *               JMPM $BA      BACKSPACE                    * 10 02109
                2110 *               JMPM $EN      WRITE AN END OF FILE         * 10 02110
                2111 *               JMPM $RD      READ                         * 10 02111
                2112 *               JMPM $RE      REWIND                       * 10 02112
                2113 *               JMPM $WR      WRITE                        * 10 02113
                2114 *               JMPM $DE      DECODE                    PD * 10 02114
                2115 *               JMPM $EC      ENCODE                    PD * 10 02115
                2116 *                                                          * 10 02116
                2117 *       A POINTER TO THE UNIT NUMBER FOLLOWS THE 'JMPM $XX' * 10 02117
                2118 *                                                          * 10 02118
                2119 ************************************************************ 10 02119
002735 000000 A 2121 OIL      ENTRY                                            10 02121
002736 005001 A 2122          TZA                                              10 02122
002737 054067 A 2123          STA     OIL4+1          DIRECT ACCESS FLAG       10 02123
002740 047000 I 2124          INR     MR              SET I/O USAGE FLAG       10 02124
002741 002000 A 2125          CALL    TVC                                      10 02125
002742 077676 R
002743 017000 I 2126          LDA     I                                        10 02126
002744 054054 A 2127          STA     OIL3+1                                   10 02127
002745 017000 I 2128          LDA     TC                                       10 02128
002746 140000 L 2129          SUB     =0247           ...                      10 02129
002747 001016 A 2130          JANZ    OIL2            NOT DOTECT ACCESS        10 02130
002750 003015 R
002751 017000 I 2131          LDA     NAME                                     10 02131
002752 006140 A 2132          SUBI    'FI'                                     10 02132
002753 143311 A
002754 001010 A 2133          JAZ     OIL1                                     10 02133
002755 002766 R
002756 006140 A 2134          SUBI    'RD'-'FI'                                10 02134
002757 005773 A
002760 001010 A 2135          JAZ     OIL1                                     10 02135
002761 002766 R
002762 006140 A 2136          SUBI    'WR'-'RD'                                10 02136
002763 002416 A
002764 001016 A 2137          JANZ    TER1            ILLEGAL DIRECT ACCESS    10 02137
002765 077745 R
002766 017000 I 2138 OIL1     LDA     NAME                                     10 02138
002767 150462 A 2139          ANA     LRW                                      10 02139
002770 006120 A 2140          ADDI    'X'                                      10 02140
002771 000330 A
002772 057000 I 2141          STA     NAME                                     10 02141
002773 002000 A 2142          CALL    INI                                      10 02142
002774 077670 R
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002775 017000 I 2143          LDA     TC                                                    10 02143
002776 140000 L 2144          SUB     ='0'                                                  10 02144
002777 001010 A 2145          JAZ     DIL15                                                 10 02145
003000 003013 R
003001 140464 A 2146          SUB     THREE                                                 10 02146
003002 001010 A 2147          JAZ     DIL15         ','                                     10 02147
003003 003013 R
003004 005001 A 2148          TZA                                                           10 02148
003005 002000 A 2149          CALL    EXP                                                   10 02149
003006 000754 R
003007 002000 A 2150          CALL    PTR                                                   10 02150
003010 077725 R
003011 002000 A 2151          CALL    GTS                                                   10 02151
003012 002323 R
003013 017000 I 2152 DIL15    LDA     I                                                     10 02152
003014 054012 A 2153          STA     DIL4+1                                                10 02153
003015 017000 I 2154 DIL2     LDA     NAME                                                  10 02154
003016 002000 A 2155          CALL    CAN           CALL $BA/$EN/$FX/$RD/$RE/$RX/$WR/$WX/$DE 10 02155
003017 077613 R
003020 006010 A 2156 DIL3     LDAI    **                                                    10 02156
003021 103020 R
003022 057000 I 2157          STA     I                                                     10 02157
003023 005001 A 2158          TZA                                                           10 02158
003024 002000 A 2159          CALL    DUT           'DATA  DATA-SET-REFERENCE'              10 02159
003025 077720 R
003026 006010 A 2160 DIL4     LDAI    **                                                    10 02160
003027 103026 R
003030 001010 A 2161          JAZ*    DIL           NOT DIRECT ACCESS                       10 02161
003031 102735 R
003032 057000 I 2162          STA     I                                                     10 02162
003033 005001 A 2163          TZA                                                           10 02163
003034 002000 A 2164          CALL    DUT           'DATA  RECORD-ADDRESS'                  10 02164
003035 077720 R
003036 001000 A 2165          JMP*    DIL                                                   10 02165
003037 102735 R
               2166           EJECT                                                         10 02166
               2167 ********************************************************************** 10 02167
               2168 *                                                                    * 10 02168
               2169 *      O U T P U T   I T E M   ( O I T )                             * 10 02169
               2170 *                                                                    * 10 02170
               2171 * FUNCTION: TO OUTPUT AN OPERATOR/OPERAND PAIR                       * 10 02171
               2172 *                                                                    * 10 02172
               2173 * ENTRY: I=POINTER TO OPERAND, (A)=OPERATOR                          * 10 02173
               2174 *                                                                    * 10 02174
               2175 ********************************************************************** 10 02175
003040 000000 A 2177 OIT      ENTRY                                                         10 02177
003041 057000 I 2178          STA     T8            OPERATOR                                10 02178
003042 140060 L 2179          SUB     =054                                                  10 02179
003043 002016 A 2180          JANZM   MMT                                                   10 02180
003044 002652 R
003045 017000 I 2181 OIT02    LDA     T8                                                    10 02181
003046 006140 A 2182          SUBI    015                                                   10 02182
003047 000015 A
003050 001010 A 2183          JAZ     OIT56         (015)  NEGATE                           10 02183
003051 003635 R
003052 005311 A 2184          DAR                                                           10 02184
003053 001010 A 2185          JAZ     OIT10         (016)  INTEGER CONVERT                  10 02185
003054 003207 R
003055 005001 A 2186          TZA                                                           10 02186
003056 057000 I 2187          STA     T7            CLEAR INDIRECT FLAG                     10 02187
003057 057000 I 2188          STA     OITFL         CLEAR CONSTANT SUBSCRIPT FLAG           10 02188
003060 017000 I 2189          LDA     I                                                     10 02189
003061 001010 A 2190          JAZ     TER7          MODE ERROR                              10 02190
003062 077752 R
003063 147000 I 2191          SUB     DPX                                                   10 02191
003064 001010 A 2192          JAZ     OTR2          DUMMY OPERAND                           10 02192
003065 004337 R
003066 017000 I 2193          LDA     I                                                     10 02193
003067 147000 I 2194          SUB     IT                                                    10 02194
003070 001002 A 2195          JAP     OIT64         POINTER INSIDE TRIAD TABLE              10 02195
003071 003715 R
003072 002000 A 2196 OIT04    CALL    LAX                                                   10 02196
003073 077700 R
003074 017000 I 2197          LDA     T8                                                    10 02197
003075 005111 A 2198          IAR                                                           10 02198
003076 001010 A 2199          JAZ*    OIT           I/O PARAMETER                           10 02199
003077 103040 R
003100 005311 A 2200          DAR                                                           10 02200
003101 001010 A 2201          JAZ     OIT08         (000)  PARAMETER                        10 02201
003102 003202 R
003103 006140 A 2202          SUBI    013                                                   10 02202
003104 000013 A
003105 001010 A 2203          JAZ     OIT14         (013)  DUMMY ARRAY BASE                 10 02203
003106 003217 R
003107 140423 A 2204          SUB     FOUR                                                  10 02204
003110 001010 A 2205          JAZ     OIT16         (017)  EXPONENTIATE                     10 02205
003111 003226 R
003112 017000 I 2206          LDA     $PCW                                                  10 02206
003113 006445 A 2207          BT      045,OIT05                                             10 02207
003114 003136 R
003115 017000 I 2208          LDA     MAXOPC        'H'                                     10 02208
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003116 006140 A 2209          SUBI    20          TEST FOR MAXIMUM OPERATIONS BEFORE STORE   10 02209
003117 000024 A
003120 001004 A 2210          JAN     OIT05                                                  10 02210
003121 003136 R
003122 002000 A 2211          CALL    SAV                                                    10 02211
003123 006334 R
003124 006010 A 2212          LDAI    FSTD                                                   10 02212
003125 105710 A
003126 002000 A 2213          CALL    DDB         FPP TO A$C                                 10 02213
003127 077711 R
003130 006010 A 2214          LDAI    FLDD                                                   10 02214
003131 105522 A
003132 002000 A 2215          CALL    DDB         RESTORE FPP                                10 02215
003133 077711 R
003134 002000 A 2216          CALL    RST                                                    10 02216
003135 006325 R
003136 017000 I 2217 OIT05    LDA     T8                                                     10 02217
003137 140425 A 2218          SUB     BS4                                                    10 02218
003140 001010 A 2219          JAZ     OIT20       (020)  LOAD                                10 02219
003141 003257 R
003142 006140 A 2220          SUBI    027                                                    10 02220
003143 000027 A
003144 001004 A 2221          JAN     OIT313      (045) ADD, (046) SUBTRACT                  10 02221
003145 003374 R
003146 140422 A 2222          SUB     TWO                                                    10 02222
003147 001004 A 2223          JAN     OIT316      (047) MULTIPLY, (050) DIVIDE               10 02223
003150 003412 R
003151 140464 A 2224          SUB     THREE                                                  10 02224
003152 001010 A 2225          JAZ     OIT08       (054)  PARAMETER                           10 02225
003153 003202 R
003154 005311 A 2226          DAR                                                            10 02226
003155 001010 A 2227          JAZ     OIT54       (055)  STORE                               10 02227
003156 003630 R
003157 140425 A 2228          SUB     BS4                                                    10 02228
003160 001010 A 2229          JAZ     OIT06       (075)  .AND.                               10 02229
003161 003166 R
003162 005111 A 2230          IAR                                                            10 02230
003163 001016 A 2231          JANZ    TER7        NOT (074)  .OR.                            10 02231
003164 077752 R
003165 140437 A 2232          SUB     BS14        TO MAKE 'ORA'                              10 02232
003166 006120 A 2233 OIT06    ADDI    0155000     'ANA'                                      10 02233
003167 155000 A
003170 005012 A 2234          TAB                                                            10 02234
003171 017000 I 2235          LDA     IM                                                     10 02235
003172 127000 I 2236          ADD     MF                                                     10 02236
003173 140423 A 2237          SUB     FOUR                                                   10 02237
003174 001016 A 2238          JANZ    TER7        NOT LOGICAL OPERANDS                       10 02238
003175 077752 R
003176 002000 A 2239          CALL    DOA                                                    10 02239
003177 004145 R
003200 001000 A 2240          JMP*    OIT                                                    10 02240
003201 103040 R
003202 117000 I 2241 OIT08    ORA     T7                                                     10 02241
003203 002000 A 2242          CALL    OUT                                                    10 02242
003204 077720 R
003205 001000 A 2243          JMP*    OIT                                                    10 02243
003206 103040 R
003207 017000 I 2244 OIT10    LDA     DFCA                                                   10 02244
003210 057000 I 2245          STA     I                                                      10 02245
003211 002000 A 2246          CALL    LAX                                                    10 02246
003212 077700 R
003213 002000 A 2247          CALL    MODE                                                   10 02247
003214 002552 R
003215 001000 A 2248          JMP*    OIT                                                    10 02248
003216 103040 R
003217 006010 A 2249 OIT14    LDAI    0110000     DUMMY BASE ADD                             10 02249
003220 110000 A
003221 120435 A 2250 OIT15    ADD     BS12        DUMMY BASE LOAD                            10 02250
003222 020422 A 2251          LDB     TWO                                                    10 02251
003223 067000 I 2252          STB     MF                                                     10 02252
003224 001000 A 2253          JMP     OIT08+1                                                10 02253
003225 003203 R
003226 017000 I 2254 OIT16    LDA     IM          PROCESS EXPONENTIAL                        10 02254
003227 140465 A 2255          SUB     FIVE                                                   10 02255
003230 001010 A 2256          JAZ     TER7        EXPONENTIATION BY COMPLEX                  10 02256
003231 077752 R
003232 017000 I 2257          LDA     MF                                                     10 02257
003233 140465 A 2258          SUB     FIVE                                                   10 02258
003234 001016 A 2259          JANZ    OIT165                                                 10 02259
003235 003245 R
003236 017000 I 2260          LDA     IM                                                     10 02260
003237 140422 A 2261          SUB     TWO                                                    10 02261
003240 001010 A 2262          JAZ     OIT165                                                 10 02262
003241 003245 R
003242 140423 A 2263          SUB     FOUR                                                   10 02263
003243 001016 A 2264          JANZ    TER7        EXPONENTIATION OF CPX BY REA/DBL           10 02264
003244 077752 R
003245 002000 A 2265 OIT165   CALL    SRM                                                    10 02265
003246 006743 R
003247 002000 A 2266          CALL    TFA                                                    10 02266
003250 007435 R
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003251 006020 A 2267          LDBI    'E '                                    10 02267
003252 142640 A
003253 002000 A 2268 DIT18    CALL    DAD                                     10 02268
003254 002662 R
003255 001000 A 2269          JMP*    DIT                                     10 02269
003256 103040 R
003257 057000 I 2270 DIT20    STA     F       PROCESS LOAD  FLAG FPP EMPTY    10 02270
003260 057000 I 2271          STA     MAXDPC                                  10 02271
003261 017000 I 2272          LDA     IU                                      10 02272
003262 130422 A 2273          ERA     K2                                      10 02273
003263 117000 I 2274          DRA     DP                                      10 02274
003264 001010 A 2275          JAZ     DIT15                                   10 02275
003265 003221 R
003266 017000 I 2276          LDA     IM                                      10 02276
003267 057000 I 2277          STA     MF                                      10 02277
003270 017000 I 2278          LDA     IU                                      10 02278
003271 140464 A 2279          SUB     THREE                                   10 02279
003272 001004 A 2280          JAN     DIT22   VARIABLE/CONSTANT LOAD          10 02280
003273 003312 R
003274 017000 I 2281          LDA     CL                                      10 02281
003275 001002 A 2282          JAP     DIT21                                   10 02282
003276 003304 R
003277 005211 A 2283          CPA             STATEMENT FUNCTION CALL         10 02283
003300 057000 I 2284          STA     MAXDPC                                  10 02284
003301 047000 I 2285          INR     F       SET FPP REGISTER USAGE          10 02285
003302 001000 A 2286          JMP     DIT21+1                                 10 02286
003303 003305 R
003304 057000 I 2287 DIT21    STA     MM      SET MAX-MIN FLAG                10 02287
003305 014000 A 2288          LDA     *+1                                     10 02288
003306 002000 A 2289          CALL    DDB                                     10 02289
003307 077711 R
003310 001000 A 2290          JMP*    DIT                                     10 02290
003311 103040 R
003312 017000 I 2291 DIT22    LDA     IM                                      10 02291
003313 006020 A 2292          LDBI    015000  'LDA'                           10 02292
003314 015000 A
003315 140422 A 2293          SUB     TWO                                     10 02293
003316 001010 A 2294          JAZ     DIT26   INTEGER LOAD                    10 02294
003317 003347 R
003320 005311 A 2295          DAR                                             10 02295
003321 001010 A 2296          JAZ     DIT24   REAL LOAD                       10 02296
003322 003342 R
003323 140464 A 2297          SUB     THREE                                   10 02297
003324 001010 A 2298          JAZ     DIT26   D.P. INTEGER                    10 02298
003325 003347 R
003326 006020 A 2299          LDBI    'F '                                    10 02299
003327 143240 A
003330 005111 A 2300          IAR                                             10 02300
003331 001010 A 2301          JAZ     DIT18   COMPLEX                         10 02301
003332 003253 R
003333 017000 I 2302          LDA     $PCW                                    10 02302
003334 006445 A 2303          BT      045,DIT18       NOT 'H'                 10 02303
003335 003253 R
003336 006020 A 2304          LDBI    FLDD                                    10 02304
003337 105522 A
003340 001000 A 2305          JMP     DIT29                                   10 02305
003341 003356 R
003342 017000 I 2306 DIT24    LDA     $PCW                                    10 02306
003343 006405 A 2307          BT      05,DIT28        'H'                     10 02307
003344 003354 R
003345 006404 A 2308          BT      04,DIT30        'F'                     10 02308
003346 003362 R
003347 005021 A 2309 DIT26    TBA                                             10 02309
003350 002000 A 2310          CALL    DRT                                     10 02310
003351 004201 R
003352 001000 A 2311          JMP*    DIT                                     10 02311
003353 103040 R
003354 006020 A 2312 DIT28    LDBI    FLDS                                    10 02312
003355 105420 A
003356 047000 I 2313 DIT29    INR     MAXDPC                                  10 02313
003357 047000 I 2314          INR     F       SET FPP LOADED                  10 02314
003360 001000 A 2315          JMP     DIT31                                   10 02315
003361 003364 R
003362 006020 A 2316 DIT30    LDBI    FLDI                                    10 02316
003363 105032 A
003364 005021 A 2317 DIT31    TBA                                             10 02317
003365 002000 A 2318          CALL    DAB                                     10 02318
003366 077710 R
003367 005002 A 2319          TZB                                             10 02319
003370 002000 A 2320          CALL    DDA                                     10 02320
003371 004145 R
003372 001000 A 2321          JMP*    DIT                                     10 02321
003373 103040 R
003374 017000 I 2322 DIT313   LDA     I       PROCESS ADD,SUBTRACT            10 02322
003375 147000 I 2323          SUB     DPCA+2  =0                              10 02323
003376 001010 A 2324          JAZ*    DIT     NO-OP FOR +,- OF 0              10 02324
003377 103040 R
003400 017000 I 2325          LDA     I                                       10 02325
003401 147000 I 2326          SUB     DPCA+5  =0D0                            10 02326
003402 001016 A 2327          JANZ    DIT32                                   10 02327
003403 003416 R
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003404 017000 I 2328 DIT314 LDA     MF                                          10 02328
003405 147000 I 2329        SUB     IM                                          10 02329
003406 001010 A 2330        JAZ*    DIT             NO-OP FOR +,- OF 0          10 02330
003407 103040 R
003410 001000 A 2331        JMP     DIT32                                       10 02331
003411 003416 R
003412 017000 I 2332 DIT316 LDA     I                                           10 02332
003413 147000 I 2333        SUB     DPCA            =1                          10 02333
003414 001010 A 2334        JAZ*    DIT             NO-OP FOR *,/ OF 1          10 02334
003415 103040 R
003416 002000 A 2335 DIT32  CALL    SRM             PROCESS ARITHMETIC OPERATORS 10 02335
003417 006743 R
003420 037000 I 2336        LDX     T8                                          10 02336
003421 001016 A 2337        JANZ    DIT34                                       10 02337
003422 003455 R
003423 017000 I 2338        LDA     IM                                          10 02338
003424 006025 A 2339        LDBE    DIT48-045,X     (B)=INTEGER OPERATION       10 02339
003425 003533 R
003426 140422 A 2340        SUB     TWO                                         10 02340
003427 001010 A 2341        JAZ     DIT38           INTEGER                     10 02341
003430 003461 R
003431 006025 A 2342        LDBE    DIT52-045,X     REAL - 'H' OP CODES         10 02342
003432 003553 R
003433 005311 A 2343        DAR                                                 10 02343
003434 001010 A 2344        JAZ     DIT42           REAL                        10 02344
003435 003556 R
003436 006025 A 2345        LDBE    DIT53-045,X     D.P. - 'H' OP CODES         10 02345
003437 003557 R
003440 005311 A 2346        DAR                                                 10 02346
003441 001010 A 2347        JAZ     DIT46           DBL                         10 02347
003442 003567 R
003443 005311 A 2348        DAR                                                 10 02348
003444 001010 A 2349        JAZ     DIT34           COMPLEX                     10 02349
003445 003455 R
003446 006025 A 2350        LDBE    DIT50-045,X     DP-INT - 'FH' OP CODES      10 02350
003447 003543 R
003450 017000 I 2351        LDA     $PCW                                        10 02351
003451 006445 A 2352        BT      045,DIT34       NOT 'H'                     10 02352
003452 003455 R
003453 006404 A 2353        BT      04,DIT31        'HF' - DP-INT               10 02353
003454 003364 R
003455 006025 A 2354 DIT34  LDBE    DIT49-045,X     (B)=OP CHARACTER            10 02354
003456 003537 R
003457 001000 A 2355        JMP     DIT18                                       10 02355
003460 003253 R
003461 017000 I 2356 DIT38  LDA     T8                                          10 02356
003462 006140 A 2357        SUBI    047                                         10 02357
003463 000047 A
003464 064050 A 2358        STB     DIT41-1                                     10 02358
003465 001002 A 2359        JAP     DIT38A          '+' OR '-' ?                10 02359
003466 003510 R
003467 017000 I 2360        LDA     I               YES                         10 02360
003470 147000 I 2361        SUB     DPCA                                        10 02361
003471 001016 A 2362        JANZ    DIT41           OPERAND = 1 ?               10 02362
003472 003536 R
003473 017000 I 2363        LDA     T8              YES                         10 02363
003474 006140 A 2364        SUBI    045                                         10 02364
003475 000045 A
003476 005012 A 2365        TAB                                                 10 02365
003477 006010 A 2366        LDAI    05111                                       10 02366
003500 005111 A
003501 001020 A 2367        JBZ     *+3             OUTPUT 'IAR' FOR  ADD =1    10 02367
003502 003504 R
003503 120430 A 2368        ADD     BS7             OUTPUT 'DAR' FOR  SUB =1    10 02368
003504 002000 A 2369        CALL    DAB                                         10 02369
003505 077710 R
003506 001000 A 2370        JMP*    DIT                                         10 02370
003507 103040 R
003510 005311 A 2371 DIT38A DAR                                                 10 02371
003511 001010 A 2372        JAZ     DIT40           '/'                         10 02372
003512 003530 R
003513 006020 A 2373 DIT39  LDBI    04201           'ASLA  1'                   10 02373
003514 004201 A
003515 017000 I 2374        LDA     I                                           10 02374
003516 147000 I 2375        SUB     DPCA+1          =2                          10 02375
003517 001010 A 2376        JAZ     DIT415                                      10 02376
003520 003551 R
003521 005122 A 2377        IBR                                                 10 02377
003522 017000 I 2378        LDA     I                                           10 02378
003523 147000 I 2379        SUB     DPCA+3          =4                          10 02379
003524 001010 A 2380        JAZ     DIT415                                      10 02380
003525 003551 R
003526 006010 A 2381        LDAI    041                                         10 02381
003527 000041 A
003530 006120 A 2382 DIT40  ADDI    04517                                       10 02382
003531 004517 A
003532 002000 A 2383        CALL    DAB             'LLSR  16'(*), 'LASR  15'(/) 10 02383
003533 077710 R
003534 006020 A 2384        LDBI    **                                          10 02384
003535 103534 R
003536 002000 A 2385 DIT41  CALL    DDA                                         10 02385
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003537 004145 R
003540 017000 I 2386          LDA     T8                                                  10 02386
003541 140000 L 2387          SUB     =047                                                10 02387
003542 001004 A 2388          JAN*    DIT             '+','-'                             10 02388
003543 103040 R
003544 006020 A 2389          LDBI    04417           'LASL  15'                          10 02389
003545 004417 A
003546 001010 A 2390          JAZ     DIT415          '*'                                 10 02390
003547 003551 R
003550 024000 A 2391          LDB     *+1             'TBA'                               10 02391
003551 005021 A 2392 DIT415   TBA                                                         10 02392
003552 002000 A 2393          CALL    DAB                                                 10 02393
003553 077710 R
003554 001000 A 2394          JMP*    DIT                                                 10 02394
003555 103040 R
003556 017000 I 2395 DIT42    LDA     $PCW            REAL DPERATIONS                     10 02395
003557 006405 A 2396          BT      05,DIT47        'H'                                 10 02396
003560 003572 R
003561 006444 A 2397          BT      044,DIT34       NOT 'F'                             10 02397
003562 003455 R
003563 006025 A 2398          LDBE    DIT51-045,X     REAL - 'F' DP CODES                 10 02398
003564 003547 R
003565 001000 A 2399          JMP     DIT31                                               10 02399
003566 003364 R
003567 017000 I 2400 DIT46    LDA     $PCW                                                10 02400
003570 006445 A 2401          BT      045,DIT34       NOT 'H'                             10 02401
003571 003455 R
003572 067000 I 2402 DIT47    STB     T4                                                  10 02402
003573 002000 A 2403          CALL    CRP                                                 10 02403
003574 000142 R
003575 027000 I 2404          LDB     T4                                                  10 02404
003576 001000 A 2405          JMP     DIT29                                               10 02405
003577 003356 R
003600 125000 A 2406 DIT48    DATA    0125000         ADD                                 10 02406
003601 145000 A 2407          DATA    0145000         SUBTRACT                            10 02407
003602 165000 A 2408          DATA    0165000         MULTIPLY                            10 02408
003603 175000 A 2409          DATA    0175000         DIVIDE                              10 02409
003604 145640 A 2410 DIT49    DATA    'K  '                                               10 02410
003605 146240 A 2411          DATA    'L  '                                               10 02411
003606 146640 A 2412          DATA    'M  '                                               10 02412
003607 147240 A 2413          DATA    'N  '                                               10 02413
003610 105334 A 2414 DIT50    DATA    0105334         D.P. INTEGER OPERATIONS             10 02414
003611 105374 A 2415          DATA    0105374                                             10 02415
003612 105227 A 2416          DATA    0105227                                             10 02416
003613 105267 A 2417          DATA    0105267                                             10 02417
003614 105134 A 2418 DIT51    DATA    0105134         FIRMWARE DP CODES                   10 02418
003615 105174 A 2419          DATA    0105174                                             10 02419
003616 105074 A 2420          DATA    0105074                                             10 02420
003617 105034 A 2421          DATA    0105034                                             10 02421
003620 105410 A 2422 DIT52    DATA    FADDS           FLOATING POINT DP CODES             10 02422
003621 105450 A 2423          DATA    FSUBS                                               10 02423
003622 105416 A 2424          DATA    FMULS                                               10 02424
003623 105401 A 2425          DATA    FDIVS                                               10 02425
003624 105503 A 2426 DIT53    DATA    FADDD           D.P. FLOATING POINT DP CODES        10 02426
003625 105543 A 2427          DATA    FSUBD                                               10 02427
003626 105506 A 2428          DATA    FMULD                                               10 02428
003627 105535 A 2429          DATA    FDIVD                                               10 02429
003630 017000 I 2430 DIT54    LDA     T7              PROCESS STORE                       10 02430
003631 002000 A 2431          CALL    DST                                                 10 02431
003632 004234 R
003633 001000 A 2432          JMP*    DIT                                                 10 02432
003634 103040 R
003635 017000 I 2433 DIT56    LDA     MF              COMPLIMENT PROCESSING               10 02433
003636 140422 A 2434          SUB     TWO                                                 10 02434
003637 001016 A 2435          JANZ    DIT58                                               10 02435
003640 003653 R
003641 006010 A 2436          LDAI    05311                                               10 03436
003642 005311 A
003643 002000 A 2437          CALL    DAB             'DAR'                               10 02437
003644 077710 R
003645 006010 A 2438 DIT57    LDAI    05211                                               10 02438
003646 005211 A
003647 002000 A 2439          CALL    DAB             'CPA'                               10 02439
003650 077710 R
003651 001000 A 2440          JMP*    JIT                                                 10 02440
003652 103040 R
003653 140464 A 2441 DIT58    SUB     THREE                                               10 02441
003654 001004 A 2442          JAN     DIT60           REA,DBL                             10 02442
003655 003667 R
003656 001016 A 2443          JANZ    DIT62           DP INTEGER                          10 02443
003657 003707 R
003660 005111 A 2444          JAR                                                         10 02444
003661 006120 A 2445 DIT59    ADDI    'ZC'                                                10 02445
003662 155303 A
003663 002000 A 2446          CALL    CAN             MAKE $ZC/$ZD                        10 02446
003664 077613 R
003665 001000 A 2447          JMP*    DIT                                                 10 02447
003666 103040 R
003667 002000 A 2448 DIT60    CALL    TFA                                                 10 02448
003670 007435 R
003671 017000 I 2449          LDA     MF                                                  10 02449
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003672 140423 A 2450          SUB     FOUR                                    10 02450
003673 001010 A 2451          JAZ     DIT59     DBL                           10 02451
003674 003661 R
003675 006010 A 2452 DIT61    LDAI    01010                                   10 02452
003676 001010 A
003677 002000 A 2453          CALL    DAB       'JAZ'                         10 02453
003700 077710 R
003701 017000 I 2454          LDA     RL                                      10 02454
003702 120422 A 2455          ADD     TWO                                     10 02455
003703 002000 A 2456          CALL    DRE       'DATA  *+2'                   10 02456
003704 077715 R
003705 001000 A 2457          JMP     DIT57                                   10 02457
003706 003645 R
003707 006010 A 2458 DIT62    LDAI    '6D'                                    10 02458
003710 133304 A
003711 002000 A 2459          CALL    CAN       CALL $6D TO NEGATE DP INTEGER 10 02459
003712 077613 R
003713 001000 A 2460          JMP*    DIT                                     10 02460
003714 103040 R
003715 017000 I 2461 DIT64    LDA     J                                       10 02461
003716 057000 I 2462          STA     T4                                      10 02462
003717 017000 I 2463          LDA     DPX                                     10 02463
003720 127000 I 2464          ADD     XT                                      10 02464
003721 147000 I 2465          SUB     I                                       10 02465
003722 057000 I 2466          STA     J                                       10 02466
003723 002000 A 2467          CALL    LTX       LOAD INDIRECT TRIAD           10 02467
003724 077705 R
003725 017000 I 2468          LDA     DP                                      10 02468
003726 001010 A 2469          JAZ     DIT66                                   10 02469
003727 003743 R
003730 005311 A 2470          DAR                                             10 02470
003731 001010 A 2471          JAZ     DIT79     SPECIAL FPP SUBSCRIPTING      10 02471
003732 004076 R
003733 006140 A 2472          SUBI    041                                     10 02472
003734 000041 A
003735 001010 A 2473          JAZ     DIT72     ARRAY BASE                    10 02473
003736 003771 R
003737 002000 A 2474          CALL    DIT70                                   10 02474
003740 003760 R
003741 001000 A 2475          JMP     DIT04                                   10 02475
003742 003072 R
003743 010431 A 2476 DIT66    LDA     BS3                                     10 02476
003744 057000 I 2477          STA     T7        SET INDIRECT FLAG             10 02477
003745 017000 I 2478          LDA     D1                                      10 02478
003746 057000 I 2479          STA     I                                       10 02479
003747 147000 I 2480          SUB     DPX                                     10 02480
003750 001010 A 2481          JAZ     DIT74     PRE-CALCULATED ADDRESS        10 02481
003751 004007 R
003752 002000 A 2482 DIT68    CALL    LAX                                     10 02492
003753 077700 R
003754 002000 A 2483          CALL    DIT70                                   10 02493
003755 003760 R
003756 001000 A 2484          JMP     DIT04+2                                 10 02484
003757 003074 R
003760 000000 A 2485 DIT70    ENTRY             RESTORE TRIADS                10 02485
003761 017000 I 2486          LDA     D2                                      10 02486
003762 057000 I 2487          STA     I                                       10 02487
003763 017000 I 2488          LDA     T4                                      10 02488
003764 057000 I 2489          STA     J                                       10 02489
003765 002000 A 2490          CALL    LTX                                     10 02490
003766 077705 R
003767 001000 A 2491          JMP*    DIT70                                   10 02491
003770 103760 R
003771 027000 I 2492 DIT72    LDB     T4        PROCESS 'X'                   10 02492
003772 017000 I 2493          LDA     D2                                      10 02493
003773 056000 A 2494          STA     0,B       D1(T4)=D2(I)                  10 02494
003774 017000 I 2495          LDA     I                                       10 02495
003775 002000 A 2496          CALL    DIT76     GENERATE ADD. CST             10 02496
003776 004021 R
003777 017000 I 2497          LDAL    T4                                      10 02497
004000 057000 I 2498          STA     J                                       10 02498
004001 002000 A 2499          CALL    LTX                                     10 02499
004002 077705 R
004003 006027 A 2500          LDBE    DIT48     'ADD'                         10 02500
004004 003600 R
004005 001000 A 2501          JMP     DIT41                                   10 02501
004006 003536 R
004007 017000 I 2502 DIT74    LDA     D2                                      10 02502
004010 002000 A 2503          CALL    DIT76                                   10 02503
004011 004021 R
004012 017000 I 2504          LDA     I                                       10 02504
004013 027000 I 2505          LDB     D2                                      10 02505
004014 057000 I 2506          STA     D2                                      10 02506
004015 067000 I 2507          STB     I                                       10 02507
004016 047000 I 2508          INR     DITFL     SET CONSTANT SUBSCRIPT FLAG   10 02508
004017 001000 A 2509          JMP     DIT68                                   10 02509
004020 003752 R
004021 000000 A 2510 DIT76    ENTRY             GENERATE CONSTANT             10 02510
004022 147000 I 2511          SUB     XT                                      10 02511
004023 147000 I 2512          SUB     DPX                                     10 02512
004024 005211 A 2513          CPA                                             10 02513
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004025 005111 A 2514          IAR
004026 057000 I 2515          STA     J
004027 057000 I 2516          STA     T9
004030 002000 A 2517          CALL    LTX
004031 077705 R
004032 017000 I 2518          LDA     D2
004033 057000 I 2519          STA     I
004034 002000 A 2520          CALL    LAX
004035 077700 R
004036 010421 A 2521          LDA     ONE
004037 057000 I 2522          STA     NT
004040 057000 I 2523          STA     IU
004041 017000 I 2524          LDA     CL
004042 004204 A 2525          ASLA    4
004043 057000 I 2526          STA     ID+1            COMMON OFFSET
004044 017000 I 2527          LDA     AT
004045 020467 A 2528          LDB     SEVEN
004046 140466 A 2529          SUB     SIX
004047 001010 A 2530          JAZ     DIT78           COMMON RELATIVE
004050 004057 R
004051 005311 A 2531          DAR
004052 001004 A 2532          JAN     *+3             NOT DUMMY
004053 004055 R
004054 020422 A 2533          LDB     TWO
004055 005001 A 2534          TZA
004056 057000 I 2535          STA     ID+1            NO BASE OFFSET
004057 017000 I 2536 DIT78    LDA     D1
004060 057000 I 2537          STA     ID
004061 067000 I 2538          STB     IM
004062 010465 A 2539          LDA     FIVE
004063 057000 I 2540          STA     EL
004064 002000 A 2541          CALL    ASI
004065 077611 R
004066 010422 A 2542          LDA     TWO
004067 057000 I 2543          STA     IM
004070 017000 I 2544          LDA     T4
004071 127000 I 2545          ADD     J
004072 147000 I 2546          SUB     T9
004073 057000 I 2547          STA     T4
004074 001000 A 2548          JMP*    DIT76
004075 104021 R
004076 017000 I 2549 DIT79    LDA     T8              GENERATE SPECIAL FPP SUBSCRIPTS
004077 140000 L 2550          SUB     =055
004100 001016 A 2551          JANZ    DIT80
004101 004106 R
004102 010464 A 2552          LDA     THREE
004103 057000 I 2553          STA     IM
004104 002000 A 2554          CALL    MODE            CORRECT REGISTER MODE
004105 002552 R
004106 017000 I 2555 DIT80    LDA     T8
004107 140425 A 2556          SUB     K20
004110 002016 A 2557          JANZM   CRP
004111 000142 R
004112 006010 A 2558          LDAI    FLIOP
004113 105367 A
004114 002000 A 2559          CALL    JAB             BCS CALL
004115 077710 R
004116 017000 I 2560          LDA     J
004117 140464 A 2561          SUB     THREE
004120 005014 A 2562          TAX
004121 015000 A 2563          LDA     0,X             D1(J-3)
004122 057000 I 2564          STA     I
004123 005001 A 2565          TZA
004124 002000 A 2566          CALL    DUT             INDEX POINTER
004125 077720 R
004126 017000 I 2567          LDA     D2
004127 002000 A 2568          CALL    DIT76
004130 004021 R
004131 027000 I 2569          LDB     1D
004132 005122 A 2570          IBR
004133 005122 A 2571          IBR
004134 017000 I 2572          LDA     ID+1
004135 120437 A 2573 DIT84    ADD     BS14            MAKE RELATIVE
004136 002000 A 2574          CALL    DWD             ARRAY BASE ADDRESS
004137 077721 R
004140 017000 I 2575          LDA     ZPCA+4          =0.0
004141 057000 I 2576          STA     I
004142 057000 I 2577          STA     D2
004143 001000 A 2578          JMP     DIT68
004144 003752 R
                2579          EJECT
                2580 ********************************************************************
                2581 *                                                                  *
                2582 *       O U T P U T   O P E R A N D   A D D R E S S ( D O A )      *
                2583 *                                                                  *
                2584 * ENTRANCE: (B) = PRIOR OPERATION                                  *
                2585 *                                                                  *
                2586 ********************************************************************
004145 000000 A 2588 DOA      ENTRY
004146 017000 I 2589          LDA     DITFL           CONSTANT SUBSCRIPT FLAG
004147 001016 A 2590          JANZ    DOA1            INDIRECT WITH CONSTANT SUBSCRIPT
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004150 004157 R
004151 005021 A 2591          TBA                                                  10 02591
004152 117000 I 2592          ORA     I7                                           10 02592
004153 002000 A 2593          CALL    OUT                                          10 02593
004154 077720 R
004155 001000 A 2594          JMP*    OOA                                          10 02594
004156 104145 R
004157 001020 A 2595 OOA1     JBZ     OOA2          PARAMETER                      10 02595
004160 004170 R
004161 004154 A 2596          LSRB    12                                           10 02596
004162 004043 A 2597          LRLB    3                                            10 02597
004163 006010 A 2598          LDAI    06007                                        10 02598
004164 006007 A
004165 005031 A 2599          MERG    031           MAKE EXTENDED INSTRUCTION      10 02599
004166 002000 A 2600          CALL    OAB                                          10 02600
004167 077710 R
004170 002000 A 2601 OOA2     CALL    LAX                                          10 02601
004171 077700 R
004172 017000 I 2602          LDA     ID+1                                         10 02602
004173 140437 A 2603          ADD     BS14          (A) = LOADER DIRECTIVE         10 02603
004174 027000 I 2604          LDB     ID            (B)=VALUE                      10 02604
004175 002000 A 2605          CALL    OWD                                          10 02605
004176 077721 R
004177 001000 A 2606          JMP*    OOA                                          10 02606
004200 104145 R
                2607          EJECT                                                10 02607
                2608 ********************************************************************** 10 02608
                2609 *                                                                    * 10 02609
                2610 *      O U T P U T   R E G I S T E R   T R A N S F E R   ( O R T )    * 10 02610
                2611 *                                                                    * 10 02611
                2612 * ENTRANCE: (A)=OPERATION                                            * 10 02612
                2613 *                                                                    * 10 02613
                2614 ********************************************************************** 10 02614
004201 000000 A 2616 ORT      ENTRY                                                10 02616
004202 117000 I 2617          ORA     I7                                           10 02617
004203 002000 A 2618          CALL    OUT                                          10 02618
004204 077720 R
004205 017000 I 2619          LDA     MF                                           10 02619
004206 140422 A 2620          SUB     TWO                                          10 02620
004207 001010 A 2621          JAZ*    ORT           INTEGER                        10 02621
004210 104201 R
004211 017000 I 2622          LDA     AS                                           10 02622
004212 127000 I 2623          ADD     AF                                           10 02623
004213 006120 A 2624          ADDI    010001        MAKE B-REFERENCE INSTRUCTION   10 02624
004214 010001 A
004215 006411 A 2625          BT      011,ORT2      JUMP IF NO A-FIELD OVERFLOW     10 02625
004216 004230 R
004217 054005 A 2626          STA     ORT1                                         10 02626
004220 006010 A 2627          LDAI    05144                                        10 02627
004221 005144 A
004222 002000 A 2628          CALL    OAB           'IXR'                          10 02628
004223 077710 R
004224 006010 A 2629          LDAI    **                                           10 02629
004225 104224 R
004225 R 2630 ORT1    EQU     *-1                                                  10 02630
004226 005311 A 2631          DAR                                                  10 02631
004227 057000 I 2632          STA     XRPT          KILL X-REG                     10 02632
004230 002000 A 2633 ORT2     CALL    OAB                                          10 02633
004231 077710 R
004232 001000 A 2634          JMP*    ORT                                          10 02634
004233 104201 R
                2635          EJECT                                                10 02635
                2636 ********************************************************************** 10 02636
                2637 *                                                                    * 10 02637
                2638 *      O U T P U T   S T O R E   ( O S T )                           * 10 02638
                2639 *                                                                    * 10 02639
                2640 * ENTRANCE: (A)=INDIRECT OFFSET                                      * 10 02640
                2641 *                                                                    * 10 02641
                2642 ********************************************************************** 10 02642
004234 000000 A 2644 OST      ENTRY                                                10 02644
004235 057000 I 2645          STA     I7            INDIRECT POINTER               10 02645
004236 002000 A 2646          CALL    MODE                                         10 02646
004237 002552 R
004240 005001 A 2647          IZA                                                  10 02647
004241 057000 I 2648          STA     MAXOPC                                       10 02648
004242 017000 I 2649          LDA     IM                                           10 02649
004243 140422 A 2650          SUB     TWO                                          10 02650
004244 001010 A 2651          JAZ     OST1          INTEGER/LOGICAL                10 02651
004245 004260 R
004246 027000 I 2652          LDB     $PCW                                         10 02652
004247 005311 A 2653          DAR                                                  10 02653
004250 001010 A 2654          JAZ     OST2          REAL                           10 02654
004251 004266 R
004252 005311 A 2655          DAR                                                  10 02655
004253 001010 A 2656          JAZ     OST5          DOUBLE PRECISION               10 02656
004254 004305 R
004255 005311 A 2657          DAR                                                  10 02657
004256 001010 A 2658          JAZ     OST6          COMPLEX                        10 02658
004257 004317 R
004260 006010 A 2659 OST1     LDAI    055000                                       10 02659
004261 055000 A
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004262 002000 A 2660          CALL    ORT         'STA'                          10 02660
004263 004201 R
004264 001000 A 2661          JMP*    OST                                        10 02661
004265 104234 R
004266 014036 A 2662 OST2     LDA     OST7        REAL                           10 02662
004267 006425 A 2663          BT      025,OST3    'H'                            10 02663
004270 004311 R
004271 006464 A 2664          BT      064,OST1    NOT 'F'                        10 02664
004272 004260 R
004273 006010 A 2665          LDAI    FSTI                                       10 02665
004274 105033 A
004275 002000 A 2666 OST4     CALL    OAB                                        10 02666
004276 077710 R
004277 005002 A 2667          TZB                                                10 02667
004300 067000 I 2668          STB     F           MARK FPP EMPTY                 10 02668
004301 002000 A 2669          CALL    OOA                                        10 02669
004302 004145 R
004303 001000 A 2670          JMP*    OST                                        10 02670
004304 104234 R
004305 006010 A 2671 OST5     LDAI    FSTD        D.P.                           10 02671
004306 105710 A
004307 006465 A 2672          BT      065,OST6    NOT 'H'                        10 02672
004310 004317 R
004311 027000 I 2673 OST3     LDB     F                                          10 02673
004312 001026 A 2674          JBNZ    OST4        FPP LOADED                     10 02674
004313 004275 R
004314 144010 A 2675          SUB     OST7                                       10 02675
004315 001010 A 2676          JAZ     OST1        REAL                           10 02676
004316 004260 R
004317 006020 A 2677 OST6     LDBI    'S '        COMPLEX                        10 02677
004320 151640 A
004321 002000 A 2678          CALL    OAO                                        10 02678
004322 002662 R
004323 001000 A 2679          JMP*    OST                                        10 02679
004324 104234 R
004325 105600 A 2680 OST7     DATA    FSTS                                       10 02680
                2681          EJECT                                              10 02681
                2682 ********************************************************** 10 02682
                2683 *                                                        * 10 02683
                2684 *      O U T P U T   T R I A D S   ( O T R )             * 10 02684
                2685 *                                                        * 10 02685
                2686 ********************************************************** 10 02686
004326 000000 A 2688 OTR      ENTRY                                              10 02688
004327 017000 I 2689          LDA     IT                                         10 02689
004330 057000 I 2690          STA     J                                          10 02690
004331 010421 A 2691          LDA     ONE                                        10 02691
004332 057000 I 2692          STA     OP          INITIALIZE OPERATOR            10 02692
004333 017000 I 2693 OTR1     LDA     OP                                         10 02693
004334 057000 I 2694          STA     T6                                         10 02694
004335 017000 I 2695          LDA     J                                          10 02695
004336 057000 I 2696          STA     T5                                         10 02696
004337 017000 I 2697 OTR2     LDA     J                                          10 02697
004340 120464 A 2698          ADD     THREE                                      10 02698
004341 057000 I 2699          STA     J                                          10 02699
004342 147000 I 2700          SUB     JT                                         10 02700
004343 005311 A 2701          OAR                                                10 02701
004344 001002 A 2702          JAP     OTR29       FINISHED                       10 02702
004345 005124 R
004346 017000 I 2703          LDA     OP                                         10 02703
004347 140000 L 2704          SUB     =055                                       10 02704
004350 001010 A 2705          JAZ     OTR16       REPLACEMENT OPERATOR PROCESSED 10 02705
004351 004740 R
004352 002000 A 2706 OTR3     CALL    LTX                                        10 02706
004353 077705 R
004354 017000 I 2707          LDA     OP                                         10 02707
004355 006140 A 2708          SUBI    042                                        10 02708
004356 000042 A
004357 001010 A 2709          JAZ     OTR38       ARRAY BASE                     10 02709
004360 005351 R
004361 120472 A 2710          ADD     K17                                        10 02710
004362 001010 A 2711          JAZ     OTR7        (023) = I/O LOOP INITIALIZE    10 02711
004363 004573 R
004364 140424 A 2712          SUB     K10                                        10 02712
004365 001010 A 2713          JAZ     OTR9        (033) = I/O LOOP ITEM          10 02713
004366 004607 R
004367 140464 A 2714          SUB     THREE                                      10 02714
004370 001010 A 2715          JAZ     OTR8        (036) = I/O LOOP END           10 02715
004371 004601 R
004372 017000 I 2716          LDA     O1                                         10 02716
004373 057000 I 2717          STA     I                                          10 02717
004374 147000 I 2718          SUB     IT                                         10 02718
004375 001004 A 2719          JAN     OTR60       INSIDE ASSIGNMENT              10 02719
004376 005520 R
004377 017000 I 2720          LDA     T6                                         10 02720
004400 001010 A 2721          JAZ     OTR4        PRECEEDING OP = ARRAY BASE     10 02721
004401 004410 R
004402 017000 I 2722          LDA     OPX                                        10 02722
004403 127000 I 2723          ADD     IT                                         10 02723
004404 147000 I 2724          SUB     O1                                         10 02724
004405 147000 I 2725          SUB     T5                                         10 02725
004406 001010 A 2726          JAZ     OTR5        O1 LINKED TO PRIOR             10 02726
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004407 004461 R
004410 017000 I 2727 OTR4   LDA     $PCW                                    10 02727
004411 006444 A 2728        BT      044,OTR45   NOT 'F'                     10 02728
004412 004456 R
004413 017000 I 2729        LDA     DFPP                                    10 02729
004414 001002 A 2730        JAP     *+4                                     10 02730
004415 004420 R
004416 005001 A 2731        TZA                                             10 02731
004417 057000 I 2732        STA     DFPP        RESET DFPP FLAG             10 02732
004420 017000 I 2733        LDA     01                                      10 02733
004421 147000 I 2734        SUB     DPCA+7                                  10 02734
004422 001010 A 2735        JAZ     OTR41       SQRT                        10 02735
004423 005502 R
004424 017000 I 2736        LDA     OP                                      10 02736
004425 140000 L 2737        SUB     =046                                    10 02737
004426 001010 A 2738        JAZ     OTR42                                   10 02738
004427 004433 R
004430 140467 A 2739        SUB     SEVEN                                   10 02739
004431 001016 A 2740        JANZ    OTR45       NOT '-' OR '='              10 02740
004432 004456 R
004433 017000 I 2741 OTR42  LDA     01                                      10 02741
004434 002000 A 2742        CALL    GOM                                     10 02742
004435 002127 R
004436 140464 A 2743        SUB     THREE                                   10 02743
004437 001016 A 2744        JANZ    OTR45       NOT REAL-01                 10 02744
004440 004456 R
004441 017000 I 2745        LDA     02                                      10 02745
004442 002000 A 2746        CALL    GOM                                     10 02746
004443 002127 R
004444 140464 A 2747        SUB     THREE                                   10 02747
004445 001016 A 2748        JANZ    OTR45       NOT REAL-02                 10 02748
004446 004456 R
004447 017000 I 2749        LDA     OP                                      10 02749
004450 140000 L 2750        SUB     =055                                    10 02750
004451 001010 A 2751        JAZ     OTR35       MOVE                        10 02751
004452 005233 R
004453 017000 I 2752        LDA     SF                                      10 02752
004454 001010 A 2753        JAZ     OTR36       POSSIBLE RELATIONAL/ARITH-IF 10 02753
004455 005273 R
004456 010425 A 2754 OTR45  LDA     K20         (020) = LOAD                10 02754
004457 002000 A 2755        CALL    OIT                                     10 02755
004460 003040 R
004461 017000 I 2756 OTR5   LDA     MF                                      10 02756
004462 054107 A 2757        STA     OTR7-1                                  10 02757
004463 017000 I 2758        LDA     02                                      10 02758
004464 057000 I 2759        STA     I                                       10 02759
004465 005111 A 2760        IAR                                             10 02760
004466 001010 A 2761        JAZ     OTR12       RELATIONAL                  10 02761
004467 004661 R
004470 017000 I 2762        LDA     OP                                      10 02762
004471 140000 L 2763        SUB     =045                                    10 02763
004472 001004 A 2764        JAN     OTR50                                   10 02764
004473 004477 R
004474 140423 A 2765        SUB     FOUR                                    10 02765
004475 001004 A 2766        JAN     OTR30       '+','-','*','/'            10 02766
004476 005132 R
004477 017000 I 2767 OTR50  LDA     OP                                      10 02767
004500 002000 A 2768        CALL    OIT         OPERATION                   10 02768
004501 003040 R
004502 017000 I 2769 OTR51  LDA     SF                                      10 02769
004503 001010 A 2770        JAZ     OTR1        NO TEMP. STORE REQUIRED     10 02770
004504 004333 R
004505 017000 I 2771        LDA     OP                                      10 02771
004506 140000 L 2772        SUB     =055                                    10 02772
004507 001016 A 2773        JANZ    OTR6        NOT '=' OPERATOR            10 02773
004510 004532 R
004511 037000 I 2774        LDX     J                                       10 02774
004512 015003 A 2775        LDA     3,X                                     10 02775
004513 147000 I 2776        SUB     02                                      10 02776
004514 001010 A 2777        JAZ     OTR1        NO STORE FOR REGISTER CHAIN 10 02777
004515 004333 R
004516 015004 A 2778        LDA     4,X                                     10 02778
004517 147000 I 2779        SUB     02                                      10 02779
004520 001016 A 2780        JANZ    OTR1        NO STORE FOR DUPLICATE ASSIGNMENTS 10 02780
004521 004333 R
004522 014047 A 2781        LDA     OTR7-1      EXPRESSION MODE             10 02781
004523 147000 I 2782        SUB     MF                                      10 02782
004524 027000 I 2783        LDB     01                                      10 02783
004525 003010 A 2784        XAZ     OTR6-1      SET NEXT 01 TO FETCH        10 02784
004526 004531 R
004527 001000 A 2785        JMP     OTR1                                    10 02785
004530 004333 R
004531 065003 A 2786        STB     3,X                                     10 02786
004532 017000 I 2787 OTR6   LDA     F                                       10 02787
004533 057000 I 2788        STA     T6          SAVE FPP VALUE              10 02788
004534 002000 A 2789        CALL    GTS                                     10 02789
004535 002323 R
004536 017000 I 2790        LDA     I                                       10 02790
004537 057000 I 2791        STA     02          STORE POINTER               10 02791
004540 002000 A 2792        CALL    STX                                     10 02792
004541 007377 R
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004542 017000 I 2793          LDA     $PCW                                                    10 02793
004543 006445 A 2794          BT      0,45,OTR1       NOT 'H'                                 10 02794
004544 004333 R
004545 017000 I 2795          LDA     MF                                                      10 02795
004546 140464 A 2796          SUB     THREE                                                   10 02796
004547 001004 A 2797          JAN     OTR1            INTEGER                                 10 02797
004550 004333 R
004551 140422 A 2798          SUB     TWO                                                     10 02798
004552 001002 A 2799          JAP     OTR1            NOT REA/DBL                             10 02799
004553 004333 R
004554 017000 I 2800          LDA     T6                                                      10 02800
004555 001010 A 2801          JAZ     OTR1            STORE WAS NOT FROM FPP                  10 02801
004556 004333 R
004557 037000 I 2802          LDX     J                                                       10 02802
004560 017000 I 2803          LDA     DPX                                                     10 02803
004561 127000 I 2804          ADD     IT                                                      10 02804
004562 145003 A 2805          SUB     3,X                                                     10 02805
004563 147000 I 2806          SUB     J                                                       10 02806
004564 005012 A 2807          TAB                                                             10 02807
004565 010425 A 2808          LDA     K20                                                     10 02808
004566 002020 A 2809          JBZM    OIT             RELOAD FPP IF NEXT LINKED TO CURRENT    10 02809
004567 003040 R
004570 001000 A 2810          JMP     OTR1                                                    10 02810
004571 004333 R
004572 000000 A 2811          DATA    0               EXPRESSION MODE                         10 02811
004573 017000 I 2812 OTR7     LDA     D2              I/O LOOP INITIALIZE                     10 02812
004574 057000 I 2813          STA     D                                                       10 02813
004575 002016 A 2814          JANZM   DON                                                     10 02814
004576 000325 R
004577 001000 A 2815          JMP     OTR1                                                    10 02815
004600 004333 R
004601 017000 I 2816 OTR8     LDA     D2              I/O LOOP TERMINATE                      10 02816
004602 057000 I 2817          STA     D                                                       10 02817
004603 002000 A 2818          CALL    DOT                                                     10 02818
004604 000465 R
004605 001000 A 2819          JMP     OTR1                                                    10 02819
004606 004333 R
004607 017000 I 2820 OTR9     LDA     D2              I/O LOOP ITEM                           10 02820
004610 057000 I 2821          STA     I                                                       10 02821
004611 010461 A 2822          LDA     NEG                                                     10 02822
004612 002000 A 2823          CALL    OIT                                                     10 02823
004613 003040 R
004614 017000 I 2824          LDA     I                                                       10 02824
004615 057000 I 2825          STA     D2              EFECTIVE I POINTER                      10 02825
004616 017000 I 2826          LDA     IM                                                      10 02826
004617 140422 A 2827          SUB     TWO                                                     10 02827
004620 001016 A 2828          JANZ    OTR10           NOT INTEGER                             10 02828
004621 004626 R
004622 027000 I 2829          LDB     $PCW                                                    10 02829
004623 006410 A 2830          BT      010,OTR10       ''                                      10 02830
004624 004626 R
004625 005311 A 2831          DAR                     MAKE $I1 FOR 1-WORD INTEGER             10 02831
004626 006120 A 2832 OTR10    ADDI    'I2'                                                    10 02832
004627 144662 A
004630 002000 A 2833          CALL    CAN                                                     10 02833
004631 077613 R
004632 017000 I 2834          LDA     01                                                      10 02834
004633 001002 A 2835          JAP     OTR11                                                   10 02835
004634 004650 R
004635 005111 A 2836          IAR                     PROCESS DUMMY DIMENSIONS                10 02836
004636 127000 I 2837          ADD     DPX                                                     10 02837
004637 127000 I 2838          ADD     IT                                                      10 02838
004640 005012 A 2839          TAB                                                             10 02839
004641 016002 A 2840          LDA     2,B             D2(B)                                   10 02840
004642 057000 I 2841          STA     I                                                       10 02841
004643 010431 A 2842          LDA     BS8                                                     10 02842
004644 002000 A 2843          CALL    OUT             'DATA*  WORD-COUNT'                     10 02843
004645 077720 R
004646 001000 A 2844          JMP     OTR11+2                                                 10 02844
004647 004652 R
004650 002000 A 2845 OTR11    CALL    OAB             'DATA   WORD-COUNT'                     10 02845
004651 077710 R
004652 017000 I 2846          LDA     D2                                                      10 02846
004653 057000 I 2847          STA     I                                                       10 02847
004654 017000 I 2848          LDA     T7                                                      10 02848
004655 002000 A 2849          CALL    OUT             'DATA  PARAMETER-VALUE'                 10 02849
004656 077720 R
004657 001000 A 2850          JMP     OTR1                                                    10 02850
004660 004333 R
004661 002000 A 2851 OTR12    CALL    GDV             PROCESS RELATIONAL                      10 02851
004662 002101 R
004663 017000 I 2852          LDA     DP                                                      10 02852
004664 004341 A 2853          LSRA    1                                                       10 02853
004665 006140 A 2854          SUBI    034                                                     10 02854
004666 000034 A
004667 001016 A 2855          JANZ    OTR13           NOT '=' OR '<>'                         10 02855
004670 004705 R
004671 006010 A 2856          LDAI    01010           CONVERT TO TRUE(-1) OR FALSE (0)        10 02856
004672 001010 A
004673 002000 A 2857          CALL    OAB             'JAZ'                                   10 02857
004674 077710 R
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004675 017000 I 2858          LDA     RL                                                    10 02858
004676 120422 A 2859          ADD     TWO                                                   10 02859
004677 002000 A 2860          CALL    ORE       'DATA  *+3'                                 10 02860
004700 077715 R
004701 006010 A 2861          LDAI    05301                                                 10 02861
004702 005301 A
004703 002000 A 2862          CALL    OAB       'DECR  1'                                   10 02862
004704 077710 R
004705 017000 I 2863 OTR13    LDA     OP                                                    10 02863
004706 150423 A 2864          ANA     FOUR                                                  10 02864
004707 001010 A 2865          JAZ     OTR14                                                 10 02865
004710 004715 R
004711 006010 A 2866          LDAI    05311                                                 10 02866
004712 005311 A
004713 002000 A 2867          CALL    OAB       'DAR FOR '<=' OR '>'                        10 02867
004714 077710 R
004715 017000 I 2868 OTR14    LDA     OP                                                    10 02868
004716 150422 A 2869          ANA     TWO                                                   10 02869
004717 001010 A 2870          JAZ     OTR15                                                 10 02870
004720 004725 R
004721 006010 A 2871          LDAI    04320                                                 10 02871
004722 004320 A
004723 002000 A 2872          CALL    OAB       'ASRA  16' FOR '<' OR '>='                  10 02872
004724 077710 R
004725 017000 I 2873 OTR15    LDA     OP                                                    10 02873
004726 006440 A 2874          BT      040,OTR151                                            10 02874
004727 004734 R
004730 006010 A 2875          LDAI    05211                                                 10 02875
004731 005211 A
004732 002000 A 2876          CALL    OAB       'CPA' FOR '=','>=', OR '>'                  10 02876
004733 077710 R
004734 010422 A 2877 OTR151   LDA     TWO                                                   10 02877
004735 057000 I 2878          STA     MF        MF = LOGICAL                                10 02878
004736 001000 A 2879          JMP     OTR51                                                 10 02879
004737 004502 R
004740 037000 I 2880 OTR16    LDX     J         PROCESS CONTINUATION AFTER STORE            10 02880
004741 017000 I 2881          LDA     OPX                                                   10 02881
004742 127000 I 2882          ADD     IT                                                    10 02882
004743 147000 I 2883          SUB     J                                                     10 02883
004744 120464 A 2884          ADD     THREE                                                 10 02884
004745 054102 A 2885          STA     OTR23     VALUES ABOVE THIS ARE IN PRIO SEGMENT       10 02885
004746 015002 A 2886 OTR17    LDA     2,X                                                   10 02886
004747 150000 L 2887          ANA     =0176     OP(X)*2                                     10 02887
004750 144133 A 2888          SUB     OTR27-1   (042) = 'X'                                 10 02888
004751 001010 A 2889          JAZ     OTR19     ARRAY BASE                                  10 02889
004752 004767 R
004753 015000 A 2890          LDA     0,X       O1(X)                                       10 02890
004754 002000 A 2891          CALL    OTR22                                                 10 02891
004755 005042 R
004756 001010 A 2892          JAZ     OTR18                                                 10 02892
004757 004761 R
004760 055000 A 2893          STA     0,X       ACTUAL O1 POINTER                           10 02893
004761 015001 A 2894 OTR18    LDA     1,X       O2(X)                                       10 02894
004762 002000 A 2895          CALL    OTR22                                                 10 02895
004763 005042 R
004764 001010 A 2896          JAZ     OTR19                                                 10 02896
004765 004767 R
004766 055001 A 2897          STA     1,X       ACTUAL O2 POINTER                           10 02897
004767 005041 A 2898 OTR19    TXA                                                           10 02898
004770 120464 A 2899          ADD     THREE                                                 10 02899
004771 005014 A 2900          TAX                                                           10 02900
004772 147000 I 2901          SUB     JT                                                    10 02901
004773 005311 A 2902          DAR                                                           10 02902
004774 001004 A 2903          JAN     OTR17                                                 10 02903
004775 004746 R
004776 037000 I 2904          LDX     J         MOVE TRIAD TABLE                            10 02904
004777 017000 I 2905          LDA     IT                                                    10 02905
005000 120464 A 2906          ADD     THREE                                                 10 02906
005001 005012 A 2907          TAB               (B) = MOVE-TO                               10 02907
005002 147000 I 2908          SUB     J                                                     10 02908
005003 054114 A 2909          STA     OTR28     OFFSET                                      10 02909
005004 015000 A 2910 OTR20    LDA     0,X                                                   10 02910
005005 056000 A 2911          STA     0,B                                                   10 02911
005006 015001 A 2912          LDA     1,X                                                   10 02912
005007 056001 A 2913          STA     1,B                                                   10 02913
005010 015002 A 2914          LDA     2,X                                                   10 02914
005011 056002 A 2915          STA     2,B                                                   10 02915
005012 150000 L 2916          ANA     =0176     OP(X)*2                                     10 02916
005013 144070 A 2917          SUB     OTR27-1   (042) = 'X'                                 10 02917
005014 001010 A 2918          JAZ     OTR21     ARRAY BASE                                  10 02918
005015 005026 R
005016 002000 A 2919          CALL    OTR27     PROCESS O1(X)                               10 02919
005017 005105 R
005020 005122 A 2920          IBR                                                           10 02920
005021 005144 A 2921          IXR                                                           10 02921
005022 002000 A 2922          CALL    OTR27     PROCESS O2(X)                               10 02922
005023 005105 R
005024 005322 A 2923          DBR                                                           10 02923
005025 005344 A 2924          DXR                                                           10 02924
005026 005041 A 2925 OTR21    TXA                                                           10 02925
005027 120464 A 2926          ADD     THREE                                                 10 02926
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005030 005014 A 2927          TAX                                                    10 02927
005031 147000 I 2928          SUB     JT                                             10 02928
005032 005311 A 2929          DAR                                                    10 02929
005033 001002 A 2930          JAP     OTR29+1       DONE WITH SCAN                   10 02930
005034 005125 R
005035 005122 A 2931          IBR                                                    10 02931
005036 005122 A 2932          IBR                                                    10 02932
005037 005122 A 2933          IBR                                                    10 02933
005040 001000 A 2934          JMP     OTR20                                          10 02934
005041 005004 R
005042 000000 A 2936 OTR22    ENTRY                                                  10 02936
005043 054015 A 2937          STA     OTR26                                          10 02937
005044 147000 I 2938          SUB     IT                                             10 02938
005045 001004 A 2939          JAN     OTR24         INSIDE ASSIGNMENT TABLE          10 02939
005046 005054 R
005047 006010 A 2940          LDAI    **                                             10 02940
005050 105047 R
       005050 R 2941 OTR23    EQU     *-1           OLD LOOP REFERENCE               10 02941
005051 144007 A 2942          SUB     OTR26                                          10 02942
005052 001004 A 2943          JAN     OTR25                                          10 02943
005053 005057 R
005054 005001 A 2944 OTR24    TZA                                                    10 02944
005055 001000 A 2945          JMP*    OTR22         (A) = 0 FOR NO CHANGE            10 02945
005056 105042 R
005057 017000 I 2946 OTR25    LDA     OPX                                            10 02946
005060 006140 A 2947          SUBI    **                                             10 02947
005061 105060 R
       005061 R 2948 OTR26    EQU     *-1                                            10 02948
005062 001010 A 2949          JAZ*    OTR22         SELF LINK                        10 02949
005063 105042 R
005064 127000 I 2950          ADD     IT                                             10 02950
005065 005012 A 2951          TAB                                                    10 02951
005066 016002 A 2952          LDA     2,B                                            10 02952
005067 150000 L 2953          ANA     =0176         OP(X)*2                          10 02953
005070 001010 A 2954          JAZ     OTR3          ARRAY HEADER (OP=0) FROM PRIOR SEG. USED  10 02954
005071 004352 R
005072 140422 A 2955          SUB     TWO                                            10 02955
005073 001010 A 2956          JAZ     OTR3          ARRAY HEADER (OP=1) FROM PRIOR SEG. USED  10 02956
005074 004352 R
005075 006140 A 2957          SUBI    0102                                           10 02957
005076 000102 A
005077 001010 A 2958          JAZ     OTR3          ARRAY BASE (OP='X') FROM PRIOR SEG. USED  10 02958
005100 004352 R
005101 016001 A 2959          LDA     1,B           ACTUAL STORE POINTER             10 02959
005102 001000 A 2960          JMP*    OTR22                                          10 02960
005103 105042 R
005104 000104 A 2961          DATA    0104                                           10 02961
005105 000000 A 2963 OTR27    ENTRY                                                  10 02963
005106 015000 A 2964          LDA     0,X                                            10 02964
005107 147000 I 2965          SUB     IT                                             10 02965
005110 001004 A 2966          JAN*    OTR27         NORMAL OPERAND                   10 02966
005111 105105 R
005112 015000 A 2967          LDA     0,X                                            10 02967
005113 147000 I 2968          SUB     OPX                                            10 02968
005114 001010 A 2969          JAZ*    OTR27         SELF LINK                        10 02969
005115 105105 R
005116 015000 A 2970          LDA     0,X                                            10 02970
005117 006140 A 2971          SUBI    **                                             10 02971
005120 105117 R
       005120 R 2972 OTR28    EQU     *-1                                            10 02972
005121 056000 A 2973          STA     0,B                                            10 02973
005122 001000 A 2974          JMP*    OTR27                                          10 02974
005123 105105 R
005124 027000 I 2975 OTR29    LDB     IT                                             10 02975
005125 067000 I 2976          STB     JT                                             10 02976
005126 002000 A 2977          CALL    MMT                                            10 02977
005127 002652 R
005130 001000 A 2978          JMP*    OTR           EXIT                             10 02978
005131 104326 R
005132 017000 I 2979 OTR30    LDA     MF            CHECK FOR MODE ORDERING          10 02979
005133 140464 A 2980          SUB     THREE                                          10 02980
005134 001010 A 2981          JAZ     OTR31                                          10 02981
005135 005160 R
005136 005311 A 2982          DAR                                                    10 02982
005137 001010 A 2983          JAZ     OTR305                                         10 02983
005140 005152 R
005141 005311 A 2984          DAR                                                    10 02984
005142 001016 A 2985          JANZ    OTR50         NOT REA,CPX                      10 02985
005143 004477 R
005144 017000 I 2986          LDA     02                                             10 02986
005145 002000 A 2987          CALL    GOM                                            10 02987
005146 002127 R
005147 140423 A 2988          SUB     FOUR                                           10 02988
005150 001000 A 2989          JMP     OTR32                                          10 02989
005151 005164 R
005152 017000 I 2990 OTR305   LDA     02                                             10 02990
005153 002000 A 2991          CALL    GOM                                            10 02991
005154 002127 R
005155 140466 A 2992          SUB     SIX                                            10 02992
005156 001000 A 2993          JMP     OTR32                                          10 02993
005157 005164 R
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005160 017000 I 2994 OTR31  LDA     D2              REA                                  10 02994
005161 002000 A 2995        CALL    GOM                                                  10 02995
005162 002127 R
005163 140422 A 2996        SUB     TWO                                                  10 02996
005164 001016 A 2997 OTR32  JANZ    OTR50           NOT CPX-OP-DBL OR REA-OP-INT         10 02997
005165 004477 R
005166 017000 I 2998        LDA     MF                                                   10 02998
005167 057000 I 2999        STA     T0                                                   10 02999
005170 017000 I 3000        LDA     OP                                                   10 03000
005171 057000 I 3001        STA     T1                                                   10 03001
005172 002000 A 3002        CALL    GTS                                                  10 03002
005173 002323 R
005174 017000 I 3003        LDA     I                                                    10 03003
005175 057000 I 3004        STA     T2                                                   10 03004
005176 017000 I 3005        LDA     D2                                                   10 03005
005177 057000 I 3006        STA     I                                                    10 03006
005200 010425 A 3007        LDA     BS4             (020) = LOAD                         10 03007
005201 002000 A 3008        CALL    GIT                                                  10 03008
005202 003040 R
005203 017000 I 3009        LDA     T0                                                   10 03009
005204 057000 I 3010        STA     IM                                                   10 03010
005205 002000 A 3011        CALL    MODE            CONVERT REGISTER MODE                10 03011
005206 002552 R
005207 017000 I 3012        LDA     T1                                                   10 03012
005210 002000 A 3013        CALL    TCD                                                  10 03013
005211 007417 R
005212 001010 A 3014        JAZ     OTR34           COMMUTATIVE OPERATOR                 10 03014
005213 005225 R
005214 002000 A 3015        CALL    GTS                                                  10 03015
005215 002323 R
005216 017000 I 3016        LDA     I                                                    10 03016
005217 027000 I 3017        LDB     T2                                                   10 03017
005220 057000 I 3018        STA     T2                                                   10 03018
005221 067000 I 3019        STB     I                                                    10 03019
005222 010425 A 3020        LDA     BS4             (020) = LOAD                         10 03020
005223 002000 A 3021        CALL    GIT                                                  10 03021
005224 003040 R
005225 017000 I 3022 OTR34  LDA     T2                                                   10 03022
005226 057000 I 3023        STA     I                                                    10 03023
005227 017000 I 3024        LDA     T1                                                   10 03024
005230 057000 I 3025        STA     OP                                                   10 03025
005231 001000 A 3026        JMP     OTR50                                                10 03026
005232 004477 R
005233 057000 I 3027 OTR35  STA     F               PROCESS FLOATING MOVE                10 03027
005234 147000 I 3028        SUB     D1                                                   10 03028
005235 002000 A 3029        CALL    OTR355                                               10 03029
005236 005252 R
005237 147000 I 3030        SUB     D2                                                   10 03030
005240 002000 A 3031        CALL    OTR355                                               10 03031
005241 005252 R
005242 006010 A 3032        LDAI    FMOVI                                                10 03032
005243 105037 A
005244 002000 A 3033        CALL    OTR40                                                10 03033
005245 005463 R
005246 010464 A 3034        LDA     THREE                                                10 03034
005247 057000 I 3035        STA     MF              FORCE REAL REGISTER                  10 03035
005250 001000 A 3036        JMP     OTR51                                                10 03036
005251 004502 R
005252 000000 A 3037 OTR355 ENTRY                   CHECK FOR LINK TO SPECIAL SUBSCRIPT  10 03037
005253 127000 I 3038        ADD     IT                                                   10 03038
005254 001002 A 3039        JAP     OTR356          INSIDE ASSIGNMENT                    10 03039
005255 005270 R
005256 127000 I 3040        ADD     DPX                                                  10 03040
005257 005014 A 3041        TAX                                                          10 03041
005260 147000 I 3042        SUB     IT                                                   10 03042
005261 001002 A 3043        JAP     OTR45           PASS DPX ONLY                        10 03043
005262 004456 R
005263 015002 A 3044        LDA     2,X                                                  10 03044
005264 150000 L 3045        ANA     =0176           OP                                   10 03045
005265 140422 A 3046        SUB     TWO                                                  10 03046
005266 001010 A 3047        JAZ     OTR45           LINKED TO SPECIAL SUBSCRIPT          10 03047
005267 004456 R
005270 005001 A 3048 OTR356 TZA                                                          10 03048
005271 001000 A 3049        JMP*    OTR355                                               10 03049
005272 105252 R
005273 017000 I 3050 OTR36  LDA     $PCW                                                 10 03050
005274 006445 A 3051        BT      J43,OTR45       NOT 'HF'                             10 03051
005275 004456 R
005276 037000 I 3052        LDX     J                                                    10 03052
005277 015004 A 3053        LDA     4,X             D2(J+3)                              10 03053
005300 005111 A 3054        IAR                                                          10 03054
005301 001016 A 3055        JANZ    OTR37           NOT RELATIONAL                       10 03055
005302 005325 R
005303 015005 A 3056        LDA     5,X                                                  10 03056
005304 006150 A 3057        ANAI    016             GET RELATIONAL OP(J+3)               10 03057
005305 000016 A
005306 004204 A 3058        ASLA    4                                                    10 03058
005307 006120 A 3059        ADDI    FLREL                                                10 03059
005310 105024 A
005311 057000 I 3060        STA     DFPP                                                 10 03060
005312 002000 A 3061        CALL    OTR40                                                10 03061
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005313 005463 R
005314 017000 I 3062          LDA     J                                                    10 03062
005315 120464 A 3063          ADD     THREE                                                10 03063
005316 057000 I 3064          STA     J                                                    10 03064
005317 002000 A 3065          CALL    LTX                                                  10 03065
005320 077705 R
005321 010422 A 3066          LDA     TWO                                                  10 03066
005322 057000 I 3067          STA     MF          SET LOGICAL MODE                         10 03067
005323 001000 A 3068          JMP     OTR51                                                10 03068
005324 004502 R
005325 015004 A 3069 OTR37    LDA     4,X                                                  10 03069
005326 147000 I 3070          SUB     DPX                                                  10 03070
005327 001016 A 3071          JANZ    OTR45       NOT POSSIBLE ARITH-IF                    10 03071
005330 004456 R
005331 015005 A 3072          LDA     5,X                                                  10 03072
005332 150000 L 3073          ANA     =0176                                                10 03073
005333 006140 A 3074          SUBI    0132                                                 10 03074
005334 000132 A
005335 001016 A 3075          JANZ    OTR45       NOT POSSIBLE ARITH-IF                    10 03075
005336 004456 R
005337 017000 I 3076          LDA     DFPP                                                 10 03076
005340 001010 A 3077          JAZ     OTR45       NOT ARITHMETIC IF                        10 03077
005341 004456 R
005342 006010 A 3078          LDAI    FLAIF                                                10 03078
005343 105226 A
005344 057000 I 3079          STA     DFPP                                                 10 03079
005345 002000 A 3080          CALL    OTR40                                                10 03080
005346 005463 R
005347 001000 A 3081          JMP     OTR1                                                 10 03081
005350 004333 R
005351 017000 I 3082 OTR38    LDA     $PCW        TEST FOR FPP SIMPLE SUBSCRIPT            10 03082
005352 006444 A 3083          BT      044,OTR397  NOT 'F'                                  10 03083
005353 005460 R
005354 006445 A 3084          BT      045,OTR397  NOT 'H'                                  10 03084
005355 005460 R
005356 017000 I 3085          LDA     02                                                   10 03085
005357 002000 A 3086          CALL    COM                                                  10 03086
005360 002127 R
005361 140464 A 3087          SUB     THREE                                                10 03087
005362 001016 A 3088          JANZ    OTR397      NOT REAL ARRAY                           10 03088
005363 005460 R
005364 037000 I 3089          LDX     J                                                    10 03089
005365 015003 A 3090          LDA     3,X                                                  10 03090
005366 147000 I 3091          SUB     IT                                                   10 03091
005367 001002 A 3092          JAP     OTR397      TRIAD LINK FOR SUBSCRIPT                 10 03092
005370 005460 R
005371 015003 A 3093          LDA     3,X                                                  10 03093
005372 002000 A 3094          CALL    COM                                                  10 03094
005373 002127 R
005374 140422 A 3095          SUB     TWO                                                  10 03095
005375 001016 A 3096          JANZ    OTR397      NOT INTEGER SUBSCRIPT                    10 03096
005376 005460 R
005377 015004 A 3097          LDA     4,X                                                  10 03097
005400 147000 I 3098          SUB     DPCA+1      =2                                       10 03098
005401 001016 A 3099          JANZ    OTR397      NOT REAL OFFSET                          10 03099
005402 005460 R
005403 015005 A 3100          LDA     5,X                                                  10 03100
005404 150475 A 3101          ANA     BM177                                                10 03101
005405 006140 A 3102          SUBI    0116        (047) = '*'                              10 03102
005406 000116 A
005407 001016 A 3103          JANZ    OTR397      NOT SUBSCRIPT*2                          10 03103
005410 005460 R
005411 015010 A 3104          LDA     8,X                                                  10 03104
005412 150000 L 3105          ANA     =0176                                                10 03105
005413 001016 A 3106          JANZ    OTR397      NOT 0-OPERATOR (ARRAY HEADER)            10 03106
005414 005460 R
005415 017000 I 3107          LDA     DPX                                                  10 03107
005416 127000 I 3108          ADD     IT                                                   10 03108
005417 147000 I 3109          SUB     J                                                    10 03109
005420 140466 A 3110          SUB     SIX                                                  10 03110
005421 057000 I 3111          STA     T1          EFFECTIVE POINTER                        10 03111
005422 037000 I 3112          LDX     J                                                    10 03112
005423 015001 A 3113 OTR39    LDA     1,X         SIMPLE USAGE TEST LOOP                   10 03113
005424 147000 I 3114          SUB     T1                                                   10 03114
005425 001016 A 3115          JANZ    OTR395      02(X) NOT LINKED TO CURRENT              10 03115
005426 005443 R
005427 015002 A 3116          LDA     2,X                                                  10 03116
005430 150000 L 3117          ANA     =0176       OP(X)*2                                  10 03117
005431 006140 A 3118          SUBI    0112                                                 10 03118
005432 000112 A
005433 001004 A 3119          JAN     OTR397      NOT ALLOWABLE OP                         10 03119
005434 005460 R
005435 140424 A 3120          SUB     EIGHT                                                10 03120
005436 001004 A 3121          JAN     OTR395      '+','-','*','/'                          10 03121
005437 005443 R
005440 140424 A 3122          SUB     EIGHT                                                10 03122
005441 001016 A 3123          JANZ    OTR397      NOT '='                                  10 03123
005442 005460 R
005443 005041 A 3124 OTR395   TXA                                                          10 03124
005444 120464 A 3125          ADD     THREE                                                10 03125
005445 005014 A 3126          TAX                                                          10 03126
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005446 147000 I 3127          SUB     JT                                                    10 03127
005447 005311 A 3128          DAR                                                           10 03128
005450 001004 A 3129          JAN     OTR39                                                 10 03129
005451 005423 R
005452 017000 I 3130          LDA     J                                                     10 03130
005453 120466 A 3131          ADD     SIX                                                   10 03131
005454 057000 I 3132          STA     J                                                     10 03132
005455 005014 A 3133          TAX                                                           10 03133
005456 045002 A 3134          INR     2,X                                                   10 03134
005457 045002 A 3135          INR     2,X     SET ARRAY HEADER OP TO 1                      10 03135
005460 005001 A 3136 OTR397   TZA                                                           10 03136
005461 001000 A 3137          JMP     OTR1+1                                                10 03137
005462 004334 R
005463 000000 A 3138 OTR40    ENTRY           OUTPUT SPECIAL INSTRUCTIONS                   10 03138
005464 002000 A 3139          CALL    OAB                                                   10 03139
005465 077710 R
005466 017000 I 3140          LDA     O1                                                    10 03140
005467 057000 I 3141          STA     I                                                     10 03141
005470 010000 L 3142          LDA     =054                                                  10 03142
005471 002000 A 3143          CALL    OIT                                                   10 03143
005472 003040 R
005473 017000 I 3144          LDA     O2                                                    10 03144
005474 057000 I 3145          STA     I                                                     10 03145
005475 010000 L 3146          LDA     =054                                                  10 03146
005476 002000 A 3147          CALL    OIT                                                   10 03147
005477 003040 R
005500 001000 A 3148          JMP*    OTR40                                                 10 03148
005501 105463 R
005502 057000 I 3149 OTR41    STA     F       PROCESS SQRT CALL                             10 03149
005503 006010 A 3150          LDAI    FSQRT                                                 10 03150
005504 105327 A
005505 002000 A 3151          CALL    OAB                                                   10 03151
005506 077710 R
005507 010464 A 3152          LDA     THREE                                                 10 03152
005510 057000 I 3153          STA     MF                                                    10 03153
005511 017000 I 3154          LDA     O2                                                    10 03154
005512 057000 I 3155          STA     I                                                     10 03155
005513 017000 I 3156          LDA     OP                                                    10 03156
005514 002000 A 3157          CALL    OIT     PARAMETER                                     10 03157
005515 003040 R
005516 001000 A 3158          JMP     OTR51                                                 10 03158
005517 004502 R
005520 017000 I 3159 OTR60    LDA     O1                                                    10 03159
005521 001010 A 3160          JAZ     OTR4                                                  10 03160
005522 004410 R
005523 006147 A 3161          CUBE    DPCA*8                                                10 03161
005524 177367 R
005525 001010 A 3162          JAZ     OTR64   IFIX                                          10 03162
005526 005553 R
005527 017000 I 3163          LDA     O1                                                    10 03163
005530 006147 A 3164          SUBE    DPCA+9                                                10 03164
005531 177370 R
005532 001010 A 3165          JAZ     OTR62   FLOAT                                         10 03165
005533 005542 R
005534 017000 I 3166          LDA     O1                                                    10 03166
005535 006147 A 3167          SUBE    DPCA+11                                               10 03167
005536 177372 R
005537 001016 A 3168          JANZ    OTR4                                                  10 03168
005540 004410 R
005541 005111 A 3169          IAR             DFLOAT                                        10 03169
005542 120464 A 3170 OTR62    ADD     THREE                                                 10 03170
005543 057000 I 3171          STA     MF      SET REAL/DBL                                  10 03171
005544 057000 I 3172          STA     F                                                     10 03172
005545 006010 A 3173          LDAI    FLT                                                   10 03173
005546 105425 A
005547 002000 A 3174          CALL    OAB                                                   10 03174
005550 077710 R
005551 001000 A 3175          JMP     OTR5            PARAMETER VALUE OUTPUT                10 03175
005552 004461 R
005553 017000 I 3176 OTR64    LDA     O2              PROCESS IFIX                          10 03176
005554 057000 I 3177          STA     I                                                     10 03177
005555 010425 A 3178          LDA.    K20                                                   10 03178
005556 002000 A 3179          CALL    OIT     LOAD TO FPP                                   10 03179
005557 003040 R
005560 010422 A 3180          LDA     TWO                                                   10 03180
005561 057000 I 3181          STA     IM                                                    10 03181
005562 002000 A 3182          CALL    MODE    FIX VALUE TO A$C                              10 03182
005563 002552 R
005564 001000 A 3183          JMP     OTR51                                                 10 03183
005565 004502 R
                    3184      EJECT                                                         10 03184
                    3185 *    WRI     INPUT/OUTPUT PROCESSOR                                10 03185
005566 006010 A 3186 RED      LDAI    'RD'                                                  10 03186
005567 151304 A
005570 057000 I 3187          STA     NAME                                                  10 03187
005571 002000 A 3188 WRI      CALL    OIL                                                   10 03188
005572 002735 R
005573 005001 A 3189          TZA                                                   PD      10 03189
005574 057000 I 3190          STA     T7      FORMAT ADDRESS                        PD      10 03190
005575 057000 I 3191          STA     T8      END ADDRESS                           PD      10 03191
005576 057000 I 3192          STA     T9      ERR ADDRESS                           PD      10 03192
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005577 017000 I 3193          LDA     TC                                                    10 03193
005600 140000 L 3194          SUB     ='',*                                                 10 03194
005601 001010 A 3195          JAZ     WRI2        HAS FORMAT                                10 03195
005602 005651 R
005603 017000 I 3196 WRI01    LDA     T7                                              PD    10 03196
005604 002000 A 3197          CALL    WRI02       FORMAT ADDRESS                      PD    10 03197
005605 005637 R
005606 017000 I 3198          LDA     T8                                                    10 03198
005607 127000 I 3199          ADD     T9                                                    10 03199
005610 001010 A 3200          JAZ     WRI015      NO END OR ERR                             10 03200
005611 005623 R
005612 005001 A 3201          TZA                                                           10 03201
005613 002000 A 3202          CALL    DAB         G-LEVEL FLAG                              10 03202
005614 077710 R
005615 017000 I 3203          LDA     T8                                              PD    10 03203
005616 002000 A 3204          CALL    WRI02       END ADDRESS                         PD    10 03204
005617 005637 R
005620 017000 I 3205          LDA     T9                                              PD    10 03205
005621 002000 A 3206          CALL    WRI02       ERR ADDRESS                         PD    10 03206
005622 005637 R
005623 002000 A 3207 WRI015   CALL    RID                                                   10 03207
005624 077732 R
005625 017000 I 3208          LDA     TC                                                    10 03208
005626 140463 A 3209          SUB     K77                                                   10 03209
005627 001004 A 3210          JAN     WRI3        NOT END                                   10 03210
005630 005746 R
005631 006010 A 3211 WRIE     LDAI    'ND'                                                  10 03211
005632 147304 A
005633 002000 A 3212          JMPM    CAN         CALL NAME                                 10 03212
005634 077613 R
005635 001000 A 3213          JMP     CRT                                                   10 03213
005636 077616 R
005637 000000 A 3214 WRI02    ENTRY               OUTPUT I/O CALL PARAMETERS          PD    10 03214
005640 057000 I 3215          STA     I                                               PD    10 03215
005641 002010 A 3216          JAZM    DAB         'DATA  0'                                 10 03216
005642 077710 R
005643 005001 A 3217          TZA                                                     PD    10 03217
005644 027000 I 3218          LDB     I                                               PD    10 03218
005645 002026 A 3219          JBNZM   OUT         'DATA  STATEMENT-NUMBER/FORMAT-ADDRESS'   10 03219
005646 077720 R
005647 001000 A 3220          JMP*    WRI02                                           PD    10 03220
005650 105637 R
005651 002000 A 3221 WRI2     CALL    EXA                                                   10 03221
005652 077646 R
005653 001004 A 3222          JAN     WRI22       FORMAT STATEMENT NUMBER             PD    10 03222
005654 005701 R
005655 002000 A 3223 WRI21    CALL    INN                                                   10 03223
005656 077671 R
005657 001010 A 3224          JAZ     TER11       NOT AN OPERAND                            10 03224
005660 077755 R
005661 017000 I 3225          LDA     NT                                              PD    10 03225
005662 001016 A 3226          JANZ    TER20                                                 10 03226
005663 077765 R
005664 017000 I 3227          LDA     TC                                              PD    10 03227
005665 140000 L 3228          SUB     ='='                                                  10 03228
005666 001010 A 3229          JAZ     WRI24       END/ERR                             PD    10 03229
005667 005710 R
005670 002000 A 3230          CALL    ASI                                                   10 03230
005671 077611 R
005672 017000 I 3231          LDA     IU                                              PD    10 03231
005673 140422 A 3232          SUB     TWO                                             PD    10 03232
005674 001016 A 3233          JANZ    TER5        NOT ARRAY                                 10 03233
005675 077751 R
005676 005002 A 3234          TZB                                                     PD    10 03234
005677 001000 A 3235          JMP     WRI28                                           PD    10 03235
005700 005731 R
005701 002000 A 3236 WRI22    CALL    ISN                                                   10 03236
005702 077674 R
005703 002000 A 3237          CALL    DSM                                                   10 03237
005704 077622 R
005705 005002 A 3238          TZB                                                     PD    10 03238
005706 001000 A 3239          JMP     WRI28                                           PD    10 03239
005707 005731 R
005710 017000 I 3240 WRI24    LDA     ID                                                    10 03240
005711 137000 I 3241          ERA     ID+1                                                  10 03241
005712 137000 I 3242          ERA     ID+2                                                  10 03242
005713 006140 A 3243          SUBI    0120716                                               10 03243
005714 120716 A
005715 020421 A 3244          LDB     ONE                                             PD    10 03244
005716 001010 A 3245          JAZ     WRI26       END                                 PD    10 03245
005717 005725 R
005720 006140 A 3246          SUBI    013004                                                10 03246
005721 013004 A
005722 001016 A 3247          JANZ    TER1        NOT END/ERR                               10 03247
005723 077745 R
005724 005122 A 3248          IBR                                                     PD    10 03248
005725 067000 I 3249 WRI26    STB     T6                                              PD    10 03249
005726 002000 A 3250          CALL    ISN                                                   10 03250
005727 077674 R
005730 027000 I 3251          LDB     T6                                              PD    10 03251
005731 006016 A 3252 WRI28    LDAE    T7,B                                            PD    10 03252
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005732 177604 R
005733 001016 A 3253          JANZ    TER1        DUPLICATE USAGE                    10 03253
005734 077745 R
005735 017000 I 3254          LDA     I                                  PD      10 03254
005736 006056 A 3255          STAE    12,3                               PD      10 03255
005737 177604 R
005740 017000 I 3256          LDA     TC                                 PD      10 03256
005741 140000 L 3257          SUB     =',                                        10 03257
005742 001010 A 3258          JAZ     WRI21                              PD      10 03258
005743 005655 R
005744 001000 A 3259          JMP     WRI01                              PD      10 03259
005745 005603 R
005746 002000 A 3260 WRI3     CALL    RCH                                        10 03260
005747 077731 R
005750 005001 A 3261          TZA                                                10 03261
005751 057000 I 3262          STA     IOFL        IOFL = 0                       10 03262
005752 017000 I 3263          LDA     DT                                         10 03263
005753 057000 I 3264          STA     DSAV                                       10 03264
005754 002000 A 3265 WRI4     CALL    INI                                        10 03265
005755 077670 R
005756 001010 A 3266          JAZ     WRI8        IM = 0                         10 03266
005757 006062 R
005760 017000 I 3267          LDA     IU                                         10 03267
005761 140422 A 3268          SUB     K2                                         10 03268
005762 001010 A 3269          JAZ     WRI9        ARRAY                          10 03269
005763 006100 R
005764 017000 I 3270          LDA     NT                                         10 03270
005765 001016 A 3271          JANZ    TER1                                       10 03271
005766 077745 R
005767 002000 A 3272          CALL    TVR                                        10 03272
005770 077773 R
005771 017000 I 3273          LDA     TC                                         10 03273
005772 140000 L 3274          SUB     ='=                                        10 03274
005773 001010 A 3275          JAZ     WRID        NEST END                       10 03275
005774 006030 R
005775 017000 I 3276 WRI5     LDA     I                                          10 03276
005776 057000 I 3277          STA     D2                                         10 03277
005777 017000 I 3278          LDA     IS          ITEM SIZE                      10 03278
006000 057000 I 3279          STA     D1                                         10 03279
006001 006010 A 3280          LDAI    033         'Q'                            10 03280
006002 000033 A
006003 057000 I 3281          STA     OP                                         10 03281
006004 002000 A 3282          JMPM    ETT         ENTER TRIAD                    10 03282
006005 000643 R
006006 017000 I 3283 WRI6     LDA     TC                                         10 03283
006007 140000 L 3284          SUB     =',                                        10 03284
006010 001010 A 3285          JAZ     WRI4        CONTINUE                       10 03285
006011 005754 R
006012 017000 I 3286          LDA     IOFL                                       10 03286
006013 002000 A 3287          CALL    PTR                                        10 03287
006014 077725 R
006015 017000 I 3288          LDA     IOFL                                       10 03288
006016 001010 A 3289          JAZ     WRIE        END                            10 03289
006017 005631 R
006020 002000 A 3290          JMPM    WRIA        CORRECT IOFL                   10 03290
006021 006162 R
006022 002000 A 3291 WRI7     CALL    RID                                        10 03291
006023 077732 R
006024 017000 I 3292          LDA     D1                                         10 03292
006025 057000 I 3293          STA     IOFL        NEW IOFL                       10 03293
006026 001000 A 3294          JMP     WRI6                                       10 03294
006027 006006 R
006030 017000 I 3295 WRID     LDA     IOFL                                       10 03295
006031 001010 A 3296          JAZ     TER1        I/O LOOP NEST                  10 03296
006032 077745 R
006033 147000 I 3297          SUB     DPX                                        10 03297
006034 147000 I 3298          SUB     IT                                         10 03298
006035 127000 I 3299          ADD     JT                                         10 03299
006036 001010 A 3300          JAZ     TER1                                       10 03300
006037 077745 R
006040 017000 I 3301          LDA     I                                          10 03301
006041 002000 A 3302          JMPM    PCI         DO INPUT                       10 03302
006042 000270 R
006043 017000 I 3303          LDA     9                                          10 03303
006044 057000 I 3304          STA     D2                                         10 03304
006045 006010 A 3305          LDAI    036                                        10 03305
006046 000036 A
006047 057000 I 3306          STA     OP                                         10 03306
006050 002000 A 3307          JMPM    ETT         ENTER TRIAD                    10 03307
006051 000643 R
006052 002000 A 3308          JMPM    WRIA                                       10 03308
006053 006162 R
006054 017000 I 3309          LDA     0                                          10 03309
006055 057000 I 3310          STA     D2                                         10 03310
006056 002000 A 3311          JMPM    STX         STORE TRIAD                    10 03311
006057 007377 R
006060 001000 A 3312          JMP     WRI7                                       10 03312
006061 006022 R
006062 002000 A 3313 WRI8     CALL    PTS                                        10 03313
006063 077726 R
006064 005001 A 3314          TZA                                                10 03314
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006065 057000 I 3315          STA     D2                                                    10 03315
006066 017000 I 3316          LDA     IOFL                                                  10 03316
006067 057000 I 3317          STA     D1                                                    10 03317
006070 006010 A 3318          LDAI    023                                                   10 03318
006071 000023 A
006072 057000 I 3319          STA     DP                                                    10 03319
006073 002000 A 3320          JMPM    ETT       ENTER TRIAD                                 10 03320
006074 000643 R
006075 057000 I 3321          STA     IOFL      CORRECTED POINTER                           10 03321
006076 001000 A 3322          JMP     WRI4                                                  10 03322
006077 005754 R
006100 017000 I 3323 WRI9     LDA     TC                                                    10 03323
006101 140000 L 3324          SUB     ='('                                                  10 03324
006102 001010 A 3325          JAZ     WRIF      HAS ELEMENT                                 10 03325
006103 006150 R
006104 002000 A 3326          CALL    IWI                                                   10 03326
006105 077677 R
006106 017000 I 3327          LDA     IS                                          B.2 10 03327
006107 001016 A 3328          JANZ    WRI5      DUMMY DIMENSIONS                  B.2 10 03328
006110 005775 R
006111 010000 L 3329          LDA     =047                                        B.2 10 03329
006112 057000 I 3330          STA     DP                                          B.2 10 03330
006113 017000 I 3331          LDA     IP                                          B.2 10 03331
006114 057000 I 3332          STA     D1                                          B.2 10 03332
006115 017000 I 3333          LDA     IP+1                                        B.2 10 03333
006116 057000 I 3334          STA     D2                                          B.2 10 03334
006117 002000 A 3335          CALL    ETT       ENTER TRIAD TR1=IS*DIM1           B.2 10 03335
006120 000643 R
006121 017000 I 3336          LDA     ND                                          B.2 10 03336
006122 140422 A 3337          SUB     K2                                          B.2 10 03337
006123 001004 A 3338          JAN     WRIU      1-DIMENSION                       B.2 10 03338
006124 006141 R
006125 054007 A 3339 WRI96    STA     WRI98                                                 10 03339
006126 005012 A 3340          TAB                                                           10 03340
006127 006016 A 3341          LDAE    IP+2,B                                                10 03341
006130 177426 R
006131 057000 I 3342          STA     D2                                                    10 03342
006132 002000 A 3343          CALL    ETT       FORM DIMENSION MULTIPLICATION               10 03343
006133 000643 R
006134 006010 A 3344          LDAI    **                                                    10 03344
006135 106134 R
       006135 R 3345 WRI98    EQU     *-1                                                   10 03345
006136 005314 A 3346          DAR                                                           10 03346
006137 001002 A 3347          JAP     WRI96                                                 10 03347
006140 006125 R
006141 046002 A 3348 WRIU     INR     2,B       SET STORAGE FLAG                  B.2 10 03348
006142 017000 I 3349          LDA     D1                                          B.2 10 03349
006143 005211 A 3350          CPA                                                 B.2 10 03350
006144 057000 I 3351          STA     IS        FLAG BY NEGATIVE                  B.2 10 03351
006145 001000 A 3352          JMP     WRI5                                                  10 03352
006146 005775 R
006147         3353 WRIT      BSS     1                                           B.2 10 03353
006150 017000 I 3354 WRIF     LDA     IS                                                    10 03354
006151 054004 A 3355          STA     WRIG+1                                                10 03355
006152 005101 A 3356          INCR    1                                                     10 03356
006153 002000 A 3357          JMPM    EXP       EXPRESSION                                  10 03357
006154 000754 R
006155 006010 A 3358 WRIG     LDAI    *                                                     10 03358
006156 006155 R
006157 057000 I 3359          STA     IS                                                    10 03359
006160 001000 A 3360          JMP     WRI5                                                  10 03360
006161 005775 R
006162 000000 A 3361 WRIA     ENTRY             CORRECT IOFL                                10 03361
006163 017000 I 3362          LDA     DPX                                                   10 03362
006164 127000 I 3363          ADD     IT                                                    10 03363
006165 147000 I 3364          SUB     IOFL                                                  10 03364
006166 057000 I 3365          STA     J                                                     10 03365
006167 002000 A 3366          CALL    LTX                                                   10 03366
006170 077705 R
006171 001000 A 3367          JMP*    WRIA                                                  10 03367
006172 106162 R
               3368           EJECT                                                         10 03368
               3369 ********************************************************************** 10 03369
               3370 *                                                                      * 10 03370
               3371 *      P R O C E S S   R E T U R N   S T A T E M E N T (R E T )        * 10 03371
               3372 *                                                                      * 10 03372
               3373 * FUNCTION: TO PROCESS THE FORTRAN SOURCE STATEMENT 'RETURN'           * 10 03373
               3374 *                                                                      * 10 03374
               3375 * ENTRY: DIRECT FROM SID                                              * 10 03375
               3376 *          SBFL=0 IF SUBROUTINE WITH NO NON-STANDARD EXITS            * 10 03376
               3377 *               <0 IF SUBROUTINE WITH NON-STANDARD EXITS (SBFL = -MAX. NO* 10 03377
               3378 *               =1 IF IN FUNC SUBP BUT NO RETURNS PROCESSED            * 10 03378
               3379 *               =ADDR OF FIRST RETURN OTHERWISE                        * 10 03379
               3380 *          SBFL+2>0 IF VARIABLE RETURNS USED                           * 10 03380
               3381 *                                                                      * 10 03381
               3382 * EXIT : DIRECT TO STATEMENT COMPLETION ENTRY STNN                     * 10 03382
               3383 *          SUBROUTINE SUBP GENERATES: 'JMP* ENTRY'                     * 10 03383
               3384 *          FUNCTION SUBP(1ST RETURN) GENERATES= '=FUNCTION NAME'       * 10 03384
               3385 *                                              'JMP* ENTRY             * 10 03385
               3386 *          FUNCTION SUBP(RETURN-NOT FIRST) GENERATES: 'JMP RETURN#1    * 10 03386
               3387 *                                                                      * 10 03387
```

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                    3388 * ERRORS: TER2  IF NOT IN SUBPROGRAM                                  *  10 03388
                    3389 *                                                                     *  10 03389
                    3390 ***************************************************************************  10 03390
006173 017000  I  3392 RET     LDA     SBFL+1          GET POINTER TO SUBPROGRAM NAME              10 03392
006174 057000  I  3393         STA     I               STORE IN I                                  10 03393
006175 001016  A  3394         JANZ    RET0                                                        10 03394
006176 006204  R
006177 006010  A  3395         LBAI    'ST'                                                        10 03395
006200 151724  A
006201 057000  I  3396         STA     NAME                                                        10 03396
006202 001000  A  3397         JMP     STP                                                         10 03397
006203 007314  R
006204 017000  I  3398 RET0    LDA     SBFL                                                        10 03398
006205 005311  A  3399         DAR                                                                 10 03399
006206 001004  A  3400         JAN     RET4            SUBROUTINE                                  10 03400
006207 006261  R
006210 002000  A  3401         CALL    ICH             PROCESS FUNCTION RETURN                     10 03401
006211 077654  R
006212 017000  I  3402         LDA     SBFL                                                        10 03402
006213 005311  A  3403         DAR                     NO, FUNCTION                                10 03403
006214 001010  A  3404         JAZ     RET1            FIRST RETURN ?                              10 03404
006215 006224  R
006216 010432  A  3405         LDA     KJMP            NO                                          10 03405
006217 002000  A  3406         CALL    DAB             'JMP'                                       10 03406
006220 077710  R
006221 017000  I  3407         LDA     SBFL            GET ADDRESS OF FIRST RETURN                 10 03407
006222 001000  A  3408         JMP     RET3                                                        10 03408
006223 006255  R
                    3409 ***********************************                                        10 03409
                    3410 * PROCESS FIRST FUNCTION RETURN *                                        10 03410
                    3411 ***********************************                                        10 03411
006224 017000  I  3412 RET1    LDA     RL              GET ADDRESS OF FIRST RETURN                 10 03412
006225 057000  I  3413         STA     SBFL            STORE IN SBFL                               10 03413
006226 002000  A  3414         CALL    LRX                                                         10 03414
006227 077700  R
006230 005001  A  3415         TZA                                                                 10 03415
006231 057000  I  3416         STA     NT              SET NT TO VARIABLE                          10 03416
006232 002000  A  3417         CALL    ASI                                                         10 03417
006233 077611  R
006234 005301  A  3418         DECR    1                                                           10 03418
006235 057000  I  3419         STA     XRPT            FORCE RELOAD OF BASE PTR X                  10 03419
006236 017000  I  3420         LDA     $PCW                                                        10 03420
006237 054006  A  3421         STA     RET2-2                                                      10 03421
006240 150446  A  3422         ANA     BR5                                                         10 03422
006241 057000  I  3423         STA     $PCW                                                        10 03423
006242 010425  A  3424         LDA     K20                                                         10 03424
006243 002000  A  3425         CALL    DIT             'LOAD  FUNCTION-NAME'                       10 03425
006244 003040  R
006245 006010  A  3426         LDAI    *+1                                                         10 03426
006246 106245  R
006247 057000  I  3427         STA     $PCW                                                        10 03427
006250 010432  A  3428 RET2    LDA     KJMP                                                        10 03428
006251 002000  A  3429         CALL    DAB             'JMP'                                       10 03429
006252 077710  R
006253 006010  A  3430         LDAI    0100000         GET ADDRESS *ENTRY                          10 03430
006254 100000  A
006255 002000  A  3431 RET3    CALL    DPE                                                         10 03431
006256 077715  R
006257 001000  A  3432         JMP     STN                                                         10 03432
006260 077743  R
006261 002000  A  3433 RET4    CALL    INN             PROCESS SUBROUTINE RETURN                   10 03433
006262 077671  R
006263 140422  A  3434         SUB     TWO                                                         10 03434
006264 001016  A  3435         JANZ    RET2            STANDARD RETURN                             10 03435
006265 006250  R
006266 017000  I  3436         LDA     NT                                                          10 03436
006267 001010  A  3437         JAZ     RET5            VARIABLE RETURN                             10 03437
006270 006304  R
006271 010432  A  3438         LDA     KJMP                                                        10 03438
006272 002000  A  3439         CALL    DAB             'JMP'                                       10 03439
006273 077710  R
006274 017000  I  3440         LDA     ID                                                          10 03440
006275 002000  A  3441         CALL    MXL                                                         10 03441
006276 077707  R
006277 005001  A  3442         TZA                                                                 10 03442
006300 002000  A  3443         CALL    DUT             'DATA  EXIT-NAME'                           10 03443
006301 077720  R
006302 001000  A  3444         JMP     STN                                                         10 03444
006303 077743  R
006304 002000  A  3445 RET5    CALL    ASI                                                         10 03445
006305 077611  R
006306 047000  I  3446         INR     SBFL+2                                                      10 03446
006307 010425  A  3447         LDA     K20                                                         10 03447
006310 002000  A  3448         CALL    DIT             LOAD VARIABLE                               10 03448
006311 003040  R
006312 010432  A  3449         LDA     KJMP                                                        10 03449
006313 002000  A  3450         CALL    DAB             'JMP'                                       10 03450
006314 077710  R
006315 005001  A  3451         TZA                                                                 10 03451
006316 002000  A  3452         CALL    MXL                                                         10 03452
006317 077707  R
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006320 005001 A 3453          TZA                                                    10 03453
006321 002000 A 3454          CALL    OUT         *JMP  )X00*                        10 03454
006322 077720 R
006323 001000 A 3455          JMP     STN                                            10 03455
006324 077743 R
               3456           EJECT                                                  10 03456
               3457 ********************************************************************** 10 03457
               3458 *                                                                * 10 03458
               3459 *      R E S T O R E   P O I N T E R   ( R S T )                 * 10 03459
               3460 *                                                                * 10 03460
               3461 ********************************************************************** 10 03461
006325 000000 A 3463 RST      ENTRY                                                  10 03463
006326 014016 A 3464          LDA     SAV1                                           10 03464
006327 057000 I 3465          STA     I                                              10 03465
006330 014015 A 3466          LDA     SAV1+1                                         10 03466
006331 057000 I 3467          STA     IM                                             10 03467
006332 001000 A 3468          JMP*    RST                                            10 03468
006333 106325 R
               3469           EJECT                                                  10 03469
               3470 ********************************************************************** 10 03470
               3471 *                                                                * 10 03471
               3472 *      S A V E   P O I N T E R   ( S A V )                       * 10 03472
               3473 *                                                                * 10 03473
               3474 ********************************************************************** 10 03474
006334 000000 A 3476 SAV      ENTRY                                                  10 03476
006335 017000 I 3477          LDA     I                                              10 03477
006336 054006 A 3478          STA     SAV1                                           10 03478
006337 017000 I 3479          LDA     IM                                             10 03479
006340 054005 A 3480          STA     SAV1+1                                         10 03480
006341 017000 I 3481          LDA     DPCA+6      A$C POINTER                        10 03481
006342 057000 I 3482          STA     I                                              10 03482
006343 001000 A 3483          JMP*    SAV                                            10 03483
006344 106334 R
006345         3484 SAV1      BSS     2           I,IM SAVE CELLS                    10 03484
               3485           EJECT                                                  10 03485
               3486 ********************************************************************** 10 03486
               3487 *                                                                * 10 03487
               3488 *          S C A N   L O A D   E X P R E S S I O N ( S C L )     * 10 03488
               3489 *                                                                * 10 03489
               3490 * FUNCTION: SCL GETS SYNTACTICAL ITEMS BEFORE AND AFTER THE      * 10 03490
               3491 *           CURRENT ITEM IN THE EXPRESSION TABLE.                * 10 03491
               3492 *                                                                * 10 03492
               3493 * ENTRY: K POINTS TO CURRENT ENTRY IN EXPRESSION TABLE           * 10 03493
               3494 *                                                                * 10 03494
               3495 * EXIT : OPBK=PRECEDING OPERATOR                                 * 10 03495
               3496 *        EHBK=HIERARCHY OF OPBK                                  * 10 03496
               3497 *        AIFW=POINTER TO FOLLOWING OPERAND                       * 10 03497
               3498 *        NFFW=FOLLOWING NEGATION FLAG                            * 10 03498
               3499 *        CURRENT EXPRESSION TABLE ENTRY LOADED                   * 10 03499
               3500 *                                                                * 10 03500
               3501 ********************************************************************** 10 03501
006347 000000 A 3503 SCL      ENTRY                                                  10 03503
006350 017000 I 3504          LDA     K                                              10 03504
006351 140422 A 3505          SUB     K2                                             10 03505
006352 005014 A 3506          TAX                 POINT X AT ENTRY FOLLOWING CURRENT 10 03506
006353 015005 A 3507          LDA     5,X                                            10 03507
006354 004547 A 3508          LLSR    7           GET PRECEDING HIERARCHY            10 03508
006355 057000 I 3509          STA     EHBK        STORE IN EHBK                      10 03509
006356 005001 A 3510          TZA                                                    10 03510
006357 004446 A 3511          LLRL    6           GET PRECEDING OPERATOR             10 03511
006360 057000 I 3512          STA     OPBK        STORE IN OPBK                      10 03512
006361 015000 A 3513          LDA     0,X         GET POINTER TO FOLLOWING OPERAND   10 03513
006362 057000 I 3514          STA     AIFW        STORE IN AIFW                      10 03514
006363 005101 A 3515          INCR    1                                              10 03515
006364 155001 A 3516          ANA     1,X         GET FOLLOWING NEGATION FLAG        10 03516
006365 057000 I 3517          STA     NFFW        STORE IN NFFW                      10 03517
006366 002000 A 3518          CALL    LEX                                            10 03518
006367 077702 R
006370 001000 A 3519          JMP*    SCL         EXIT                               10 03519
006371 106347 R
               3520           EJECT                                                  10 03520
               3521 *         SCN     SCAN EXPRESSION TABLE                          10 03521
006372 000000 A 3523 SCN      ENTRY                                                  10 03523
006373 005001 A 3524          TZA                                                    10 03524
006374 057000 I 3525          STA     CF          COMPLIMENT FLAG = 0                10 03525
006375 017000 I 3526          LDA     K                                              10 03526
006376 057000 I 3527          STA     T5                                             10 03527
006377 002000 A 3528          JMPM    SCL         SCAN LOAD EXP.                     10 03528
006400 006347 R
006401 017000 I 3529          LDA     EHBK                                           10 03529
006402 147000 I 3530          SUB     EH                                             10 03530
006403 001004 A 3531          JAN     SCNC        INCREASING HIERARCHY               10 03531
006404 006415 R
006405 047000 I 3532          INR     K                                              10 03532
006406 047000 I 3533          INR     K                                              10 03533
006407 005001 A 3534          TZA                                                    10 03534
006410 057000 I 3535          STA     T6                                             10 03535
006411 002000 A 3536          JMPM    SCL         SCAN LOAD EXP.                     10 03536
006412 006347 R
006413 001000 A 3537          JMP     SCND                                           10 03537
006414 006421 R
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006415 017000 I 3538 SCNC   LDA     CF                                    10 03538
006416 137000 I 3539        ERA     NFFW    FORWARD NEG. FLAG             10 03539
006417 057000 I 3540        STA     CF                                    10 03540
006420 057000 I 3541        STA     T6                                    10 03541
006421 005001 A 3542 SCND   TZA                                           10 03542
006422 002008 A 3543        JMPM    SNF     STORE NEG. FLAG               10 03543
006423 006732 R
006424 017000 I 3544        LDA     CF                                    10 03544
006425 001010 A 3545        JAZ     SCN1    NOT COMPL.                    10 03545
006426 006450 R
006427 005101 A 3546        INCR    1                                     10 03546
006430 157000 I 3547        ANA     EH                                    10 03547
006431 001010 A 3548        JAZ     SCN8    NOT NORMAL OP                 10 03548
006432 006615 R
006433 017000 I 3549        LDA     OP                                    10 03549
006434 140000 L 3550        SUB     =047    '*','/' TEST                  10 03550
006435 001002 A 3551        JAP     SCN1-2                                10 03551
006436 006446 R
006437 017000 I 3552        LDA     OP                                    10 03552
006440 130464 A 3553        ERA     THREE   + TO -, - TO +                10 03553
006441 057000 I 3554        STA     OP                                    10 03554
006442 005001 A 3555        TZA                                           10 03555
006443 057000 I 3556        STA     CF                                    10 03556
006444 002000 A 3557        JMPM    SEX     STORE EXP.                    10 03557
006445 006704 R
006446 002000 A 3558        JMPM    SNF     STORE NEG. FLAG               10 03558
006447 006732 R
006450 017000 I 3559 SCN1   LDA     I                                     10 03559
006451 057000 I 3560        STA     D1                                    10 03560
006452 017000 I 3561        LDA     AIFW                                  10 03561
006453 057000 I 3562        STA     D2                                    10 03562
006454 017000 I 3563        LDA     EH                                    10 03563
006455 057000 I 3564        STA     T7                                    10 03564
006456 001010 A 3565        JAZ     SCN9                                  10 03565
006457 006636 R
006460 147000 I 3566        SUB     EHBK                                  10 03566
006461 001004 A 3567        JAN     SCN+1                                 10 03567
006462 006373 R
006463 005012 A 3568        TAB                                           10 03568
006464 017000 I 3569        LDA     IT                                    10 03569
006465 147000 I 3570        SUB     D2                                    10 03570
006466 001024 A 3571        JIF     E0,SCN2 EH)EHBR AND D2 INSIDE TRIAD   10 03571
006467 006505 R
006470 001020 A 3572        JBZ     SCN+1                                 10 03572
006471 006373 R
006472 017000 I 3573        LDA     OP                                    10 03573
006473 140000 L 3574        SUB     =045    '+'                           10 03574
006474 001004 A 3575        JAN     SCN4                                  10 03575
006475 006534 R
006476 140422 A 3576        SUB     K2                                    10 03576
006477 001002 A 3577        JAP     SCN4                                  10 03577
006500 006534 R
006501 017000 I 3578        LDA     T6      OP=+,-                        10 03578
006502 057000 I 3579        STA     CF                                    10 03579
006503 001000 A 3580        JMP     SCN4                                  10 03580
006504 006534 R
006505 017000 I 3581 SCN2   LDA     OP                                    10 03581
006506 140000 L 3582        SUB     =045    '+'                           10 03582
006507 001004 A 3583        JAN     SCN3                                  10 03583
006510 006524 R
006511 140422 A 3584        SUB     K2                                    10 03584
006512 001002 A 3585        JAP     SCN3                                  10 03585
006513 006524 R
006514 017000 I 3586        LDA     OP      OP=+,-                        10 03586
006515 147000 I 3587        SUB     OPBK                                  10 03587
006516 020000 L 3588        LDB     =046                                  10 03588
006517 003010 A 3589        XAZ     SCNDBR                                10 03589
006520 006653 R
006521 067000 I 3590        STB     OP                                    10 03590
006522 001000 A 3591        JMP     SCN4                                  10 03591
006523 006534 R
006524 140465 A 3592 SCN3   SUB     FIVE    ','                           10 03592
006525 001010 A 3593        JAZ     SCN+1                                 10 03593
006526 006373 R
006527 017000 I 3594        LDA     OPBK                                  10 03594
006530 006140 A 3595        SUBI    '/'     '/'                           10 03595
006531 000050 A
006532 001010 A 3596        JAZ     SCN+1                                 10 03596
006533 006373 R
006534 037000 I 3597 SCN4   LDX     K       DELETE EXP. ENTRY             10 03597
006535 005344 A 3598        DXR                                           10 03598
006536 005344 A 3599        DXR                                           10 03599
006537 015000 A 3600        LDQ     0,1                                   10 03600
006540 055002 A 3601        STA     2,1                                   10 03601
006541 015001 A 3602        LDA     1,1                                   10 03602
006542 055003 A 3603        STA     3,1                                   10 03603
006543 004341 A 3604        LSRA    1                                     10 03604
006544 005311 A 3605        DAR                                           10 03605
006545 001002 A 3606        JAP     SCN4+1                                10 03606
006546 006535 R
006547 017000 I 3607        LDA     OP                                    10 03607
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006550 140000 L 3608        SUB     =054        ','                          10 03608
006551 001010 A 3609        JAZ     SCN7                                     10 03609
006552 006575 R
006553 002000 A 3610 SCNA   CALL    TRS                                      10 03610
006554 007717 R
006555 017000 I 3611        LDA     0P                                       10 03611
006556 002000 A 3612        CALL    TC0                                      10 03612
006557 007417 R
006560 001010 A 3613        JAZ     SCNG        COMMURATIVE                  10 03613
006561 006654 R
006562 006120 A 3614        ADDI    062                                      10 03614
006563 000062 A
006564 001010 A 3615        JAZ     SCNG        A-0PERATOR                   10 03615
006565 006654 R
006566 017000 I 3616 SCN6   LDA     0P                                       10 03616
006567 140000 L 3617        SUB     =046        '-'                          10 03617
006570 001010 A 3618        JAZ     SCNB                                     10 03618
006571 006633 R
006572 017000 I 3619 SCNF   LDA     01                                       10 03619
006573 002000 A 3620        JMPM    TSC         TEMP STORE CK                10 03620
006574 007773 R
006575 017000 I 3621 SCN7   LDA     02                                       10 03621
006576 002000 A 3622        JMPM    TSC                                      10 03622
006577 007773 R
006600 002000 A 3623        JMPM    ETT         ENTER TRIAD                  10 03623
006601 000643 R
006602 002000 A 3624 SCNE   CALL    LEX                                      10 03624
006603 077702 R
006604 017000 I 3625        LDA     01                                       10 03625
006605 057000 I 3626        STA     I                                        10 03626
006606 002000 A 3627        JMPM    SEX         STORE EXPRESSION             10 03627
006607 006704 R
006610 017000 I 3628        LDA     T7                                       10 03628
006611 001010 A 3629        JAZ*    SCN         DONE                         10 03629
006612 106372 R
006613 001000 A 3630        JMP     SCN+3                                    10 03630
006614 006375 R
006615 017000 I 3631 SCN8   LDA     T5                                       10 03631
006616 137000 I 3632        ERA     K                                        10 03632
006617 005012 A 3633        TAB                                              10 03633
006620 017000 I 3634        LDA     T5                                       10 03634
006621 057000 I 3635        STA     K                                        10 03635
006622 010000 L 3636        LDA     =015                                     10 03636
006623 057000 I 3637        STA     0P                                       10 03637
006624 005001 A 3638        TZA                                              10 03638
006625 057000 I 3639        STA     CF                                       10 03639
006626 057000 I 3640        STA     02                                       10 03640
006627 002020 A 3641        JBZM    SNF                                      10 03641
006630 006732 R
006631 001000 A 3642        JMP     SCNA                                     10 03642
006632 006553 R
006633 005101 A 3643 SCNB   INCR    1                                        10 03643
006634 137000 I 3644        ERA     CF                                       10 03644
006635 057000 I 3645        STA     CF                                       10 03645
006636 017000 I 3646 SCN9   LDA     01          INTERCHANGE 01,02            10 03646
006637 027000 I 3647        LDB     02                                       10 03647
006640 057000 I 3648        STA     02                                       10 03648
006641 067000 I 3649        STB     01                                       10 03649
006642 001010 A 3650        JAZ     SCNE                                     10 03650
006643 006602 R
006644 002000 A 3651        JMPM    TRS         TRIAD SEARCH                 10 03651
006645 007717 R
006646 017000 I 3652        LDA     CF                                       10 03652
006647 001010 A 3653        JAZ     SCNF                                     10 03653
006650 006572 R
006651 001000 A 3654        JMP     SCN6                                     10 03654
006652 006566 R
006653 005322 A 3655 SCNDBR DBR                                              10 03655
006654 017000 I 3656 SCNG   LDA     01                                       10 03656
006655 147000 I 3657        SUB     IT                                       10 03657
006656 001002 A 3658        JAP     SCNI        01 INSIDE TRIAD              10 03658
006657 006672 R
006660 017000 I 3659        LDA     02                                       10 03659
006661 147000 I 3660        SUB     IT                                       10 03660
006662 001002 A 3661        JAP     SCN9                                     10 03661
006663 006636 R
006664 017000 I 3662        LDA     01                                       10 03662
006665 147000 I 3663        SUB     02                                       10 03663
006666 001004 A 3664        JAN     SCN9        REVERSE (02\01)              10 03664
006667 006636 R
006670 001000 A 3665        JMP     SCNF                                     10 03665
006671 006572 R
006672 017000 I 3666 SCNI   LDA     02                                       10 03666
006673 147000 I 3667        SUB     IT                                       10 03667
006674 001004 A 3668        JAN     SCNF        02 IN ASSIGNMENT             10 03668
006675 006572 R
006676 017000 I 3669        LDA     02                                       10 03669
006677 147000 I 3670        SUB     01                                       10 03670
006700 001004 A 3671        JAN     SCN9        REVERSE  (01>02)             10 03671
006701 006636 R
006702 001000 A 3672        JMP     SCNF                                     10 03672
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006703 006572 R
                    3673          EJEC                                                    10 03673
                    3674 *        SEX     STORE EXPRESSION ENTRIES                        10 03674
006704 000000 A     3676 SEX      ENTRY                                                   10 03676
006705 027000 I     3677          LDB     K                                               10 03677
006706 005021 A     3678          TBA                                                     10 03678
006707 147000 I     3679          SUB     KT                                              10 03679
006710 001002 A     3680          JAP     SEX1            INSIDE TABLE                    10 03680
006711 006720 R
006712 005021 A     3681          TBA                                                     10 03681
006713 147000 I     3682          SUB     JT                                              10 03682
006714 140464 A     3683          SUB     THREE                                           10 03683
006715 002004 A     3684          JANM    *OF                                             10 03684
006716 077770 R
006717 067000 I     3685          STB     KT                                              10 03685
006720 017000 I     3686 SEX1     LDA     I               VAR. PNTR.                      10 03686
006721 056000 A     3687          STA     0,2                                             10 03687
006722 017000 I     3688          LDA     EH              EXP. HIERARCHY                  10 03688
006723 004246 A     3689          LRLA    6                                               10 03689
006724 117000 I     3690          ORA     OP              OPERATOR                        10 03690
006725 004241 A     3691          LRLA    1                                               10 03691
006726 117000 I     3692          ORA     NF              NEGATION FLAG                   10 03692
006727 056001 A     3693          STA     1,2                                             10 03693
006730 001000 A     3694          JMP*    SEX                                             10 03694
006731 106704 R
                    3695          EJECT                                                   10 03695
                    3696 *        SNF     STORE NEGATION FLAG FORWARD                     10 03696
006732 000000 A     3698 SNF      ENTRY                                                   10 03698
006733 027000 I     3699          LDB     K                                               10 03699
006734 005322 A     3700          TBR                                                     10 03700
006735 016000 A     3701          LDA     0,2                                             10 03701
006736 150441 A     3702          ANA     MT40                                            10 03702
006737 117000 I     3703          ORA     OF                                              10 03703
006740 056000 A     3704          STA     0,2                                             10 03704
006741 001000 A     3705          JMP*    SNF                                             10 03705
006742 106732 R
                    3706          EJECT                                                   10 03706
                    3707 ***********************************************************************10 03707
                    3708 *                                                                 *10 03708
                    3709 *      S E T   R E G I S T E R   M O D E   ( S M D )               *10 03709
                    3710 *                                                                 *10 03710
                    3711 * EXIT:  (A)=0 IF MF=IM OR MF<IM AND CONVERSION MADE             *10 03711
                    3712 *        (A)>0 IF MODES NOT CORRECTED (NORMALLY IF MF>IM)         *10 03712
                    3713 *                                                                 *10 03713
                    3714 ***********************************************************************10 03714
006743 000000 A     3716 SRM      ENTRY                                                   10 03716
006744 017000 I     3717          LDA     IM                                              10 03717
006745 057000 I     3718          STA     TEMP            SAVE NEW MODE                   10 03718
006746 147000 I     3719          SUB     MF                                              10 03719
006747 001010 A     3720          JAZ*    SRM             MATCHED MODES                   10 03720
006750 106743 R
006751 017000 I     3721          LDA     MF                                              10 03721
006752 140466 A     3722          SUB     SIX                                             10 03722
006753 001010 A     3723          JAZ     SRM2            D.P. INTEGER REGISTER           10 03723
006754 007065 R
006755 017000 I     3724          LDA     IM                                              10 03724
006756 140466 A     3725          SUB     SIX                                             10 03725
006757 001010 A     3726          JAZ     SRM3            D.P. INTEGER OPERAND            10 03726
006760 007110 R
006761 017000 I     3727          LDA     MF                                              10 03727
006762 147000 I     3728          SUB     IM                                              10 03728
006763 001002 A     3729          JAP*    SRM             MF>IM                           10 03729
006764 106743 R
006765 005002 A     3730 SRM0     TZB                                                     10 03730
006766 017000 I     3731          LDA     MF                                              10 03731
006767 002000 A     3732          CALL    CMD                                             10 03732
006770 000132 R
006771 004543 A     3733          LLSR    3                                               10 03733
006772 017000 I     3734          LDA     IM                                              10 03734
006773 002000 A     3735          CALL    CMD                                             10 03735
006774 000132 R
006775 004443 A     3736          LLRL    3                                               10 03736
006776 027000 I     3737          LDB     *PCW                                            10 03737
006777 006465 A     3738          BT      0&5,SRM03                                       10 03738
007000 007025 R
007001 006140 A     3739          SUBI    >28                                             10 03739
007002 000032 A
007003 001010 A     3740          JAZ     SRM7            INT TO REA                      10 03740
007004 007142 R
007005 140428 A     3741          SUB     TWO                                             10 03741
007006 001010 A     3742          JAZ     SRM8            DBL TO REA                      10 03742
007007 007161 R
007010 140466 A     3743          SUB     SIX                                             10 03743
007011 001010 A     3744          JAZ     *FM7            INT TO DBL                      10 03744
007012 007142 R
007013 005511 A     3745          DAR                                                     10 03745
007014 001010 A     3746          JAZ     SRM8            REA TO DBL                      10 03746
007015 007161 R
007016 054003 A     3747          STA     R+4                                             10 03747
007017 002000 A     3748          CALL    CM+                                             10 03748
007020 007435 R
```

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007021 006010 A 3749          LDAI    **                                        10 03749
007022 107021 R
007023 006120 A 3750          ADDI    043                                       10 03750
007024 000043 A
007025 140471 A 3751 SRM03    SUB     TEN                                       10 03751
007026 001010 A 3752          JAZ     SRM6+2      INT TO CPX                    10 03752
007027 007130 R
007030 140422 A 3753          SUB     TWO                                       10 03753
007031 001010 A 3754          JAZ     SRM6+1      DBL TO CPX                    10 03754
007032 007127 R
007033 140422 A 3755          SUB     TWO                                       10 03755
007034 001010 A 3756          JAZ     SRM6        DBI TO CPX                    10 03756
007035 007126 R
007036 006140 A 3757          SUBI    030                                       10 03757
007037 000030 A
007040 001004 A 3758          JAN     SRM05                                     10 03758
007041 007046 R
007042 003010 A 3759          XAZ     SRM5        -5                            10 03759
007043 007125 R
007044 006140 A 3760          SUBI    043                                       10 03760
007045 000043 A
007046 004210 A 3761 SRM05    ASLA    8                                         10 03761
007047 006120 A 3762          ADDI    0156303                                   10 03762
007050 156303 A
007051 002000 A 3763          CALL    CAN         MAKE $IIM:MFIC                10 03763
007052 077613 R
007053 017000 I 3764          LDA     T2IN                                      10 03764
007054 057000 I 3765          STA     MF                                        10 03765
007055 002000 A 3766          CALL    LAX                                       10 03766
007056 077700 R
007057 017000 I 3767 SRM1     LDA     T2IN                                      10 03767
007060 057000 I 3768          STA     IM                                        10 03768
007061 057000 I 3769          STA     MF                                        10 03769
007062 005001 A 3770          TZA                                               10 03770
007063 001000 A 3771          JMP*    SRM                                       10 03771
007064 106743 R
007065 017000 I 3772 SRM2     LDA     IM                                        10 03772
007066 140422 A 3773          SUB     TWO                                       10 03773
007067 001016 A 3774          JANZ    SRM0        IM>MF                         10 03774
007070 006765 R
007071 017000 I 3775          LDA     NT                                        10 03775
007072 001010 A 3776          JAZ     SRM4        MF>IM ANF NOT INT. CST.       10 03776
007073 007122 R
007074 020466 A 3777          LDB     SIX         MAKE NEW DP-INT CONSTANT      10 03777
007075 067000 I 3778          STB     IM                                        10 03778
007076 067000 I 3779          STB     T2IN                                      10 03779
007077 017000 I 3780          LDA     ID                                        10 03780
007100 004517 A 3781          LASR    15                                        10 03781
007101 067000 I 3782          STB     ID+1                                      10 03782
007102 057000 I 3783          STA     ID                                        10 03783
007103 047000 I 3784          INR     EL                                        10 03784
007104 002000 A 3785          CALL    ASI                                       10 03785
007105 077611 R
007106 001000 A 3786          JMP     SRM1                                      10 03786
007107 007057 R
007110 017000 I 3787 SRM3     LDA     MF                                        10 03787
007111 140422 A 3788          SUB     TWO                                       10 03788
007112 001016 A 3789          JANZ*   SRM         MF>D.P. INT                   10 03789
007113 106743 R
007114 006010 A 3790          LDAI    04517                                     10 03790
007115 004517 A
007116 002000 A 3791          CALL    CAB         'LASR  15'                    10 03791
007117 077710 R
007120 001000 A 3792          JMP     SRM1                                      10 03792
007121 007057 R
007122 010421 A 3793 SRM4     LDA     ONE                                       10 03793
007123 001000 A 3794          JMP*    SRM                                       10 03794
007124 106743 R
007125 140465 A 3795 SRM5     SUB     FIVE                                      10 03795
007126 010432 A 3796 SRM6     LDA     BS9         DBI TO REA  ($TC)             10 03796
007127 120432 A 3797          ADD     BS9         DBL TO REA ($RC)              10 03797
007130 006120 A 3798          ADDI    'PC'        INT TO REA                    10 03798
007131 150303 A
007132 002000 A 3799          CALL    CAN         MAKE INITIAL CONVERSION TO REAL 10 03799
007133 077613 R
007134 010464 A 3800          LDA     THREE                                     10 03800
007135 057000 I 3801          STA     MF                                        10 03801
007136 017000 I 3802          LDA     T2IN                                      10 03802
007137 057000 I 3803          STA     IM          RESTORE IM                    10 03803
007140 001000 A 3804          JMP     SRM0                                      10 03804
007141 006765 R
007142 002000 A 3805 SRM7     CALL    SAV         INT TO REA/DBL AND 'H' OPTION 10 03805
007143 006334 R
007144 006010 A 3806          LDAI    06057                                     10 03806
007145 006057 A
007146 002000 A 3807          CALL    CDB         'STAE  A$C'                   10 03807
007147 077711 R
007150 006010 A 3808          LDAI    FLT                                       10 03808
007151 105423 A
007152 002000 A 3809          CALL    CDB         'FLT   A$C'                   10 03809
007153 077711 R
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007154 047000 I 3810          INR     C                                          10 03810
007155 002000 A 3811          CALL    RST                                        10 03811
007156 006025 R
007157 001000 A 3812          JMP     SRM1                                       10 03812
007160 077051 R
007161 002000 A 3813 SRM8     CALL    CRP                                        10 03813
007162 000144 R
007163 001000 A 3814          JMP     SRM1                                       10 03814
007164 007057 R
                    3815      EJEC                                               10 03815
                    3816 *    STF     STATEMENT FUNCTION PROCESSOR               10 03816
007165 017000 I 3818 STF      LDA     SPFL                                       10 03818
007166 140423 A 3819          SUB     FOUR                                       10 03819
007167 001004 A 3820          JAN     STF4                                       10 03820
007170 007177 R
007171 017000 I 3821          LDA     JPFL                                       10 03821
007172 001000 A 3822          JAP     TER4                                       10 03822
007173 077750 R
007174 005211 A 3823          CPA                                                10 03823
007175 001000 A 7824          JANZ    TER4                                       10 03024
007176 077750 R
007177 017000 I 3825 STF4     LDA     AT                                         10 03825
007200 140422 A 3826          SUB     K2                                         10 03826
007201 001000 A 3827          JANZ    TER5    IMPROPER USAGE                     10 03827
007202 077751 R
007203 057000 I 3828          STA     MAXOPC  CLEAR MAXIMUM FPP COUNT            10 03828
007204 017000 I 3829          LDA     XL                                         10 03829
007205 054105 A 3830          STA     STFPT                                      10 03830
007206 005102 A 3831          INCR    2                                          10 03831
007207 002000 A 3832          CALL    PFT                                        10 03832
007210 077621 R
007211 017000 I 3833          LDA     I                                      FF  10 03833
007212 057000 I 3834          STA     STFFL                                      10 03834
007213 017000 I 3835          LDA     IM                                         10 03835
007214 057000 I 3836          STA     T1                                         10 03836
007215 017000 I 3837          LDA     DFX                                        10 03837
007216 002000 A 3838          CALL    GSE                                        10 03838
007217 077652 R
007220 017000 I 3839          LDA     T1                                         10 03839
007221 057000 I 3840          STA     IM                                         10 03840
007222 054067 A 3841          STA     STFM    SAVE MODE OF FUNCTION NAME     D   10 03841
007223 005001 A 3842          IZA                                                10 03842
007224 057000 I 3843          STA     IU                                         10 03842
007225 057000 I 3844          STA     I                                          10 03844
007226 140422 A 3845          SUB     K2                                         10 03845
007227 002000 A 3846          JMPM    EXP     EXPRESSION                         10 03846
007230 000754 R
007231 002000 A 3847          CALL    PTR                                        10 03847
007232 077725 R
007233 017000 I 3848          LDA     STFFL                                      10 03848
007234 057000 I 3849          STA     I                                      FF  10 03849
007235 002000 A 3850          CALL    LAX                                        10 03850
007236 077700 R
007237 017000 I 3851          LDA     MAXOPC                                 FF  10 03851
007240 005211 A 3852          CPA                                                10 03852
007241 057000 I 3853          STA     CL                                     FF  10 03853
007242 002000 A 3854          CALL    TAX                                        10 03854
007243 077733 R
007244 014045 A 3855          LDA     STFM                                   D   10 03855
007245 057000 I 3856          STA     IM                                     D   10 03856
007246 002000 A 3857          CALL    MODE    CONVERT EXPRESSION TO FUNCTION MODE D  10 03857
007247 002552 R
007250 002000 A 3858          CALL    CRP                                        10 03858
007251 006142 R
007252 017000 I 3859          LDA     TSFL                                   FF  10 03859
007253 120431 A 3860          ADD     K33                                        10 03860
007254 057000 I 3861          STA     TSFL                                       10 03861
007255 002000 A 3862 STF1     CALL    LDX                                        10 03862
007256 077733 R
007257 017000 I 3863          LDA     DV                                         10 03863
007260 057000 I 3864          STA     I                                          10 03864
007261 002000 A 3865          CALL    LAV                                        10 03865
007262 077700 R
007263 017000 I 3866          LDA     DI      OLD AF                             10 03866
007264 017000 I 3867          LDA     DR      OLD AT                             10 03867
007265 002000 A 3868          CALL    OPT                                        10 03868
007266 077624 R
007267 017000 I 3869          LDA     AT                                         10 03869
007270 120465 A 3870          ADD     FIVE                                       10 03870
007271 057000 I 3871          STA     AT                                         10 03871
007272 057000 I 3872          STA     D                                          10 03872
007273 140000 I 3873          SUB     DPX                                        10 03873
007274 001000 A 3874          JAN     STF1                                   STF 10 03874
007275 007255 R
007276 140000 A 3875          LDA     XJMP                                       10 03875
007277 002000 A 3876          CALL    DAB                                        10 03876
007300 077000 R
007301 014014 A 3877          LDA     STFPT                                      10 03877
007302 110400 A 3878          ADD     K15     SET INDIRECT                       10 03878
007303 002000 A 3879          CALL    CRE                                        10 03879
007304 077715 R
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007305 017000 I 3880          LDA     JPFL                                                    10 03880
007306 001004 A 3881          JAN     STC                                                     10 03881
007307 077741 R
007310 001000 A 3882          JMP     CRT                                                     10 03882
007311 077616 R
007312          3883 STFM     BSS     1           STATEMENT FUNCTION NAME MODE          D   10 03883
007313 000000 A 3884 STFPT    DATA    0           SAVE POINTER TO NAME                        10 03884
                3885          EJECT                                                           10 03885
                3886 ***************************************************************************10 03886
                3887 *                                                                         * 10 03887
                3888 *              P R O C E S S   S T O P   A N D   P A U S E                * 10 03888
                3889 *                                                                         * 10 03889
                3890 *                S T A T E M E N T S ( S T P , P S E )                    * 10 03890
                3891 *                                                                         * 10 03891
                3892 * FUNCTION: TO PROCESS THE FORTRAN SOURCE STATEMENTS:                     * 10 03892
                3893 *                                                                         * 10 03893
                3894 *              'STOP N....'  WHERE 'N...' IS A BLANK STRING OR            * 10 03894
                3895 *              'PAUSE N...'   OCTAL DIGIT STRING                          * 10 03895
                3896 *                                                                         * 10 03896
                3897 * ENTRY: DIRECT FROM SID                                                  * 10 03897
                3898 *        NAME='ST' IF STOP                                                * 10 03898
                3899 *            ='PA' IF PAUSE                                               * 10 03899
                3900 *                                                                         * 10 03900
                3901 * EXIT : PAUSE: DIRECT TO STYN                                           * 10 03901
                3902 *        STOP : DIRECT TO STNN                                            * 10 03902
                3903 *                                                                         * 10 03903
                3904 * OUTPUT : CALL $ST/$PA                                                  * 10 03904
                3905 *           DATA  -1                                                      * 10 03905
                3906 *           DATA  DIGIT/CHARACTER STRING                                  * 10 03906
                3907 *             .                                                           * 10 03907
                3908 *             .                                                           * 10 03908
                3909 *             .                                                           * 10 03909
                3910 *           DATA  0                                                       * 10 03910
                3911 *                                                                         * 10 03911
                3912 ***************************************************************************10 03912
        007314 R 3914 STP     EQU     *           STOP ENTRY                                  10 03914
        007314 R 3915 PSE     EQU     *           PAUSE ENTRY                                 10 03915
007314 017000 I 3916          LDA     NAME                                                    10 03916
007315 002000 A 3917          CALL    CAN         OUTPUT 'JMPM $ST' OR 'JMPM $PA'             10 03917
007316 077613 R
007317 010461 A 3918          LDA     NEG                                                     10 03918
007320 002000 A 3919          CALL    DAB         G-LEVEL FLAG                                10 03919
007321 077710 R
007322 005001 A 3920          TZA                                                             10 03920
007323 057000 I 3921          STA     DPW                                                     10 03921
007324 002000 A 3922 STP0     CALL    ICH                                                     10 03922
007325 077654 R
007326 140000 L 3923          SUB     =0247       '*'                                         10 03923
007327 001010 A 3924          JAZ     STP4                                                    10 03924
007330 007364 R
007331 017000 I 3925          LDA     TC                                                      10 03925
007332 001000 A 3926          JMP     STP2                                                    10 03926
007333 007340 R
007334 002000 A 3927 STP1     CALL    DPK         PROCESS DIGIT STREAM                        10 03927
007335 077714 R
007336 002000 A 3928          CALL    ICH                                                     10 03928
007337 077654 R
007340 140463 A 3929 STP2     SUB     BM377                                                   10 03929
007341 001016 A 3930          JANZ    STP1                                                    10 03930
007342 007334 R
007343 017000 I 3931          LDA     DPW                                                     10 03931
007344 001010 A 3932          JAZ     STP3                                                    10 03932
007345 007352 R
007346 004210 A 3933          ASLA    8                                                       10 03933
007347 120000 L 3934          ADD     =' '                                                    10 03934
007350 002000 A 3935          CALL    DAB                                                     10 03935
007351 077710 R
007352 005001 A 3936 STP3     TZA                                                             10 03936
007353 002000 A 3937          CALL    DAB         'DATA  0' TERMINATOR                        10 03937
007354 077710 R
007355 017000 I 3938          LDA     NAME                                                    10 03938
007356 006140 A 3939          SUBI    'ST'                                                    10 03939
007357 151724 A
007360 001010 A 3940          JAZ     STN         NO-PATH-CONTINUATION (STOP)                 10 03940
007361 077743 R
007362 001000 A 3941          JMP     ILT         PATH-CONTINUATION (PAUSE)                   10 03941
007363 077666 R
007364 005311 A 3942 STP4     DAR                                                             10 03942
007365 057000 I 3943          STA     HCC         SET QUOTE FLAG                              10 03943
007366 002000 A 3944 STP5     CALL    IHW         PROCESS MESSAGE                             10 03944
007367 077663 R
007370 002000 A 3945          CALL    DAB                                                     10 03945
007371 077710 R
007372 017000 I 3946          LDA     HCC                                                     10 03946
007373 001016 A 3947          JANZ    STP5                                                    10 03947
007374 007366 R
007375 001000 A 3948          JMP     STP0                                                    10 03948
007376 007324 R
                3949          EJECT                                                           10 03949
                3950 ***************************************************************************10 03950
                3951 *                                                                         * 10 03951
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                                3952 *           S T O R E   T R I A D   E N T R Y ( S T X )                    * 10 03952
                                3953 *                                                                          * 10 03953
                                3954 * FUNCTION: TO FORMAT AND STORE AN ENTRY IN THE TRIAD TABLE              * 10 03954
                                3955 *                                                                          * 10 03955
                                3956 * ENTRY: X POINTS TO ENTRY ADDRESS                                       * 10 03956
                                3957 *                                                                          * 10 03957
                                3958 * EXIT :  (J)   =T1                                                      * 10 03958
                                3959 *         (J+1)=T2                                                       * 10 03959
                                3960 *         (J+2)=SF(BIT 0)                                                  10 03960
                                3961 *              =OP(BITS 1-6)                                               10 03961
                                3962 *              =TM(BITS 7-9)                                               10 03962
                                3963 *              =TU(BIT 10)                                                 10 03963
                                3964 *                                                                          * 10 03964
                                3965 ************************************************************************** 10 03965
007377 000000 A 3966 STX     ENTRY                                                                              10 03966
007400 027401 1 3967         LDB     *                  POINT B AT ENTRY                                        10 03967
007401 017001 1 3968         LDA     =1                                                                         10 03968
007402 056005 A 3969         STA     0,B                01 TO WORD 0                                            10 03969
007403 017002 1 3970         LDA     =2                                                                         10 03970
007404 056001 A 3971         STA     1,B                02 TO WORD 1                                            10 03971
007405 017001 1 3972         LDA     TM                 USE                                                     10 03972
007406 004241 A 3973         LRLA    3                                                                          10 03973
007407 117000 1 3974         ORA     TM                 MODE                                                    10 03974
007410 004245 A 3975         LRLA    6                                                                          10 03975
007411 117000 1 3976         ORA     OP                 OPERATOR                                                10 03976
007412 004241 A 3977         LRLA    3                  POSITION                                                10 03977
007413 117000 1 3978         ORA     SF                 SET SF                                                  10 03978
007414 056002 A 3979         STA     2,B                STORE OP,SF IN WORD 2                                   10 03979
007415 001000 A 3980         JMP*    STX                                                                        10 03980
007416 107377 A
                                3981         EJECT                                                              10 03981
                                3982 ************************************************************************** 10 03982
                                3983 *                                                                          * 10 03983
                                3984 *      T E S T   F O R   C O M M U T A T I V E   O P E R A T O R           * 10 03984
                                3985 *                                                                          * 10 03985
                                3986 * FUNCTION: TO TEST IF THE OPERATOR IN (A) IS +,*,.AND.,.OR.                10 03986
                                3987 *                                                                          * 10 03987
                                3988 * ENTRY: (A) HAS OPERATOR                                                  * 10 03988
                                3989 *                                                                          * 10 03989
                                3990 * EXIT: (A)=0 IF COMMUTATIVE                                              * 10 03990
                                3991 *                                                                          * 10 03991
                                3992 ************************************************************************** 10 03992
007417 000000 A 3993 TCO     ENTRY                                                                              10 03993
007420 140000 A 3994         SUB     =0,*                                                                       10 03994
007421 001010 A 3995         JAZ*    TCO                (+)                                                     10 03995
007422 107417 A
007423 140420 A 3996         SUB     TWO                                                                        10 03996
007424 001010 A 3997         JAZ*    TCO                (*)                                                     10 03997
007425 107417 A
007426 000140 A 3998         SUBI    256                                                                        10 03998
007427 000000 A
007430 001010 A 3999         JAZ*    TCO                (.OR.)                                                  10 03999
007431 107417 A
007432 000311 A 4000         DAP                                                                                10 04000
007433 001000 A 4001         JMP*    TCO                (.AND.) OR (A) NOT 0 IF NOT COMMUTATIVE                 10 04001
007434 107417 A
                                4002         EJECT                                                              10 04002
                                4003 ************************************************************************** 10 04003
                                4004 *                                                                          * 10 04004
                                4005 *      T R A N S F E R   F P P   T O   S C C   ( T F A )                   * 10 04005
                                4006 *                                                                          * 10 04006
                                4007 *                                                                          * 10 04007
                                4008 ************************************************************************** 10 04008
007435 000000 A 4009 TFA     ENTRY                                                                              10 04009
007436 017001 1 4010         LDA     $FCW                                                                       10 04010
007437 006441 A 4011         BT      0,TFA2                                                                     10 04011
007440 007504 A
007441 017000 1 4012         LDA     F                                                                          10 04012
007442 001011 A 4013         JAZ*    TFA                FPP NOT LOADED                                          10 04013
007443 107435 A
007444 017001 1 4014         LDA     =F                 'H' PARAMETER                                           10 04014
007445 140464 A 4015         SUB     THREE                                                                      10 04015
007446 001004 A 4016         JAN*    TFA                INTEGER                                                 10 04016
007447 107435 A
007450 140427 A 4017         SUB     TWO                                                                        10 04017
007451 001002 A 4018         JAP*    TFA                COMPLEX, DP1                                            10 04018
007452 107435 A
007453 005001 A 4019         TZE                                                                                10 04019
007454 057000 1 4020         STA     F                  MARK FPP EMPTY                                          10 04020
007455 057000 1 4021         STA     MAP,DPC                                                                    10 04021
007456 002000 A 4022         CALL    SAV                                                                        10 04022
007457 006334 A
007460 017000 1 4023         LDA     =F                                                                         10 04023
007461 140454 A 4024         SUB     =H'EE                                                                      10 04024
007462 006001 A 4025         EDIT    =X'10'                                                                     10 04025
007463 107500 A
007464 001012 A 4026         JAT     *+4                REA                                                     10 04026
007465 007400 A
007466 006000 A 4027         LDB1    =X'0'                                                                      10 04027
007467 107500 A
007470 003021 A 4028         TSB                                                                                10 04028
007471 002000 A 4029         CALL    DOS                                                                        10 04029
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007472 077711 R
007473 017000 I 4031          LDA     MF                                                    10 04031
007474 140464 A 4032          SUB     THREE                                                 10 04032
007475 001016 A 4033          JANZ    TFA2-2          DBL                                   10 04033
007476 007502 R
007477 030421 A 4034          LDX     ONE                                                   10 04034
007500 002000 A 4035          CALL    TRA             A$C TO (A,B)                          10 04035
007501 007506 R
007502 002000 A 4036          CALL    RST                                                   10 04036
007503 006325 R
007504 001000 A 4037 TFA2     JMP*    TFA                                                   10 04037
007505 107435 R
               4038           EJECT                                                         10 04038
               4039 ********************************************************************** 10 04039
               4040 *                                                                      10 04040
               4041 *      T R A N S F E R   A C C U M U L A T O R   ( T R A )              10 04041
               4042 *                                                                      10 04042
               4043 * ENTRANCE: (A)=0 STORE,  =1 LOAD                                     10 04043
               4044 *                                                                      10 04044
               4045 ********************************************************************** 10 04045
007506 000000 A 4047 TRA      ENTRY                                                         10 04047
007507 017000 I 4048          LDA     $PCW                                                  10 04048
007510 006404 A 4049          BT      04,TRA2                                               10 04049
007511 007540 R
007512 006015 A 4050          LDAE    TRA1+1,X        REGISTER OPERATION                    10 04050
007513 007534 R
007514 054016 A 4051          STA     TRA1            OPERATION                             10 04051
007515 006010 A 4052          LDAI    06030                                                 10 04052
007516 006030 A
007517 002000 A 4053          CALL    DDB             'LDXI  A$C'                           10 04053
007520 077711 R
007521 014011 A 4054          LDA     TRA1                                                  10 04054
007522 002000 A 4055          CALL    DAB             'LDA/STA  0,X'                        10 04055
007523 077710 R
007524 014006 A 4056          LDA     TRA1                                                  10 04056
007525 006120 A 4057          ADDI    010001                                                10 04057
007526 010001 A
007527 002000 A 4058          CALL    DAB             'LDB/STB  1,X'                        10 04058
007530 077710 R
007531 001000 A 4059          JMP*    TRA                                                   10 04059
007532 107506 R
007533 107533 R 4060 TRA1     DATA    **                                                    10 04060
007534 055000 A 4061          STA     0,X             REGISTER OPERATIONS                   10 04061
007535 015000 A 4062          LDA     0,X                                                   10 04062
007536 105033 A 4063          DATA    FSTI            BCS OPERATIONS                        10 04063
007537 105032 A 4064          DATA    FLDI                                                  10 04064
007540 006015 A 4065 TRA2     LDAE    TRA1+3,X                                              10 04065
007541 007536 R
007542 002000 A 4066          CALL    DAB             'FSTI/FLDI'                           10 04066
007543 077710 R
007544 005001 A 4067          TZA                                                           10 04067
007545 002000 A 4068          CALL    OUT                                                   10 04068
007546 077720 R
007547 001000 A 4069          JMP*    TRA                                                   10 04069
007550 107506 R
               4070           EJECT                                                         10 04070
               4071 *         TRS     TRIAD SEARCH                                          10 04071
007551 017000 I 4073 TRS2     LDA     DP                                                    10 04073
007552 006140 A 4074          SUBI    042                                                   10 04074
007553 000042 A
007554 001010 A 4075          JAZ     SCNE-2                                                10 04075
007555 006600 R
007556 037000 I 4076          LDX     JT                                                    10 04076
007557 005041 A 4077 TRS21    TXA                                                           10 04077
007560 147000 I 4078          SUB     IT                                                    10 04078
007561 001010 A 4079          JAZ     TRS52           TRIAD SEARCH COMPLETED                10 04079
007562 007710 R
007563 015002 A 4080          LDA     2,1                                                   10 04080
007564 150000 L 4081          ANA     =0176                                                 10 04081
007565 006140 A 4082          SUBI    0132            (=)                                   10 04082
007566 000132 A
007567 001016 A 4083          JANZ    TRS52           NOT PRIOR STORE OPERATOR              10 04083
007570 007710 R
007571 017000 I 4084          LDA     $PCW                                          FF      10 04084
007572 006445 A 4085          BT      045,TRS23       'H' PARAMETER SET ?           FF      10 04085
007573 007631 R
007574 015001 A 4086          LDA     1,1             YES                           FF      10 04086
007575 147000 I 4087          SUB     DPX                                           FF      10 04087
007576 001010 A 4088          JAZ     TRS52           IGNORE NO STORE               FF      10 04088
007577 007710 R
007600 127000 I 4089          ADD     DPX             RESTORE A                     FF      10 04089
007601 002000 A 4090          CALL    GOM             TEST ACCUMULATOR MODE         FF      10 04090
007602 002127 R
007603 140422 A 4091          SUB     TWO                                           FF      10 04091
007604 001010 A 4092          JAZ     TRS22           INTEGER ?                     FF      10 04092
007605 007613 R
007606 140464 A 4093          SUB     THREE           NO                            FF      10 04093
007607 001004 A 4094          JAN     TRS52           IGNORE REAL AND DP            FF      10 04094
007610 007710 R
007611 001000 A 4095          JMP     TRS23                                         FF      10 04095
007612 007631 R
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007613 015000 A 4096 TRS22  LDA     0,X          INTEGER                                  FF  10 04096
007614 147000 I 4097        SUB     IT                                                    FF  10 04097
007615 001004 A 4098        JAN     TRS23        TRIAD ?                                  FF  10 04098
007616 007631 R
007617 017000 I 4099        LDA     DPX          YES                                      FF  10 04099
007620 127000 I 4100        ADD     IT                                                    FF  10 04100
007621 145000 A 4101        SUB     0,X                                                   FF  10 04101
007622 005012 A 4102        TAB                  POINT B AT TRIAD                         FF  10 04102
007623 016002 A 4103        LDA     2,B                                                   FF  10 04103
007624 004341 A 4104        LSRA    1                                                     FF  10 04104
007625 150474 A 4105        ANA     =M77         GET OP                                   FF  10 04105
007626 140000 L 4106        SUB     =054                                                  FF  10 04106
007627 001010 A 4107        JAZ     TRS52        EXIT IF CALL                             FF  10 04107
007630 007710 R
       007631 R 4108 TRS23  EQU     *                                                     FF  10 04108
007631 017000 I 4109        LDA     D1                                                        10 04109
007632 145001 A 4110        SUB     1,1                                                       10 04110
007633 001010 A 4111        JAZ     TRS5         MATCH ON ACTUAL REGISTER CONTENTS            10 04111
007634 007666 R
007635 017000 I 4112        LDA     D1                                                        10 04112
007636 145000 A 4113        SUB     0,1                                                       10 04113
007637 002010 A 4114        JAZM    TRS6         MATCH ON IMPLICIT REGISTER CONTENTS          10 04114
007640 007761 R
007641 001010 A 4115        JAZ     TRS5         MODE ALLOWS CHAINING                         10 04115
007642 007666 R
007643 017000 I 4116        LDA     DP                                                        10 04116
007644 002000 A 4117        CALL    TCD                                                       10 04117
007645 007417 R
007646 001016 A 4118        JANZ    TRS51        NOT COMMUTATIVE                              10 04118
007647 007674 R
007650 017000 I 4119 TRS3   LDA     D2           COMMUTATIVE OPERATORS.                       10 04119
007651 145001 A 4120        SUB     1,1                                                       10 04120
007652 001010 A 4121        JAZ     TRS4         REVERSE MATCH ON REGISTERS                   10 04121
007653 007662 R
007654 017000 I 4122        LDA     D2                                                        10 04122
007655 145000 A 4123        SUB     0,1                                                       10 04123
007656 002010 A 4124        JAZM    TRS6         IMPLICIT COMMUTATIVE MATCH                   10 04124
007657 007761 R
007660 001016 A 4125        JANZ    TRS51        NO REGISTER MATCH OR MODE CHANGE             10 04125
007661 007674 R
007662 017000 I 4126 TRS4   LDA     D1           COMMUTE OPERANDS                             10 04126
007663 027000 I 4127        LDB     D2                                                        10 04127
007664 057000 I 4128        STA     D2                                                        10 04128
007665 067000 I 4129        STB     D1                                                        10 04129
007666 017000 I 4130 TRS5   LDA     DPX                                                       10 04130
007667 127000 I 4131        ADD     IT                                                        10 04131
007670 147000 I 4132        SUB     JT                                                        10 04132
007671 057000 I 4133        STA     D1           MAKE LINK OPERAND                            10 04133
007672 001000 A 4134        JMP     SCN7                                                      10 04134
007673 006575 R
007674 002000 A 4135 TRS51  JMPM    TRS6                                                      10 04135
007675 007761 R
007676 001016 A 4136        JANZ    TRS52        MODE CHANGE ACROSS STORE                     10 04136
007677 007710 R
007700 005041 A 4137        TXA                                                               10 04137
007701 140464 A 4138        SUB     THREE                                                     10 04138
007702 005014 A 4139        TAX                  POINT TO PRIOR                               10 04139
007703 125003 A 4140        ADD     3,X          GET D1 OF LAST STORE                         10 04140
007704 147000 I 4141        SUB     IT                                                        10 04141
007705 147000 I 4142        SUB     DPX                                                       10 04142
007706 001010 A 4143        JAZ     TRS21        TEST FOR LINKED STORE                        10 04143
007707 007557 R
007710 017000 I 4144 TRS52  LDA     DPX                                                       10 04144
007711 127000 I 4145        ADD     IT                                                        10 04145
007712 147000 I 4146        SUB     JT                                                        10 04146
007713 147000 I 4147        SUB     D1                                                        10 04147
007714 001010 A 4148        JAZ     SCN7                                                      10 04148
007715 006575 R
007716 001000 A 4149        JMP                                                               10 04149
007717 000000 A
       007717 R 4150 TRS    EQU     *-1                                                       10 04150
007720 017000 I 4151        LDA     =3                                                        10 04151
007721 005311 A 4152        DAR                                                               10 04152
007722 001010 A 4153        JAZ     TRS2         EXP. CONTROL = -1                            10 04153
007723 007551 R
007724 037000 I 4154        LDX     IT                                                        10 04154
007725 005041 A 4155 TRS1   TXA                                                               10 04155
007726 120422 A 4156        ADD     =2                                                        10 04156
007727 005114 A 4157        INCR    18           (X)=(A)+1                                    10 04157
007730 147000 I 4158        SUB     JT           TRIAD TOP                                    10 04158
007731 001002 A 4159        JAP     TRS2         TABLE SCANNED                                10 04159
007732 007551 R
007733 015000 A 4160        LDA     0,1                                                       10 04160
007734 147000 I 4161        SUB     D1                                                        10 04161
007735 005012 A 4162        TAB                                                               10 04162
007736 015001 A 4163        LDA     1,1                                                       10 04163
007737 147000 I 4164        SUB     D2                                                        10 04164
007740 005032 A 4165        MERGE   20           A OR B TO B                                  10 04165
007741 015002 A 4166        LDA     2,1                                                       10 04166
007742 004341 A 4167        LSRA    1                                                         10 04167
007743 006150 A 4168        ANAI    01077        GET USE FLAG AND OPERATOR                    10 04168
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007744 001077 A
007745 147000 I 4169          SUB     DP                                          10 04169
007746 001030 A 4170          JIF     -24,*+4     MATCHED ON 01,02,AND DP         10 04170
007747 007752 R
007750 001000 A 4171          JMP     TRS1                                        10 04171
007751 007725 R
007752 005241 A 4172          COMPL   33          NOT (X) TO (A)                  10 04172
007753 005111 A 4173          IAR                 MAKE -(X)                       10 04173
007754 127000 I 4174          ADD     IT                                          10 04174
007755 127000 I 4175          ADD     DPX                                         10 04175
007756 057000 I 4176          STA     01          CORRECTED POINTER               10 04176
007757 001000 A 4177          JMP     SCNE                                        10 04177
007760 006602 R
007761 000000 A 4178 TRS6     ENTRY               CKECK FOR MODE MATCH ON STORE   10 04178
007762 015000 A 4179          LDA     0,1         FETCH FROM                      10 04179
007763 002000 A 4180          JMPM    GOM                                         10 04180
007764 002127 R
007765 004247 A 4181          LRLA    7                                           10 04181
007766 135002 A 4182          ERA     2,1         TEST MODE OF TRIAD              10 04182
007767 006150 A 4183          ANAI    01600                                       10 04183
007770 001600 A
007771 001000 A 4184          JMP*    TRS6        EXIT (A)=0 IF MODE MATCH        10 04184
007772 107761 R
               4185           EJECT                                               10 04185
               4186 *         TSC     TEMPORARY STORAGE CHECK                     10 04186
007773 000000 A 4188 TSC      ENTRY               (A) HAS VALUE OF POINTER        10 04188
007774 005012 A 4189          TAB                                                 10 04189
007775 147000 I 4190          SUB     IT                                          10 04190
007776 001004 A 4191          JAN*    TSC         INSIDE ASSMT. TBL               10 04191
007777 107773 R
010000 147000 I 4192          SUB     DPX                                         10 04192
010001 005211 A 4193          CPA                                                 10 04193
010002 005112 A 4194          INCR    012                                         10 04194
010003 005101 A 4195          INCR    1                                           10 04195
010004 116002 A 4196          ORA     2,2                                         10 04196
010005 056002 A 4197          STA     2,2                                         10 04197
010006 001000 A 4198          JMP*    TSC                                         10 04198
010007 107773 R
               4199           END                                                 10 04199
ENTRY NAMES
EXTERNAL NAMES
000000 E BOFCB   000000 E GOFCB   000000 E LOFCB   000000 E PIFCB
000000 E SIFCB   000000 E V$EXEC  000000 E V$IOC   000000 E V$IOST
SYMBOLS
000020 A $BIT    010151 R $BUF    177325 R $ECW    177324 R $PCW
177330 R AF      177331 R AIFW    177332 R ASL     077611 R ASI
077612 R ASS     000026 R ASSI    000065 R AST     000066 R AST1
000056 R ASTM    177341 R AX      000002 A B       177342 R BOF
010320 R BLBF1   177250 R BLFCB   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
177343 R BOBLCN  177320 R BOBLFL  000000 E BOFCB   000441 A BR0
000442 A BR1     000453 A BR10    000434 A BR11    000455 A BR12
000456 A BR13    000457 A BR14    000460 A BR15    000443 A BR2
000444 A BR3     000445 A BR4     000446 A BR5     000447 A BR6
000450 A BR7     000451 A BR8     000452 A BR9     000421 A BS0
000422 A BS1     000433 A BS10    000434 A BS11    000435 A BS12
000436 A BS13    000437 A BS14    000440 A BS15    000423 A BS2
000424 A BS3     000425 A BS4     000426 A BS5     000427 A BS6
000430 A BS7     000431 A BS8     000432 A BS9     000072 R BSP
000076 R CAL     000116 R CAL1    077613 R CAN     077614 R CBA
077615 R CCR     177344 R CF      177345 R CFPTSW  177346 R CL
177347 R CLOP    000132 R CMD     000137 R CMD1    177350 R CMFL
177351 R CNP     000142 R CRP     000173 R CRP1    000201 R CRP2
077616 R CRT     077617 R CTS     177352 R D       000561 R DEC
000203 R DEF     000250 R DEF1    077620 R DEK     177353 R DF
177354 R DFPP    077621 R DFT     177355 R DH      177356 R DI
000270 R DOI     000325 R DON     000372 R DON1    000424 R DON2
000427 R DOP     000465 R DOT     000512 R DOT1    000517 R DOT2
000531 R DOT2A   000535 R DOT3    000542 R DOT4    177326 R DPB
177357 R DPCA    177327 R DPX     177373 R DR      177374 R DS
177375 R DSAV    077622 R DSM     177376 R DT      177377 R DTFL
177401 R DV      177402 R EC      000072 R EFI     177403 R EH
177405 R EHBK    000424 A EIGHT   177406 R EL      000565 R ENC
000567 R ENC00   000604 R ENC02   000611 R ENC04   000632 R ENC06
000637 R ENC08   077623 R EOLSW   077624 R ER1     077632 R ER11
077633 R ER12    077634 R ER13    077635 R ER14    077636 R ER15
077637 R ER16    077640 R ER17    077641 R ER18    077625 R ER2
077642 R ER20    077643 R ER21    077644 R ER22    077645 R ER24
077626 R ER3     077627 R ER6     077630 R ER7     077631 R ER8
177120 R ERBF    000703 R ET1     000726 R ET2     000733 R ET4
000743 R ET6     000643 R ETT     077646 R EXA     177407 R EXAD
077647 R EXL     001241 R EXL0    001255 R EXL1    001174 R EXL3
001145 R EXL4    001204 R EXLG    001217 R EXLG1   001227 R EXLG2
001270 R EXLH    001303 R EXLI    001313 R EXLJ    001016 R EXLK
001345 R EXLS    001356 R EXLT    001333 R EXLU    001323 R EXLV
000754 R EXP     001001 R EXP1    001570 R EXP10   001575 R EXP11
001621 R EXP12   001651 R EXP13   001712 R EXP135  001716 R EXP14
001735 R EXP15   001737 R EXP16   001753 R EXP17   001760 R EXP175
002003 R EXP18   002033 R EXP19   001076 R EXP2    002045 R EXP20
002054 R EXP21   001024 R EXP3    001071 R EXP31   001106 R EXP4
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001136 R EXP5    001357 R EXP6    001377 R EXP7    001452 R EXP8
001473 R EXP9    001520 R EXPA    001365 R EXPJ    001446 R EXPK
001441 R EXPL    001406 R EXPM    001415 R EXPM2   001430 R EXPM4
001462 R EXPN    001477 R EXPP    001404 R EXPQ    001200 R EXPR
177410 R F       105035 A F$DDI   105027 A F$DDI1  105036 A F$SEI
105503 A FADDD   105410 A FADDS   105535 A FDIVD   105401 A FDIVS
177411 R FFPFL   105400 A FFPDP   000465 A FIVE    105621 A FIX
105226 A FLAIF   105522 A FLDD    105032 A FLDI    105420 A FLDS
105367 A FLIDP   105125 A FLJAG   105024 A FLREL   105425 A FLT
105037 A FMOVI   105506 A FMULD   105416 A FMULS   002073 R FND
077650 R FNS1    077651 R FORT1   000423 A FOUR    105327 A FSQRT
105710 A FSTD    105033 A FSTI    105600 A FSTS    105543 A FSUBD
105450 A FSUBS   002101 R GDV     002116 R GDV5    177262 R GLFCB
002263 R GOA     177412 R GOBLCN  177321 R GOBLFL  000000 E GOFCB
002170 R GOL1    002245 R GOL2    002311 R GOL3    002127 R GOM
002141 R GOM1    002153 R GOT     077652 R GSE     002323 R GTS
002344 R GTS1    002367 R GTS2    177413 R HCC     177414 R I
077653 R IAC     002406 R IAR     077654 R ICH     077655 R ICD
077656 R ICDRNL  077657 R ICRD    077660 R ICRR    077661 R ICSI
177415 R ID      077662 R IDI     002455 R IFO     002466 R IFA
002510 R IFB     002417 R IFP     002503 R IFU     077663 R IHW
002535 R IIN     002546 R IIN1    077664 R IIV     077665 R ILB
077666 R ILT     177421 R IM      077667 R INA     177422 R INBP
077670 R INI     077671 R INN     077672 R INS     077673 R INT
177423 R IOFL    177424 R IP      177435 R IS      077674 R ISN
177445 R IT      177446 R IU      077675 R IVA     077676 R IVC
077677 R IWI     177447 R J       177450 R JPFL    177454 R JT
177455 R K       000424 A K10     000471 A K12     000472 A K17
000422 A K2      000425 A K20     000473 A K37     000423 A K4
000466 A K6      000463 A K77     000432 A KJMP    177456 R KT
077700 R LAX     000300 A LC      000050 A LCJP    077701 R LDX
077702 R LEX     177457 R LF      000462 A LHW     177460 R LIF
077703 R LIST    177274 R LLFCB   177461 R LLOP    177322 R LOBLFL
077704 R LOCT    000000 E LOFCB   077705 R LTX     177462 R MAXOPC
177463 R MDTB    177516 R MF      177517 R MM      002652 R MMT
002552 R MODE    002567 R MODE1   002602 R MODE2   002610 R MODE3
002626 R MODE4   077706 R MOVE    177520 R MR      000420 A MT
000500 A MTE     000441 A MTWO    077707 R MXL     177522 R NAME
177523 R ND      000461 A NEG     177127 R NERR    177524 R NF
177525 R NFFW    000470 A NINE    177526 R NS      177527 R NT
177530 R NTFL    177536 R O1      177537 R O2      077710 R OAB
002662 R OAD     002706 R OAD1    002721 R OAD2    010224 R OBUF
077711 R ODB     077712 R ODS     002735 R OIL     002766 R OIL1
003013 R OIL15   003015 R OIL2    003020 R OIL3    003026 R OIL4
003040 R OIT     003045 R OIT02   003072 R OIT04   003136 R OIT05
003166 R OIT06   003202 R OIT08   003207 R OIT10   003217 R OIT14
003221 R OIT15   003226 R OIT16   003245 R OIT165  003253 R OIT18
003257 R OIT20   003304 R OIT21   003312 R OIT22   003342 R OIT24
003347 R OIT26   003354 R OIT28   003356 R OIT29   003362 R OIT30
003364 R OIT31   003374 R OIT313  003404 R OIT314  003412 R OIT316
003416 R OIT32   003455 R OIT34   003461 R OIT38   003510 R OIT38A
003513 R OIT39   003530 R OIT40   003536 R OIT41   003551 R OIT415
003556 R OIT42   003567 R OIT46   003572 R OIT47   003600 R OIT48
003604 R OIT49   003610 R OIT50   003614 R OIT51   003620 R OIT52
003624 R OIT53   003630 R OIT54   003635 R OIT56   003645 R OIT57
003653 R OIT58   003661 R OIT59   003667 R OIT60   003675 R OIT61
003707 R OIT62   003715 R OIT64   003743 R OIT66   003752 R OIT68
003760 R OIT70   003771 R OIT72   004007 R OIT74   004021 R OIT76
004057 R OIT78   004076 R OIT79   004106 R OIT80   004135 R OIT84
177535 R OITFL   000421 A ONE     077713 R ONEN    004145 R OOA
004157 R OOA1    004170 R OOA2    177531 R OP      177532 R OPBK
177533 R OPCNT   077714 R OPK     177534 R OPW     077715 R ORE
004201 R ORT     004225 R ORT1    004230 R ORT2    077716 R OSR
004234 R OST     004260 R OST1    004266 R OST2    004311 R OST3
004275 R OST4    004305 R OST5    004317 R OST6    004325 R OST7
077717 R OTJ     004326 R OTR     004333 R OTR1    004626 R OTR10
004650 R OTR11   004661 R OTR12   004705 R OTR13   004715 R OTR14
004725 R OTR15   004734 R OTR151  004740 R OTR16   004746 R OTR17
004761 R OTR18   004767 R OTR19   004337 R OTR2    005004 R OTR20
005026 R OTR21   005042 R OTR22   005050 R OTR23   005054 R OTR24
005057 R OTR25   005061 R OTR26   005105 R OTR27   005120 R OTR28
005124 R OTR29   004352 R OTR3    005132 R OTR30   005152 R OTR305
005160 R OTR31   005164 R OTR32   005225 R OTR34   005233 R OTR35
005252 R OTR355  005270 R OTR356  005273 R OTR36   005325 R OTR37
005351 R OTR38   005423 R OTR39   005443 R OTR395  005460 R OTR397
004410 R OTR4    005463 R OTR40   005502 R OTR41   004433 R OTR42
004456 R OTR45   004461 R OTR5    004477 R OTR50   004502 R OTR51
004532 R OTR6    005520 R OTR60   005542 R OTR62   005553 R OTR64
004573 R OTR7    004601 R OTR8    004607 R OTR9    077720 R OUT
010150 A OVERSZ  077721 R OWD     077722 R OWS     177540 R PC
077723 R PDS     077724 R PEB     177544 R PIBLCN  177323 R PIBLFL
000000 E PIFCB   177306 R PLFCB   007314 R PSE     077725 R PTR
077726 R PTS     177545 R QFL     077727 R RCC     077730 R RCCS
077731 R RCH     005566 R RED     006173 R RET     006204 R RET0
006224 R RET1    006250 R RET2    006255 R RET3    006261 R RET4
006304 R RET5    000072 R REW     000463 A RHW     077732 R RID
177546 R RL      006325 R RST     006334 R SAV     006345 R SAV1
077733 R SAX     177550 R SBFL    006347 R SCL     006372 R SCN
006450 R SCN1    006505 R SCN2    006524 R SCN3    006534 R SCN4
006566 R SCN6    006575 R SCN7    006615 R SCN8    006636 R SCN9
006553 R SCNA    006633 R SCNB    006415 R SCNC    006421 R SCND
```

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006653 R SCNDBR 006602 R SCNE   006572 R SCNF   006654 R SCNG
006672 R SCNI   077734 R SDX    000467 A SEVEN  006704 R SEX
006720 R SEX1   177553 R SF     077735 R SIDTB1 000000 E SIFCB
077736 R SIS    000466 A SIX    077737 R SLIT   077740 R SLOP
177160 R SLOT   006732 R SNF    177554 R SPFL   006743 R SRM
006765 R SRM0   007025 R SRM03  007046 R SRM05  007057 R SRM1
007065 R SRM2   007110 R SRM3   007122 R SRM4   007125 R SRM5
007126 R SRM6   007142 R SRM7   007161 R SRM8   177560 R SSP
077741 R STC    007165 R STF    007255 R STF1   007177 R STF4
177555 R STFFL  007312 R STFM   007313 R STFPT  077742 R STI1
077743 R STN    177556 R STNB   007314 R STP    007324 R STP0
007334 R STP1   007340 R STP2   007352 R STP3   007364 R STP4
007366 R STP5   077744 R STS    177557 R STSW   007377 R STX
177565 R SXF    177574 R T0     002071 R T0EX   177575 R T1
177576 R T2     177577 R T2IN   177600 R T3     177601 R T4
177602 R T5     177603 R T6     177604 R T7     002072 R T7EX
177605 R T8     177606 R T9     177566 R TC     007417 R TCD
000471 A TEN    077745 R TER1   077755 R TER11  077756 R TER12
077757 R TER13  077760 R TER14  077761 R TER15  077762 R TER17
077763 R TER18  077764 R TER19  077746 R TER2   077765 R TER20
077766 R TER24  077767 R TER26  077747 R TER3   077750 R TER4
077751 R TER5   077752 R TER7   077753 R TER8   077754 R TER9
177570 R TERF   007435 R TFA    007504 R TFA2   000027 A TFVCSZ
000464 A THREE  177212 R TITD   177217 R TITJ   177204 R TITL
177243 R TITM   177236 R TITN   177207 R TITP   177250 R TITQ
177571 R TM     077770 R TOF    007506 R TRA    007533 R TRA1
007540 R TRA2   007717 R TRS    007725 R TRS1   007551 R TRS2
007557 R TRS21  007613 R TRS22  007631 R TRS23  007650 R TRS3
007662 R TRS4   007666 R TRS5   007674 R TRS51  007710 R TRS52
007761 R TRS6   077771 R TSB    007773 R TSC    177572 R TSFL
077772 R TST    177573 R TU     077773 R TVR    000422 A TWO
000000 R V      000360 A V$CTAD 000070 A V$DATE 000355 A V$DSTB
000000 E V$EXEC 000000 E V$IOC  000000 E V$IOST 000412 A V$JCB
000055 A V$JCFG 000056 A V$JFCB 000050 A V$JNAM 000054 A V$LCNT
000317 A V$LLUP 000345 A V$LUNT 000400 A V$LUT1 000401 A V$LUT2
000402 A V$LUT3 000417 A V$STSZ 000357 A V$TKSZ 177112 R VARBLO
000666 A VARBLS 177330 R VBLOBG 177611 R VBLOND 005571 R WRI
005603 R WRI01  005623 R WRI015 005637 R WRI02  005651 R WRI2
005655 R WRI21  005701 R WRI22  005710 R WRI24  005725 R WRI26
005731 R WRI28  005746 R WRI3   005754 R WRI4   005775 R WRI5
006006 R WRI6   006022 R WRI7   006062 R WRI8   006100 R WRI9
006125 R WRI96  006135 R WRI98  006162 R WRIA   006030 R WRID
005631 R WRIE   006150 R WRIF   006155 R WRIG   006147 R WRIT
006141 R WRIU   077774 R WROBO  077775 R WROGO  077776 R WROT
000001 A X      177607 R XRPT   077777 R ZEB    000420 A ZERO
  0 ERRORS ASSEMBLY COMPLETE
```

```
621   $BUF     622
230   $PCW     770   1006
240   AF       241
241   AIFW     242
242   AS       243
642   ASSI     593
679   AST      594
680   AST1     677
674   ASTM     595
243   AT       244    960
244   BDF      245
103   BM17     185
109   BM1777   110
104   BM37     187
107   BM377    188
245   BOBLCN   246
  0   BOFCB    126
 71   BR0      180
 58   BS3      183
 59   BS4      186    921
 64   BS9      189
705   BSP      596
727   CAL      597
737   CAL1     732
356   CAN      798   1010
360   CCR      826
246   CF       247
247   CFPTSW   248
248   CL       249
249   CLOP     250
756   CMD      761
760   CMD1     758
250   CMFL     251
251   CNP      252
  0   COMP       2
769   CRP      789
785   CRP1     780
789   CRP2     771    773    778    781
362   CRT      653    681    710    736    744
364   CTS      806    810    821    850   1054
252   D        253    848
1049  DEC      598
797   DEF      604
```

818	DEF1	813	815							
253	DF	254								
254	DFPP	255								
855	DH	256	855	894	897	1029				
256	DI	257	862	890	893	1013	1021			
842	DOI	864	970							
883	DON	910	971							
911	DON1	892	896	900	927	931				
930	DON2	920								
954	DOP	599								
993	DOT	600	1035							
1009	DOT1	956	1005							
1013	DOT2	1007								
1018	DOT2A	1014								
1020	DOT3	1011								
1025	DOT4	1017								
232	DPB	856								
257	DPCA	260	1012							
233	DPX	239								
260	DR	261	852	898	906	1033				
261	DS	262	843							
262	DSAV	263								
263	DT	264	846	995	997					
264	DTFL	265								
265	DV	266	845	885	901	998	1025			
266	EC	267								
706	EFI	601								
267	EH	268								
268	EHBK	269								
0	EJEC	3								
269	EL	270								
1051	ENC	602								
1052	ENC00	1050								
1059	ENC02	1056								
0	ENC04	1058								
0	ENTR	4								
410	EXA	1055								
270	EXAD	271								
0	EXP	690	734							
271	F	272	772	787						
150	FSDOI	1018								
151	FSDOI1	1015								
272	FFPFL	273								
162	FFPOP	163	164	165	166	167	168	169	170	171
		172	173	174	175	176				
94	FIVE	757	760	847	996					
169	FLDD	775								
168	FLDS	784								
0	FND	603								
93	FOUR	181	759							
273	GOBLCN	274								
0	GOFCB	127								
0	GOT	605								
0	GTS	929								
274	HCC	275								
275	I	276	737	741	844	851	854	857	861	886
		902	912	930	999	1022	1026	1030		
420	IAC	955								
0	IAR	1057								
422	ICH	647	674	811	820					
276	ID	277								
0	IFP	606								
0	IIN	849	853	960	964					
438	IIV	799	803	807						
442	ILT	972								
277	IM	278	888	915	924	1001				
444	INA	728								
278	INBP	279								
446	INI	675								
450	INS	642	958							
279	IOFL	280								
280	IP	281								
281	IS	282								
454	ISN	1059								
282	IT	283								
283	IU	284								
456	IVA	650	822							
284	J	285								
285	JPFL	286								
286	JT	287								
287	K	288								
179	K2	954								
288	KT	289								
462	LAX	887	914	1000						
33	LC	34	35	36	37	38	39	40	41	42
		45								
15	LCJP	16	17	18	24	25				
464	LDX	884	994							
289	LF	290								
290	LIF	291								
291	LLOP	292								

```
  0  LOFCB    128
292  MAXOPC   293
293  MDTB     294
 84  MERG       5
294  MF       295   776   916
295  MM       296
  0  MODE     925
296  MR       297   928
 53  MT        54    55    56    57    58    59    60    61    62
           63    64    65    66    67    68    69    70    71
           72    73    74    75    76    77    78    79    80
           81    82    83    84    85    86    87    88    89
           90    91    92    93    94    95    96    97    98
           99   100   101   102   103   104   105   106   107
          108   109
180  MTWO     679
297  NAME     298  1052
298  ND       299
299  NF       300
300  NFFW     301
 98  NINE     816
301  NS       302
302  NT       303   965
303  NTFL     304   727
309  O1       310
310  O2       311
478  OAB      801   805   809   819  1016  1019
622  OBUF     623
480  ODB      644   743   786
  0  OIL      709  1053
  0  OIT      922
308  OITFL    309
 90  ONE      891
304  OP       305
305  OPBK     306
306  OPCNT    307
307  OPW      308
488  ORE     1034
  0  ORT      904
  0  OTR      607
494  OUT      652   824  1024  1028  1032
197  OVERSZ   621
311  PC       312
312  PIBLCN   313
  0  PIFCB    129
  0  PSE      608
504  PTR      735   739
506  PTS      802
313  QFL      314
512  RCH      963
  0  RED      609
  0  RET      610
707  REW      611
514  RIO      825
314  RL       315   905
  0  RST      788
  0  SAV      774
315  SBFL     316
518  SDX      863   909
 96  SEVEN    814
316  SF       317
  0  SIFCB    130
 95  SIX      182
  0  SPAC       6
317  SPFL     318
321  SSP      322
  0  STF      612
318  STFFL    319
319  STNB     320
  0  STP      613
320  STSW     321
322  SXF      323
328  T0       329   913   918   926   959   969
329  T1       330   889   917   923
330  T2       331
331  T2IN     332
332  T3       333
333  T4       334
334  T5       335
335  T6       336
336  T7       337
337  T8       338
338  T9       339
323  TC       324   730   818   858
 99  TEN      184
536  TER1     817
552  TER11    966
564  TER18    962
548  TER8     957
324  TERF     325
198  TFVCSZ   615
```

92	THREE	777								
325	TM	326								
0	TRA	783								
[illegible]	TSB	729								
326	TSFL	327								
578	TST	646	649	968						
327	TU	328								
91	TWO	179	895							
350	V	352	353	354	355	356	357	358	359	360
		361	362	363	364	365	366	367	368	369
		370	371	372	373	374	375	376	377	378
		379	380	381	382	383	384	385	386	387
		388	389	390	391	392	393	394	395	396
		397	398	399	400	401	402	403	404	405
		406	407	408	409	410	411	412	413	414
		415	416	417	418	419	420	421	422	423
		424	425	426	427	428	429	430	431	432
		433	434	435	436	437	438	439	440	441
		442	443	444	445	446	447	448	449	450
		451	452	453	454	455	456	457	458	459
		460	461	462	463	464	465	466	467	468
		469	470	471	472	473	474	475	476	477
		478	479	480	481	482	483	484	485	486
		487	488	489	490	491	492	493	494	495
		496	497	498	499	500	501	502	503	504
		505	506	507	508	509	510	511	512	513
		514	515	516	517	518	519	520	521	522
		523	524	525	526	527	528	529	530	531
		532	533	534	535	536	537	538	539	540
		541	542	543	544	545	546	547	548	549
		550	551	552	553	554	555	556	557	558
		559	560	561	562	563	564	565	566	567
		568	569	570	571	572	573	574	575	576
		577	578	579	580	581	582	583	584	585
		586	587	588	615	621				
0	V$EXEC	131								
0	V$FOR2	7								
0	V$IOC	132								
0	V$IOST	133								
200	VARBLO	202	203	204	205	206	207	208	209	210
		211	212	213	214	215	226	227	228	229
		230	231	232	233					
199	VARBLS	200								
239	VBLOBG	240								
340	VBLOND	350								
0	WRI	614								
339	XRPT	340	908							

```
             *NEW FORTRAN - OVERLAY 3                                                10 00001
             COMPL   OPSY     COMP                                                   10 00002
             EJECT   OPSY     EJEC                                                   10 00003
             ENTRY   OPSY     ENTR                                                   10 00004
             MERGE   OPSY     MERG                                                   10 00005
             SPACE   OPSY     SPAC                                                   10 00006
                     TITLE    V$FOR3                                                 10 00007
                     EJEC                                                            10 00008
             ******************************************************************      10 00009
             *                                                                       10 00010
             ***      JOB PROCESSOR LOW CORE EQUATES                          **     10 00011
             *                                                                       10 00012
             ******************************************************************      10 00013
000050 A     LCJP    EQU      050                                                    10 00015
000050 A     V$JNAM  EQU      LCJP           JCP NAME                                10 00016
000054 A     V$LCNT  EQU      LCJP+4         LINE COUNT                              10 00017
000055 A     V$JCFG  EQU      LCJP+5         JCP FLAGS                               10 00018
             *                               BIT 2-0   = LOAD AND GO FLAGS           10 00019
             *                               BIT  3    = DUMP FLAG  1=DUMP, 0=NO DUMP  10 00020
             *                               BIT 9-4   = UNUSED                      10 00021
             *                               BIT 15-10 = BG EXTRA CORE BLOCKS TO ALLOC  10 00022
000056 A     V$JFCB  EQU      LCJP+6         JCP FILE CONTROL BLOCK                  10 00024
000070 A     V$DATE  EQU      LCJP+16        JCP DATA RECORD                         10 00025
                     EJEC                                                            10 00026
             ******************************************************************      10 00027
             *                                                                       10 00028
             ****     LOW CORE DESCRIPTION                                    ***    10 00029
             *                                                                       10 00030
             ******************************************************************      10 00031
000300 A     LC      EQU      0300                                                   10 00033
000317 A     V$LLUP  EQU      LC+15          LOC. OF LAST UNPROTECTED WORD           10 00034
000345 A     V$LUNT  EQU      LC+37          ADDR. OF LOGICAL UNIT NAME TABLE        10 00035
000355 A     V$DSTB  EQU      LC+45          BASE ADDR. FOR DST BLOCK                10 00036
000357 A     V$TKSZ  EQU      LC+47          RMD TRACK SIZE                          10 00037
000360 A     V$CTAD  EQU      LC+48          BASE ADDR. FOR CONTROLLER ADDR. TABLE   10 00038
000400 A     V$LUT1  EQU      LC+64          START LUN ADDR FOR JCP/OPCOM ASSIGNABLE 10 00039
000401 A     V$LUT2  EQU      LC+65          START LUN ADDR FOR UNASSIGNABLE         10 00040
000402 A     V$LUT3  EQU      LC+66          START LUN ADDR FOR OPCOM ASSIGNABLE     10 00041
000412 A     V$JCB   EQU      LC+74          ALL SYSTEM BACKGROUND PROGRAMS AND JCP USE  10 00042
             *                               THIS SYSTEM BUFFER TO READ DIRECTIVES AND   10 00043
             *                               SOURCE RECORDS IN.                      10 00044
000417 A     V$STSZ  EQU      LC+79          ACTURAL SECTOR SIZE                     10 00045
                     EJEC                                                            10 00046
             ******************************************************************      10 00047
             *                                                                       10 00048
             ****     MASK TABLE DESCRIPTION                                  ***    10 00049
             *                                                                       10 00050
             ******************************************************************      10 00051
000420 A     MT      SET      0420                                                   10 00053
000420 A     ZERO    EQU      MT             ZERO WORD                               10 00054
000421 A     BS0     EQU      MT+1           BIT MASK CONTENTS 000001                10 00055
000422 A     BS1     EQU      MT+2                             000002                10 00056
000423 A     BS2     EQU      MT+3                             000004                10 00057
000424 A     BS3     EQU      MT+4                             000010                10 00058
000425 A     BS4     EQU      MT+5                             000020                10 00059
000426 A     BS5     EQU      MT+6                             000040                10 00060
000427 A     BS6     EQU      MT+7                             000100                10 00061
000430 A     BS7     EQU      MT+8                             000200                10 00062
000431 A     BS8     EQU      MT+9                             000400                10 00063
000432 A     BS9     EQU      MT+10                            001000                10 00064
000433 A     BS10    EQU      MT+11                            002000                10 00065
000434 A     BS11    EQU      MT+12                            004000                10 00066
000435 A     BS12    EQU      MT+13                            010000                10 00067
000436 A     BS13    EQU      MT+14                            020000                10 00068
000437 A     BS14    EQU      MT+15                            040000                10 00069
000440 A     BS15    EQU      MT+16                           0100000                10 00070
000441 A     BR0     EQU      MT+17          BIT MASK CONTENTS  0177776              10 00071
000442 A     BR1     EQU      MT+18                             0177775              10 00072
000443 A     BR2     EQU      MT+19                             0177773              10 00073
000444 A     BR3     EQU      MT+20                             0177767              10 00074
000445 A     BR4     EQU      MT+21                             0177757              10 00075
000446 A     BR5     EQU      MT+22                             0177737              10 00076
000447 A     BR6     EQU      MT+23                             0177677              10 00077
000450 A     BR7     EQU      MT+24                             0177577              10 00078
000451 A     BR8     EQU      MT+25                             0177377              10 00079
000452 A     BR9     EQU      MT+26                             0176777              10 00080
000453 A     BR10    EQU      MT+27                             0175777              10 00081
000454 A     BR11    EQU      MT+28                             0173777              10 00082
000455 A     BR12    EQU      MT+29                             0167777              10 00083
000456 A     BR13    EQU      MT+30                             0157777              10 00084
000457 A     BR14    EQU      MT+31                             0137777              10 00085
000460 A     BR15    EQU      MT+32                             0077777              10 00086
000461 A     NEG     EQU      MT+33          SET ALL BITS                            10 00087
000462 A     LHW     EQU      MT+34          LEFT HALF WORD MASK 0177400             10 00088
000463 A     RHW     EQU      MT+35          RIGHT HALF WORD MASK    0377            10 00089
000421 A     ONE     EQU      MT+1           CONTAINS NUMBER  1                      10 00090
000422 A     TWO     EQU      MT+2           CONTAINS NUMBER  2                      10 00091
000464 A     THREE   EQU      MT+36          CONTAINS NUMBER  3                      10 00092
000423 A     FOUR    EQU      MT+3           CONTAINS NUMBER  4                      10 00093
000465 A     FIVE    EQU      MT+37          CONTAINS NUMBER  5                      10 00094
000466 A     SIX     EQU      MT+38          CONTAINS NUMBER  6                      10 00095
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000467 A    96 SEVEN   EQU     MT+39          CONTAINS NUMBER  7                                  10 00096
000424 A    97 EIGHT   EQU     MT+4           CONTAINS NUMBER  8                                  10 00097
000470 A    98 NINE    EQU     MT+40          CONTAINS NUMBER  9                                  10 00098
000471 A    99 TEN     EQU     MT+41          CONTAINS NUMBER 10                                  10 00099
000421 A   100 BM1     EQU     MT+1           BIT MASK WORD 00001                                 10 00100
000464 A   101 BM3     EQU     MT+36          BIT MASK WORD  00003                                10 00101
000467 A   102 BM7     EQU     MT+39          BIT MASK WORD  00007                                10 00102
000472 A   103 BM17    EQU     MT+42          BIT MASK WORD  00017                                10 00103
000473 A   104 BM37    EQU     MT+43          BIT MASK WORD  00037                                10 00104
000474 A   105 BM77    EQU     MT+44          BIT MASK WORD  00077                                10 00105
000475 A   106 BM177   EQU     MT+45          BIT MASK WORD  00177                                10 00106
000463 A   107 BM377   EQU     MT+35          BIT MASK WORD  00377                                10 00107
000476 A   108 BM777   EQU     MT+46          BIT MASK WORD  00777                                10 00108
000477 A   109 BM1777  EQU     MT+47          BIT MASK WORD  01777                                10 00109
000500 A   110 MTE     EQU     BM1777+1                                                       FF  10 00110
           111         EJECT                                                                      10 00111
           112 ********************************************************************************** 10 00112
           113 *                                                                                * 10 00113
           114 *       P   R   O   G   R   A   M       C   O   N   T   R   O   L                * 10 00114
           115 *                                                                                * 10 00115
           116 *                           B   L   O   C   K                                    * 10 00116
           117 *                                                                                * 10 00117
           118 ********************************************************************************** 10 00118
           120 ********************************************************************************** 10 00120
           121 *                                                                                * 10 00121
           122 *                              E X T E R N A L S                                 * 10 00122
           123 *                                                                                * 10 00123
           124 ********************************************************************************** 10 00124
           126         EXT     BOFCB          SYSTEM BO FCB                                      10 00126
           127         EXT     GOFCB          SYSTEM GO FCB                                      10 00127
           128         EXT     LOFCB          SYSTEM LO FCB                                      10 00128
           129         EXT     PIFCB          SYSTEM PI FCB                                      10 00129
           130         EXT     SIFCB          SYSTEM SI FCB                                      10 00130
           131         EXT     V$EXEC         ENTRY TO RTE SERVICES                              10 00131
           132         EXT     V$IOC          ENTRY TO IOC                                       10 00132
           133         EXT     V$IOST         ENTRY TO IOC STATUS CALL                           10 00133
           134 ********************************************************************************** 10 00134
           135 *                                                                                * 10 00135
           136 *                        S Y S T E M   V A R I A B L E S                         * 10 00136
           137 *                                                                                * 10 00137
           138 ********************************************************************************** 10 00138
000020 A   140 $BIT    SET     16             SELECT 16-BIT VDM 620 COMPUTER                     10 00140
000002 A   141 B       SET     2              B-REGISTER                                         10 00141
000001 A   142 X       SET     1              X-REGISTER                                         10 00142
           143 *                                                                                 10 00143
           144 *                                                                                 10 00144
           145 *    PARAMETERS FOR WCS V74 FORTRAN                                               10 00145
           146 *                                                                                 10 00146
           147 *                                                                                 10 00147
105032 A   148 FLDI    EQU     0105032        FLD BCS OPCODE                                     10 00148
105033 A   149 FSTI    EQU     0105033        FST BCS OPCODE                                     10 00149
105035 A   150 F$DOI   EQU     0105035        $DO BCS OPCODE                                     10 00150
105027 A   151 F$DOI1  EQU     0105027        $DO BCS OPCODE(INCREMENT=1)                    FF  10 00151
105036 A   152 F$SEI   EQU     0105036        $SE BCS OPCODE                                     10 00152
105037 A   153 FMOVI   EQU     0105037        FMOV BCS INSTRUCTION                               10 00153
105127 A   154 FSQRT   EQU     0105127        FLOATING SQUARE-ROOT BCS INSTRUCTION               10 00154
105024 A   155 FLREL   EQU     0105024        FLOATING RELATIONAL BASE OP-CODE                   10 00155
105125 A   156 FLJAG   EQU     0105125        BCS JMP A.GT.0                                     10 00156
105226 A   157 FLAIF   EQU     0105226        FLOATING ARITHMETIC-IF OP-CODE                     10 00157
105167 A   158 FLIOP   EQU     0105167        BCS SUBSCRIPT OPERATOR                             10 00158
           159 *                                                                          FF  10 00159
           160 * FAST FLOATING-POINT BOX OP CODES                                          FF  10 00160
           161 *                                                                          FF  10 00161
105400 A   162 FFPOP   EQU     0105400        BASIC FFP OP                                   FF  10 00162
105503 A   163 FADDD   EQU     FFPOP+0103     DP ADD                                         FF  10 00163
105410 A   164 FADDS   EQU     FFPOP+010      SP ADD                                         FF  10 00164
105535 A   165 FDIVD   EQU     FFPOP+0135     DP DIVIDE                                      FF  10 00165
105401 A   166 FDIVS   EQU     FFPOP+1        SP DIVIDE                                      FF  10 00166
105621 A   167 FIX     EQU     FFPOP+0221     FIX FP                                         FF  10 00167
105420 A   168 FLDS    EQU     FFPOP+020      LOAD SP                                        FF  10 00168
105522 A   169 FLDD    EQU     FFPOP+0122     LOAD DP                                        FF  10 00169
105425 A   170 FLT     EQU     FFPOP+025      FLOAT INTEGER                                  FF  10 00170
105506 A   171 FMULD   EQU     FFPOP+0106     MULTIPLY DP                                    FF  10 00171
105416 A   172 FMULS   EQU     FFPOP+016      MULTIPLY SP                                    FF  10 00172
105710 A   173 FSTD    EQU     FFPOP+0310     STORE DP                                       FF  10 00173
105600 A   174 FSTS    EQU     FFPOP+0200     STORE SP                                       FF  10 00174
105543 A   175 FSUBD   EQU     FFPOP+0143     SUBTRACT DP                                    FF  10 00175
105450 A   176 FSUBS   EQU     FFPOP+050      SUBTRACT SP                                    FF  10 00176
           177 *                                                                              10 00177
           178 *                                                                              10 00178
000422 A   179 K2      EQU     TWO                                                            10 00179
000441 A   180 MTWO    EQU     BM0                                                            10 00180
000423 A   181 K4      EQU     FOUR                                                           10 00181
000466 A   182 K6      EQU     SIX                                                            10 00182
000424 A   183 K10     EQU     BM3                                                            10 00183
000471 A   184 K12     EQU     TEN                                                            10 00184
000472 A   185 K17     EQU     BM17                                                           10 00185
000425 A   186 K20     EQU     BM4                                                            10 00186
000473 A   187 K37     EQU     BM37                                                           10 00187
000463 A   188 K77     EQU     BM377                                                          10 00188
000432 A   189 KJMP    EQU     BM9                                                            10 00189
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                190          EJECT                                                                        10 00190
                191 ****************************************************************************          10 00191
                192 *                                                                          *          10 00192
                193 * I/O BUFFER, VARIABLE BLOCK, AND TRANSFER VECTOR DEFINITIONS              *          10 00193
                194 *                                                                          *          10 00194
                195 ****************************************************************************          10 00195
010150 A        197 OVERSZ SET      4200            MAXIMUM OVERLAY SIZE                                  10 00197
000027 A        198 TFVCSZ SET      027             FROM-COMPILER TRANSFER VECTOR SIZE                    10 00198
000666 A        199 VARBLS SET      0666            VARIABLE BLOCK SIZE                                   10 00199
177112 R        200 VARBLO EQU      *-VARBLS        VARIABLE BLOCK START ADDRESS                          10 00200
177120 R        202 ERBF   EQU      VARBLO+06       ERROR BUFFER                                          10 00202
177127 R        203 NERR   EQU      VARBLO+015      ERROR COUNT                                           10 00203
177160 R        204 SLOT   EQU      VARBLO+0046     SPECIAL LIST BUFFER                                   10 00204
177204 R        205 TITL   EQU      VARBLO+0072     TITLE BUFFER                                          10 00205
177207 R        206 TIJP   EQU      VARBLO+0075           TITLE PAGE NUMBER                               10 00206
177212 R        207 TITD   EQU      VARBLO+0100           TITLE DATE                                      10 00207
177217 R        208 TITJ   EQU      VARBLO+0105           TITLE JOB NAME                                  10 00208
177236 R        209 TITN   EQU      VARBLO+0124     TITLE NAME                                            10 00209
177243 R        210 TITM   EQU      VARBLO+0131           TIME                                            10 00210
177250 R        211 TITQ   EQU      VARBLO+0136           END                                             10 00211
177250 R        212 BLFCB  EQU      VARBLO+0136     BO FCB                                                10 00212
177262 R        213 GLFCB  EQU      VARBLO+0150     GO FCB                                                10 00213
177274 R        214 LLFCB  EQU      VARBLO+0162     LO FCB                                                10 00214
177306 R        215 PLFCB  EQU      VARBLO+0174     PI FCB                                                10 00215
                216          EJEC                                                                         10 00216
                217 ****************************************************************************          10 00217
                218 *                                                                          *          10 00218
                219 *              C O M P I L E R   V A R I A B L E   B L O C K               *          10 00219
                220 *                                                                          *          10 00220
                221 ****************************************************************************          10 00221
                223 ***********************************                                                   10 00223
                224 * FIXED ON LOADING BY ROUTINE FORT *                                                   10 00224
                225 ***********************************                                                   10 00225
177320 R        226 BOBLFL EQU      VARBLO+0206     BO BLOCKING FLAG                                      10 00226
177321 R        227 GOBLFL EQU      VARBLO+0207     GO BLOCKING FLAG                                      10 00227
177322 R        228 LOBLFL EQU      VARBLO+0210     LO BLOCKING FLAG                                      10 00228
177323 R        229 PIBLFL EØD      VARBLO+0211     PI BLOCKING FLAG                                      10 00229
177324 R        230 $PCW   EQU      VARBLO+0212     COMPILER CONTROL FLAGS                                10 00230
177325 R        231 $ECW   EQU      VARBLO+0213     ERROR CONTROL WORD                                    10 00231
177326 R        232 DPB    EQU      VARBLO+0214     AVAILABLE CORE START ADDRESS                          10 00232
177327 R        233 DPX    EQU      VARBLO+0215     AVAILABLE CORE END ADDRESS                            10 00233
                235 ***********************************                                                   10 00235
                236 * CLEARED FOR EACH COMPILATION *                                                      10 00236
                237 ***********************************                                                   10 00237
177330 R        239 VBLOBG EQU      DPX+1           START OF CLEARED VARIABLES                            10 00239
177330 R        240 AF     EQU      VBLOBG          ADDRESS FIELD                                      01 10 00240
177331 R        241 AIFW   EQU      AF+1            SCAN FORWARD I POINTER                             01 10 00241
177332 R        242 AS     EQU      AIFW+1          ARRAY SUBSCRIPTS                                   07 10 00242
177341 R        243 AT     EQU      AS+7            ADDRESS TYPE                                       01 10 00243
177342 R        244 BDF    EQU      AT+1            BLOCK DATA FLAG                                    01 10 00244
177343 R        245 BOBLCN EQU      BDF+1           BO BLOCKING FLAG                                   01 10 00245
177344 R        246 CF     EQU      BOBLCN+1        SCAN COMPLIMENT FLAG                               01 10 00246
177345 R        247 CFPTSW EQU      CF+1            FINAL POINT CHECK SWITCH                           01 10 00247
177346 R        248 CL     EQU      CFPTSW+1                                                           01 10 00248
177347 R        249 CLOP   EQU      CL+1            LIST OUTPUT PACK COUNT                             01 10 00249
177350 R        250 CMFL   EQU      CLOP+1          COMMON FLAGS                                       01 10 00250
177351 R        251 CNP-   EQU      CMFL+1          COMMON NAME POINTER                                01 10 00251
177352 R        252 D      EQU      CNP+1           DO POINTER                                         01 10 00252
177353 R        253 DF     EQU      D+1             DELIMITER FLAG                                     01 10 00253
177354 R        254 DFPP   EQU      DF+1            FLOATING POINT DISABLE FLAG                        01 10 00254
177355 R        255 DH     EQU      DFPP+1          DO LIMIT POINTER                                   01 10 00255
177356 R        256 DI     EQU      DH+1            DO INCREMENT POINTER                               01 10 00256
177357 R        257 DPCA   EQU      DI+1            DATA POOL CONTSANTS - I-POINTER FOR:                  10 00257
                258 *                                   1,2,0,4,0.0,0D0,A$C,SQRT,IFIX,FLOAT               10 00258
                259 *                                 ,-1,DFLOAT                                          10 00259
177373 R        260 DR     EQU      DPCA+12         DO RETURN ADDRESS                                     10 00260
177374 R        261 DS     EQU      DR+1                                                               01 10 00261
177375 R        262 DSAV   EQU      DS+1            DT SAVE FOR RD/WR PROCESSING                       01 10 00262
177376 R        263 DT     EQU      DSAV+1          DO TOP POINTER                                     01 10 00263
177377 R        264 DTFL   EQU      DT+1            DO TERMINATION FLAG                                02 10 00264
177401 R        265 DV     EQU      DTFL+2          DO VARIABLE POINTER                                01 10 00265
177402 R        266 EC     EQU      DV+1            ERROR COUNT                                        01 10 00266
177403 R        267 EH     EQU      EC+1            EXPRESSION HIERARCHYS                              02 10 00267
177405 R        268 EHBK   EQU      EH+2            SCAN BACKWARD EXPRESSION HEIRARCHY                 01 10 00268
177406 R        269 EL     EQU      EHBK+1          ENTRY LENGTH                                       01 10 00269
177407 R        270 EXAD   EQU      EL+1            EXECUTEABLE ADDRESS                                01 10 00270
177410 R        271 F      EQU      EXAD+1          AL!ERNATE I POINTER                                01 10 00271
177411 R        272 FFPFL  EQU      F+1             FLOATING POINT PROCESSOR FLAG                      01 10 00272
177412 R        273 GOBLCN EQU      FFPFL+1         GO BLOCKING COUNT                                  01 10 00273
177413 R        274 HCC    EQU      GOBLCN+1        HOLLERITH COLUMN COUNTER                           01 10 00274
177414 R        275 I      EQU      HCC+1           ASSIGNMENT TABLE POINTER                           01 10 00275
177415 R        276 ID     EQU      I+1             IDENTIFICATION                                     04 10 00276
177421 R        277 IM     EQU      ID+4            ITEM MODE                                          01 10 00277
177422 R        278 INBP   EQU      IM+1            INPUT BUFFER POINTER                               01 10 00278
177423 R        279 IOFL   EQU      INBP+1          I/O FLAG                                           01 10 00279
177424 R        280 IP     EQU      IOFL+1          ARRAY POINTERS                                     09 10 00280
177435 R        281 IS     EQU      IP+9            ARRAY DIMENSIONS                                   08 10 00281
177445 R        282 IT     EQU      IS+8            ASSIGNMENT TOP POINTER                             01 10 00282
177446 R        283 IU     EQU      IT+1            ITEM USAGE                                         01 10 00283
177447 R        284 J      EQU      IU+1            TRIAD POINTER                                      01 10 00284
177450 R        285 JPFL   EQU      J+1             JUMP FLAGS                                         04 10 00285
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177454  R   286  JT      EQU     JPFL+4          TRIAD TOP POINTER                          01  10  00286
177455  R   287  K       EQU     JT+1            EXPRESSION POINTER                         01  10  00287
177456  R   288  KT      EQU     K+1             EXPRESSION TOP POINTER                     01  10  00288
177457  R   289  LF      EQU     KT+1            LOCATION FIELD                             01  10  00289
177460  R   290  LIF     EQU     LF+1            LOGICAL IF FLAG                            01  10  00290
177461  R   291  LLOP    EQU     LIF+1           NO. OF LINES LEFT ON PAGE                  01  10  00291
177462  R   292  MAXOPC  EQU     LLOP+1          MAXIMUM FPP OPERATION COUNT                01  10  00292
177463  R   293  MDTB    EQU     MAXOPC+1        OPERAND IMPLICIT MODE TABLE                26  10  00293
177516  R   294  MF      EQU     MDTB+27         MODE FLAG                                      10  00294
177517  R   295  MM      EQU     MF+1            MAX/MIN LIST FLAF                          01  10  00295
177520  R   296  MR      EQU     MM+1            MULTIPLY REGISTERS                         02  10  00296
177522  R   297  NAME    EQU     MR+2            SUBROUTINE GENERATION NAME                 01  10  00297
177523  R   298  ND      EQU     NAME+1          NUMBER OF DIMENSIONS                       01  10  00298
177524  R   299  NF      EQU     ND+1            NEGATION FLAG                              01  10  00299
177525  R   300  NFFW    EQU     NF+1            SCAN FORWARD NEGATION FLAG                 01  10  00300
177526  R   301  NS      EQU     NFFW+1          NUMBER OF SUBSCRIPTS                       01  10  00301
177527  R   302  NT      EQU     NS+1            NAME TAG                                   01  10  00302
177530  R   303  NTFL    EQU     NT+1            NO TAG-USAGE FLAG                          01  10  00303
177531  R   304  OP      EQU     NTFL+1          OPERATION                                  01  10  00304
177532  R   305  OPBK    EQU     OP+1            SCAN BACKWARD OPERATION                    01  10  00305
177533  R   306  OPCNT   EQU     OPBK+1          OPERATION COUNT                            01  10  00306
177534  R   307  OPW     EQU     OPCNT+1         OUTPUT PACK WORD                           01  10  00307
177535  R   308  OITFL   EQU     OPW+1           OUTPUT-ITEM FLAG                           01  10  00308
177536  R   309  O1      EQU     OITFL+1         LEFT OPERAND                               01  10  00309
177537  R   310  O2      EQU     O1+1            RIGHT OPERAND                              01  10  00310
177540  R   311  PC      EQU     O2+1            PACK CONTROL                               04  10  00311
177544  R   312  PIBLCN  EQU     PC+4            PI BLOCKING COUNT                          01  10  00312
177545  R   313  QFL     EQU     PIBLCN+1        QUOTE FLAG                                 01  10  00313
177546  R   314  RL      EQU     QFL+1           RELATIVE PROGRAM LOCATIONS                 02  10  00314
177550  R   315  SBFL    EQU     RL+2            SUBPROGRAM FLAGS                           02  10  00315
177553  R   316  SF      EQU     SBFL+3          STORAGE FLAG                                   10  00316
177554  R   317  SPFL    EQU     SF+1            SPECIFICATION FLAG                         01  10  00317
177555  R   318  STFFL   EQU     SPFL+1          STATEMENT FUNCTION FLAG                    01  10  00318
177556  R   319  STNB    EQU     STFFL+1         STATEMENT NUMBER                           01  10  00319
177557  R   320  STSW    EQU     STNB+1          STATEMENT SWITCH                           01  10  00320
177560  R   321  SSP     EQU     STSW+1          SPECIFICATION STACK POINTERS               05  10  00321
177565  R   322  SXF     EQU     SSP+5           COMPLEX FLAG                               01  10  00322
177566  R   323  TC      EQU     SXF+1           TERM CHARACTER/ CHARACTER IMAGE             02  10  00323
177570  R   324  TERF    EQU     TC+2            TERMINATING ERROR FLAG                     01  10  00324
177571  R   325  TM      EQU     TERF+1          TRIAD MODE                                 01  10  00325
177572  R   326  TSFL    EQU     TM+1            TEMPORARY STORAGE FLAG                     01  10  00326
177573  R   327  TU      EQU     TSFL+1          TRIAD USE                                  01  10  00327
177574  R   328  T0      EQU     TU+1            TEMPORARY STORAGE                          01  10  00328
177575  R   329  T1      EQU     T0+1            TEMPORARY STORAGE                          01  10  00329
177576  R   330  T2      EQU     T1+1            TEMPORARY STORAGE                          01  10  00330
177577  R   331  T2IN    EQU     T2+1                                                       01  10  00331
177600  R   332  T3      EQU     T2IN+1          TEMPORARY STORAGE                          01  10  00332
177601  R   333  T4      EQU     T3+1            TEMPORARY STORAGE                          01  10  00333
177602  R   334  T5      EQU     T4+1            TEMPORARY STORAGE                          01  10  00334
177603  R   335  T6      EQU     T5+1            TEMPORARY STORAGE                          01  10  00335
177604  R   336  T7      EQU     T6+1            TEMPORARY STORAGE                          01  10  00336
177605  R   337  T8      EQU     T7+1            TEMPORARY STORAGE                          01  10  00337
177606  R   338  T9      EQU     T8+1            TEMPORARY STORAGE                          01  10  00338
177607  R   339  XRPT    EQU     T9+1            OBJECT X-REGISTER POINTER                  01  10  00339
177611  R   340  VBLOND  EQU     XRPT+2          END OF CLEARED VARIABLES                       10  00340
            341          EJECT                                                              10  00341
            342  ********************************************************************       10  00342
            343  *                                                                  *       10  00343
            344  *          C O M P I L E R   T R A N S F E R   V E C T O R         *       10  00344
            345  *                                                                  *       10  00345
            346  ********************************************************************       10  00346
            348  *       T O - C O M P I L E R                                      *       10  00348
077611  R   350  V       SET     VBLOND-0100000                                             10  00350
077611  R   352  ASI     EQU     V               ASSIGN ITEM                                10  00352
077612  R   353  V       SET     V+1                                                        10  00353
077612  R   354  ASS     EQU     V               ASSIGN SPECIAL                             10  00354
077613  R   355  V       SET     V+1                                                        10  00355
077613  R   356  CAN     SET     V               CALL NAME                                  10  00356
077614  R   357  V       SET     V+1                                                        10  00357
077614  R   358  CBA     SET     V               CONVERT BINARY TO ASCII                    10  00358
077615  R   359  V       SET     V+1                                                        10  00359
077615  R   360  CCR     EQU     V               COMMA OR C/R TEST                          10  00360
077616  R   361  V       SET     V+1                                                        10  00361
077616  R   362  CRT     EQU     V               C/R TEST                                   10  00362
077617  R   363  V       SET     V+1                                                        10  00363
077617  R   364  CTS     EQU     V               COMMA TEST                                 10  00364
077620  R   365  V       SET     V+1                                                        10  00365
077620  R   366  DEK     SET     V               DEKREMENT K                                10  00366
077621  R   367  V       SET     V+1                                                        10  00367
077621  R   368  DFT     EQU     V               DEFINE AF,AT                               10  00368
077622  R   369  V       SET     V+1                                                        10  00369
077622  R   370  DSM     SET     V               DEFINE STATEMENT MODE                      10  00370
077623  R   371  V       SET     V+1                                                        10  00371
077623  R   372  EOLSW   SET     V                                                          10  00372
077624  R   373  V       SET     V+1                                                        10  00373
077624  R   374  ER1     SET     V                                                          10  00374
077625  R   375  V       SET     V+1                                                        10  00375
077625  R   376  ER2     EQU     V               USAGE ERROR                                10  00376
077626  R   377  V       SET     V+1                                                        10  00377
077626  R   378  ER3     EQU     V               MODE ERROR                                 10  00378
077627  R   379  V       SET     V+1                                                        10  00379
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077627 R  380 ER6     EQU     V                COMMON BASE LOWERED                    10 00380
077630 R  381 V       SET     V+1                                                     10 00381
077630 R  382 ER7     EQU     V                ILLEGAL EQUIVALENCE GROUP              10 00382
077631 R  383 V       SET     V+1                                                     10 00383
077631 R  384 ER8     SET     V                                                       10 00384
077632 R  385 V       SET     V+1                                                     10 00385
077632 R  386 ER11    SET     V                                                       10 00386
077633 R  387 V       SET     V+1                                                     10 00387
077633 R  388 ER12    SET     V                                                       10 00388
077634 R  389 V       SET     V+1                                                     10 00389
077634 R  390 ER13    SET     V                                                       10 00390
077635 R  391 V       SET     V+1                                                     10 00391
077635 R  392 ER14    SET     V                                                       10 00392
077636 R  393 V       SET     V+1                                                     10 00393
077636 R  394 ER15    EQU     V                TRUNCATED VALUE ERROR                  10 00394
077637 R  395 V       SET     V+1                                                     10 00395
077637 R  396 ER16    EQU     V                STATEMENT OUT OF ORDER                 10 00396
077640 R  397 V       SET     V+1                                                     10 00397
077640 R  398 ER17    EQU     V                MORE THAN 29 COMMON REGIONS            10 00398
077641 R  399 V       SET     V+1                                                     10 00399
077641 R  400 ER18    EQU     V                NON-COMMON DATA ERROR                  10 00400
077642 R  401 V       SET     V+1                                                     10 00401
077642 R  402 ER20    EQU     V                DO INDEX NOT REFERENCED                10 00402
077643 R  403 V       SET     V+1                                                     10 00403
077643 R  404 ER21    SET     V                                                       10 00404
077644 R  405 V       SET     V+1                                                     10 00405
077644 R  406 ER22    EQU     V                ARRAY NAME PREVIOUSLY DECLARED         10 00406
077645 R  407 V       SET     V+1                                                     10 00407
077645 R  408 ER24    SET     V                                                       10 00408
077646 R  409 V       SET     V+1                                                     10 00409
077646 R  410 EXA     EQU     V                EXAMINE NEXT CHARACTER                 10 00410
077647 R  411 V       SET     V+1                                                     10 00411
077647 R  412 EXL     EQU     V                EXCHANGE LINKS                         10 00412
077650 R  413 V       SET     V+1                                                     10 00413
077650 R  414 FNS1    EQU     V                ENTRY TO FNS                           10 00414
077651 R  415 V       SET     V+1                                                     10 00415
077651 R  416 FORT1    SET     V                                                      10 00416
077652 R  417 V       SET     V+1                                                     10 00417
077652 R  418 GSE     EQU     V                GENERATE SUBPROGRAM ENTRANCE           10 00418
077653 R  419 V       SET     V+1                                                     10 00419
077653 R  420 IAC     SET     V                INPUT (A) CHARACTERS                   10 00420
077654 R  421 V       SET     V+1                                                     10 00421
077654 R  422 ICH     EQU     V                INPUT CHARACTER                        10 00422
077655 R  423 V       SET     V+1                                                     10 00423
077655 R  424 ICO     EQU     V                INPUT COLUMN                           10 00424
077656 R  425 V       SET     V+1                                                     10 00425
077656 R  426 ICORNL  SET     V                                                       10 00426
077657 R  427 V       SET     V+1                                                     10 00427
077657 R  428 ICRD    SET     V                                                       10 00428
077660 R  429 V       SET     V+1                                                     10 00429
077660 R  430 ICRR    SET     V                                                       10 00430
077661 R  431 V       SET     V+1                                                     10 00431
077661 R  432 ICSI    EQU     V                INPUT SOURCE CONTROL SWITCH            10 00432
077662 R  433 V       SET     V+1                                                     10 00433
077662 R  434 IDI     SET     V                INPUT DIGIT                            10 00434
077663 R  435 V       SET     V+1                                                     10 00435
077663 R  436 IHW     EQU     V                INPUT HOLLERITH WORD                   10 00436
077664 R  437 V       SET     V+1                                                     10 00437
077664 R  438 IIV     EQU     V                INPUT INTEGER VARIABLE                 10 00438
077665 R  439 V       SET     V+1                                                     10 00439
077665 R  440 ILB     SET     V                INITIALIZE LIST BUFFER                 10 00440
077666 R  441 V       SET     V+1                                                     10 00441
077666 R  442 ILT     EQU     V                ILLEGAL DO TERMINATION/CONTROL CONTINUE 10 00442
077667 R  443 V       SET     V+1                                                     10 00443
077667 R  444 INA     EQU     V                INPUT NAME                             10 00444
077670 R  445 V       SET     V+1                                                     10 00445
077670 R  446 INI     EQU     V                INPUT ITEM                             10 00446
077671 R  447 V       SET     V+1                                                     10 00447
077671 R  448 INN     EQU     V                INPUT (DO NOT ASSIGN)                  10 00448
077672 R  449 V       SET     V+1                                                     10 00449
077672 R  450 INS     SET     V                INPUT NORMAL STATEMENT NUMBER          10 00450
077673 R  451 V       SET     V+1                                                     10 00451
077673 R  452 INT     EQU     V                INTEGER TEST                           10 00452
077674 R  453 V       SET     V+1                                                     10 00453
077674 R  454 ISN     SET     V                INPUT STATEMENT NUMBER                 10 00454
077675 R  455 V       SET     V+1                                                     10 00455
077675 R  456 IVA     EQU     V                INPUT VARIABLE                         10 00456
077676 R  457 V       SET     V+1                                                     10 00457
077676 R  458 IVC     SET     V                INPUT INTEGER VARIABLE/CONSTANT        10 00458
077677 R  459 V       SET     V+1                                                     10 00459
077677 R  460 IWI     EQU     V                WORDS/ITEM                             10 00460
077700 R  461 V       SET     V+1                                                     10 00461
077700 R  462 LAX     EQU     V                LOAD ASSIGNMENT DATA                   10 00462
077701 R  463 V       SET     V+1                                                     10 00463
077701 R  464 LDX     SET     V                LOAD DO                                10 00464
077702 R  465 V       SET     V+1                                                     10 00465
077702 R  466 LEX     SET     V                LOAD EXPRESSION                        10 00466
077703 R  467 V       SET     V+1                                                     10 00467
077703 R  468 LIST    EQU     V                LIST A LINE                            10 00468
077704 R  469 V       SET     V+1                                                     10 00469
077704 R  470 LOCT    SET     V                                                       10 00470
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                077762 R   562 TER17   EQU     V                FUNCTION STATEMENT HAS NO PARAMETERS      10 00562
                077763 R   563 V       SET     V+1                                                        10 00563
                077763 R   564 TER18   SET     V                                                          10 00564
                077764 R   565 V       SET     V+1                                                        10 00565
                077764 R   566 TER19   SET     V                                                          10 00566
                077765 R   567 V       SET     V+1                                                        10 00567
                077765 R   568 TER20   SET     V                                                          10 00568
                077766 R   569 V       SET     V+1                                                        10 00569
                077766 R   570 TER24   SET     V                                                          10 00570
                077767 R   571 V       SET     V+1                                                        10 00571
                077767 R   572 TER26   EQU     V                SUBSCRIPT NOT INTEGER CONSTANT            10 00572
                077770 R   573 V       SET     V+1                                                        10 00573
                077770 R   574 TOF     SET     V                TEST OVERFLOW                             10 00574
                077771 R   575 V       SET     V+1                                                        10 00575
                077771 R   576 TSB     EQU     V                TAG SUBPROGRAM                            10 00576
                077772 R   577 V       SET     V+1                                                        10 00577
                077772 R   578 TST     EQU     V                CHARACTER TEST                            10 00578
                077773 R   579 V       SET     V+1                                                        10 00579
                077773 R   580 TVR     EQU     V                TAG VARIABLE                              10 00580
                077774 R   581 V       SET     V+1                                                        10 00581
                077774 R   582 WRDBD   SET     V                                                          10 00582
                077775 R   583 V       SET     V+1                                                        10 00583
                077775 R   584 WRDGD   SET     V                                                          10 00584
                077776 R   585 V       SET     V+1                                                        10 00585
                077776 R   586 WRDT    SET     V                                                          10 00586
                077777 R   587 V       SET     V+1                                                        10 00587
                077777 R   588 ZEB     EQU     V                ZERO ERROR BUFFER                         10 00588
                           590 *       F R O M - C O M P I L E R                                      *   10 00590
                000000 R   592 V       SET     *                                                          10 00592
000000          000026 R   593         DATA    END              TERMINATE                                 10 00593
000001          000577 R   594         DATA    END*             ERROR TERMINATE                           10 00594
000002                     595         BSS     TFV$SZ-*+V-1                                               10 00595
                           596         EJECT                                                              10 00596
                           597 ****************                                                           10 00597
                           598 * I/O BUFFERS *                                                           10 00598
                           599 ****************                                                           10 00599
                010151 R   601 $BUF    EQU     V+OVERSZ+1       INPUT BUFFER AREA                         10 00601
                010224 R   602 OBUF    EQU     $BUF+43          OBJECT BUFFER                             10 00602
                010320 R   603 BLBF1   EQU     OBUF+60          BLOCKING BUFFER 1                         10 00603
                           604         EJEC                                                               10 00604
                           605 *       END     END PROCESSOR                                              10 00605
000026          017000 I   607 END     LDA     SPFL             IGNORE IF FIRST LINE.                     10 00607
000027          147000 I   608         SUB     OTFL                                                       10 00608
000030          001004 A   609         JAN     FORT1                                                      10 00609
000031          077651 R
000032          010461 A   610         LDA     NEG                                                        10 00610
000033          057000 I   611         STA     STSW             SET STSW FOR SPECIAL ERROR RETURN         10 00611
000034          017000 I   612         LDA     BDF                                                        10 00612
000035          001016 A   613         JANZ    END04            BLOCK DATA                                10 00613
000036          000172 R
000037          017000 I   614         LDA     STNB                                                       10 00614
000040          002016 A   615         JANZM   ERS              END HAS STATEMENT NUMBER                  10 00615
000041          077631 R
000042          017000 I   616         LDA     JPFL                                                       10 00616
000043          117800 I   617         ORA     STNB                                                       10 00617
000044          001010 A   618         JAZ     END00            NO PATH TO END STATEMENT                  10 00618
000045          000060 R
000046          006010 A   619         LDAI    'ST'                                                       10 00619
000047          151724 A
000050          002000 A   620         CALL    CAN                                                        10 00620
000051          077613 R
000052          010461 A   621         LDA     NEG                                                        10 00621
000053          002000 A   622         CALL    OAB                                                        10 00622
000054          077710 R
000055          005001 A   623         TZA                                                                10 00623
000056          002000 A   624         CALL    OAB                                                        10 00624
000057          077710 R
000060          017000 I   625 END00   LDA     MR                                                         10 00625
000061          001010 A   626         JAZ     END01            NO I/O REFERENCES                         10 00626
000062          000117 R
000063          010466 A   627         LDA     SIX              MAKE EXTERNAL CALLS                       10 00627
000064          057000 I   628         STA     EL                                                         10 00628
000065          010464 A   629         LDA     THREE                                                      10 00629
000066          057000 I   630         STA     IU                                                         10 00630
000067          005001 A   631         TZA                                                                10 00631
000070          057000 I   632         STA     IM                                                         10 00632
000071          057000 I   633         STA     NT                                                         10 00633
000072          006010 A   634         LDAI    'V$'                                                       10 00634
000073          153244 A
000074          057000 I   635         STA     ID                                                         10 00635
000075          006010 A   636         LDAI    'RE'                                                       10 00636
000076          151305 A
000077          057000 I   637         STA     ID+1                                                       10 00637
000100          006010 A   638         LDAI    'RR'                                                       10 00638
000101          151322 A
000102          057000 I   639         STA     ID+2                                                       10 00639
000103          002000 A   640         CALL    ASI              V$RERR                                    10 00640
000104          077611 R
000105          006010 A   641         LDAI    'RN'                                                       10 00641
000106          151316 A
000107          057000 I   642         STA     ID+2                                                       10 00642
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```
000110 00?0 0. 0  0?0          CALL    ?01          V$RERN                                  10 00643
 00111 0 0?0? 5
000112 0000 0  0  044          LIMI    'D1'                                                 10 00644
000113 1?1  0  0
000114 ?? 0 0  0  ?45          ?TA     1+?                                                  10 00645
000115 0 0 0 0  ?0?            ?' 00   ?S1          V$RER1                                  10 00646
000116 0 0 0 0
000117 0 0 0 0  647 END01      ?1?     ?RL+2                                                10 00647
000120 0 0 0 0  650            JA?     ?ND04        NO VARIABLE RETURNS USED                10 00648
000121 0 0 0 0  ?
000122 0 0 0 0  ?45            LDA     ?RL                                                  10 00649
000123 0 0 0 0  650            JA2     ?ND04        NO NON-STANDARD EXITS USED              10 00650
000124 0 0 0 0  0
000125 0 0 0 0  651            LDA                                                          10 00651
000126 0 0 0 0  ?0             0?L     ?1L                                                  10 00652
000127 0 0 0 0  0
000130 0 0 0 0  ?51            LDA     =T                                                   10 00653
000131 0 0 0 0  0 0            0 0     THREE                                                10 00654
000132 0 0 0 0  ?55            JAN?    ?ND02                                                10 00655
000133 0 0 0 0  0
000134 0 0 0 0  656            ?TA     0F           PROCESS STRING RELATIVE                 10 00656
000135 0 0 0 0  ?57            ?0                                                           10 00657
000136 0 0 0 0  ?60            JMPM    ?0F                                                  10 00658
000137 0 0 0 0  0
000140 0 0 0 0  659 END02      LDA     RL                                                   10 00659
000141 0 0 0 0  660            LDE     =?E                                                  10 00660
000142 0 0 0 0  ?01            CALL    ?F1          MAKE ENTRY POINT FOR VARIABLE EXIT      10 00661
000143 0 0 0 0  0
000144 0 0 0 0  662            LIMI    'CC'                                                 10 00662
000145 1 1 1 1  0
000146 0 0 0 0  ?00            CALL    CAP          COMPUTED GO TO CALL                     10 00663
000147 0 0 0 0  0
000150 0 0 0 0  665            TDA                                                          10 00664
000151 0 0 0 0  ?0?            ?TA     ?BFL                                                 10 00665
000152 0 0 0 0  ?0?            CALL    ?AB          'DATA  MAX-NO-NONSTANDARD-EXITS'        10 00666
000153 0 0 0 0  0
000154 0 0 0 0  667            LDB     =?F                                                  10 00667
000155 0 0 0 0  ?00 END03      ?TS     10           OUTPUT NON-STANDARD EXIT ADDRESSES      10 00668
000156 0 0 0 0  ?00?           TBA                                                          10 00669
000157 0 0 0 0  670            CALL    ?PL                                                  10 00670
000160 0 0 0 0  0
000161 0 0 0 0  671            TDA                                                          10 00671
000162 0 0 0 0  672            CALL    OUT          'DATA  )XNN'                            10 00672
000163 0 0 0 0  0
000164 0 0 0 0  673            LDB     =8                                                   10 00673
000165 0 0 0 0  674            ?AB                                                          10 00674
000166 0 0 0 0  675            ?BF                                                          10 00675
000167 0 0 0 0  676            A?D     ?BFL                                                 10 00676
000170 0 0 0 0  677            JAN     ?ND03                                                10 00677
000171 0 0 0 0  0
000172 0 0 0 0  678 END04      ?TA     ?BFL                                                 10 00678
000173 0 0 0 0  679            TAB                                                          10 00679
000174 0 0 0 0  680            ?FM     L8.4         FUNCTION NOT USED AS VAR./NO RETURN     10 00680
000175 0 0 0 0  0
000176 0 0 0 0  681            LIA     'DF'                                                 V 10 00681
000177 0 0 0 0  682            JAZ     ?ND1                                                   10 00682
000200 0 0 0 0  0
000201 0 0 0 0  683            LDA     RL                                                   V 10 00683
000202 0 0 0 0  684            D?      ?L+1                                                 V 10 00684
000203 0 0 0 0  685            JMPM    ?RIS         LOCAL/COMMON DATA IN BLOCK-DATA         10 00685
000204 0 0 0 0  0
000205 0 0 0 0  686 END1       ?TA     =8000                                                10 00686
000206 0 0 0 0  0
000207 0 0 0 0  687            LBR     RL                                                   10 00687
000210 0 0 0 0  688            CALL    ?UC                                                  10 00688
000211 0 0 0 0  0
000212 0 0 0 0  689            ?A      =T                                                   10 00689
000213 0 0 0 0  690            ?TA     ?ROT+1                                               10 00690
000214 0 0 0 0  691            ?S                                                           10 00691
000215 0 0 0 0  692            ?A      =1                                                   10 00692
000216 0 0 0 0  693            STA     ?B-1                                                 10 00693
000217 0 0 0 0  694            ?TM     ?B                                                   10 00694
000220 0 0 0 0  695            ?' 0    ?T                                                   10 00695
000221 0 0 0 0  0              ?' 0    ?ROT                                                 10 00696
000222 0 0 0 0  697            ?' 0    ?0D'         MAKE POST-PROGRAM INDEX CHAIN           10 00697
000223 0 0 0 0  0
000224 0 0 0 0  698            ?TA     ?D                                                   10 00698
000225 0 0 0 0  699            ?A      ?IVE                                                 10 00699
000226 0 0 0 0  700            ?A      0                                                    10 00700
000227 0 0 0 0  701 ENDL1      LDA     ?ROT                                                 10 00701
000230 0 0 0 0  702            CALL    ?SS                                                  10 00702
000231 0 0 0 0  0
000232 0 0 0 0  703            STA     ?B+1                                                 10 00703
000233 0 0 0 0  704            CALL    ?'1                                                  10 00704
000234 0 0 0 0  0
000235 0 0 0 0  705            LDA     =T                                                   10 00705
000236 0 0 0 0  706            ?'P     ?UD                                                  10 00706
000237 0 0 0 0  707            JP      ?ROT1        EXIT IF NO CHAIN                        10 00707
000240 0 0 0 0  0
000241 0 0 0 0  710            ?'1     ?'ROT                                                10 00708
000242 0 0 0 0  711            ?' 0    0                                                    10 00709
```

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000243 127000 I  710          ADD     RL                                                    10 00710
000244 005012 A  711          TAB                                                           10 00711
000245 010432 A  712          LDA     BS9                                                   10 00712
000246 002000 A  713          CALL    DWS                                                   10 00713
000247 077722 R
000250 017000 I  714          LDA     AF                                                    10 00714
000251 005311 A  715          DAR                                                           10 00715
000252 002000 A  716          CALL    DSR                                                   10 00716
000253 077716 R
000254 044336 A  717          INR     ENDT        BUMP PAGE NO                              10 00717
000255 001000 A  718          JMP     ENDL1                                                 10 00718
000256 000227 R
000257 014334 A  719 ENDX1    LDA     ENDT+1                                                10 00719
000260 057000 I  720          STA     IT                                                    10 00720
000261 027000 I  721          LDB     RL                                                    10 00721
000262 010432 A  722          LDA     BS9                                                   10 00722
000263 002000 A  723          CALL    DWS                                                   10 00723
000264 077722 R
000265 005001 A  724          TZA                                                           10 00724
000266 147000 I  725          SUB     TERF                                                  10 00725
000267 001004 A  726          JAN     ENDD        SKIP MAP IF TERMINATING ERROR OCCURRED    10 00726
000270 000503 R
000271 017000 I  727          LDA     DPB                                                   10 00727
000272 057000 I  728          STA     I                                                     10 00728
000273 006020 A  729          LDBI    ENME        LIST ENTRY NAMES IF MAP REQUESTED         10 00729
000274 000615 R
000275 006030 A  730          LDXI    13                                                    10 00730
000276 000015 A
000277 017000 I  731          LDA     $PCW                                                  10 00731
000300 006402 A  732          BT      2,ENDL      NO ENTRY/COMMON-BLOCK/NAMES IF NO MAP     10 00732
000301 000363 R
000302 002000 A  733          CALL    LIST                                                  10 00733
000303 077703 R
000304 010461 A  734          LDA     NEG                                                   10 00734
000305 057000 I  735          STA     T9          ENTRY COUNT                               10 00735
000306 002000 A  736          CALL    LAX                                                   10 00736
000307 077700 R
000310 017000 I  737          LDA     NT                                                    10 00737
000311 001010 A  738          JAZ     ENDJ2       PASS NORMAL NAMES                         10 00738
000312 000336 R
000313 017000 I  739          LDA     IU                                                    10 00739
000314 140464 A  740          SUB     THREE                                                 10 00740
000315 001010 A  741          JAZ     ENDJ        ENTRY NAME                                10 00741
000316 000327 R
000317 017000 I  742          LDA     AT                                                    10 00742
000320 140422 A  743          SUB     TWO                                                   10 00743
000321 117000 I  744          ORA     IM                                                    10 00744
000322 001016 A  745          JANZ    ENDJ2       NOT COMMON BLOCK NAME                     10 00745
000323 000336 R
000324 020466 A  746          LDB     SIX                                                   10 00746
000325 001000 A  747          JMP     ENDJ1                                                 10 00747
000326 000331 R
000327 047000 I  748 ENDJ     INR     T9                                                    10 00748
000330 020421 A  749          LDB     ONE                                                   10 00749
000331 067000 I  750 ENDJ1    STB     AT                                                    10 00750
000332 005001 A  751          TZA                                                           10 00751
000333 057000 I  752          STA     NT                                                    10 00752
000334 001000 A  753          JMP     *+3                                                   10 00753
000335 000337 R
000336 010461 A  754 ENDJ2    LDA     NEG         SET NO OUTPUT FLAG                        10 00754
000337 002000 A  755          CALL    END4                                                  10 00755
000340 000651 R
000341 017000 I  756          LDA     T9                                                    10 00756
000342 001002 A  757          JAP     ENDL        AT LEAST ONE ENTRY POINT                  10 00757
000343 000363 R
000344 017000 I  758          LDA     I                                                     10 00758
000345 147000 I  759          SUB     EL                                                    10 00759
000346 057000 I  760          STA     I           DUMMY ROLLBACK                            10 00760
000347 005001 A  761          TZA                                                           10 00761
000350 057000 I  762          STA     AF                                                    10 00762
000351 006010 A  763          LDAI    'MA'                                                  10 00763
000352 146701 A
000353 057000 I  764          STA     ID                                                    10 00764
000354 006010 A  765          LDAI    'IN'                                                  10 00765
000355 144716 A
000356 057000 I  766          STA     ID+1                                                  10 00766
000357 010000 L  767          LDA     =' '                                                  10 00767
000360 057000 I  768          STA     ID+2                                                  10 00768
000361 001000 A  769          JMP     ENDJ                                                  10 00769
000362 000327 R
000363 006020 A  770 ENDL     LDBI    EXME        EXTERNAL NAME LIST                        10 00770
000364 000632 R
000365 030424 A  771          LDX     K10                                                   10 00771
000366 017000 I  772          LDA     $RCW                                                  10 00772
000367 004255 A  773          LRLA    $BIT-3                                                10 00773
000370 002002 A  774          JAPM    LIST                                                  10 00774
000371 077703 R
000372 017000 I  775          LDA     DPB                                                   10 00775
000373 057000 I  776          STA     I           INITIALIZE TABLE POINTER                  10 00776
000374 002000 A  777          CALL    LAX                                                   10 00777
000375 077700 R
```

```
000376                  END1    ;
000376 [illegible]              ;
000377 [illegible]              ;
000400 [illegible]              *       (IGNORE RELATIVE ENTRIES)                10 00778
000401 [illegible]                                                               10 00779
000402 [illegible]              ;                                                10 00780
000403 [illegible]              ;                                                10 00781
000404 [illegible]              ;       (IGNORE NON-EXTERNALS)                   10 00782
000405 [illegible]              ;                                                10 00783
000406 [illegible]              ;                                                10 00784
000407 [illegible]              ;       HAS CHAIN ADDRESS                        10 00785
000410 [illegible]              ;                                                10 00786
000411 [illegible]              ;                                                10 00787
000412 [illegible]              ;       'DFLOAT'                                 10 00788
000413 [illegible]              ;                                                10 00789
000414 [illegible]              ;       .*+4                                     10 00790
000415 [illegible]              ;                                                10 00791
000416 [illegible]              ;       'SORT' IF F-OPTION                       10 00792
000417 [illegible]              ;                                                10 00793
000420 [illegible]              ;       NO LINK IF UNUSED IFIX,FLOAT,DFLOAT,SQRT 10 00794
000421 [illegible]              ;                                                10 00795
000422 [illegible]      LAST    ;                                                10 00796
000423 [illegible]              ;       FREE                                     10 00797
000424 [illegible]              ;                                                10 00798
000425 [illegible]              ;                                                10 00799
000426 [illegible]              ;                                                10 00800
000427 [illegible]              ;                                                10 00801
000430 [illegible]              ;                                                10 00802
000431 [illegible]              ;                                                10 00803
000432 [illegible]              ;                                                10 00804
000433 [illegible]              ;                                                10 00805
000434 [illegible]              ;                                                10 00806
000435 [illegible]              ;                                                10 00807
000436 [illegible]              ;                                                10 00808
000437 [illegible]              ;                                                10 00809
000440 [illegible]              ;                                                10 00810
000441 [illegible]              ;                                                10 00811
000442 [illegible]              ;                                                10 00812
000443 [illegible]              ;                                                10 00813
000444 [illegible]      ENDH    JMPM    END4                                     10 00814
000445 [illegible]              ;                                                10 00815
000446 [illegible]              ;       I:=DP                                    10 00816
000447 [illegible]              ;                                                10 00817
000450 [illegible]              ;       LIST SYMBOL TABLE IF MAP REQUESTED9      10 00818
000451 [illegible]              ;                                                10 00819
000452 [illegible]              ;                                                10 00820
000453 [illegible]              ;                                                10 00821
000454 [illegible]              ;       BIT-3                                    10 00822
000455 [illegible]              ;                                                10 00823
000456 [illegible]              ;                                                10 00824
000457 [illegible]              ;                                                10 00825
000460 [illegible]              ;                                                10 00826
000461 [illegible]              ;                                                10 00827
000462 [illegible]              ;                                                10 00828
000463 [illegible]              ;       IGNORE SPECIAL ASSIGNMENT ENTRY          10 00829
000464 [illegible]              ;                                                10 00830
000465 [illegible]              ;                                                10 00831
000466 [illegible]              ;       (IGNORE UNREFERENCED CONSTANTE           10 00832
000467 [illegible]              ;       D-2                                      10 00833
000470 [illegible]              ;                                                10 00834
000471 [illegible]              ;                                                10 00835
000472 [illegible]              ;       AT NOT 2,3  (UNASSIGNED,CHAINED)         10 00836
000473 [illegible]              ;                                                10 00837
000474 [illegible]              ;       D-2                                      10 00838
000475 [illegible]              ;                                                10 00839
000476 [illegible]              ;                                                10 00840
000477 [illegible]              ;       FREE                                     10 00841
000500 [illegible]              ;       BYPASS EXTERNALS                         10 00842
000501 [illegible]              ;       END4                                     10 00843
000502 [illegible]              ;                                                10 00844
000503 [illegible]      ENDD    ;       IF MAIN PROGRAM, OUTPUT EXECUTION ADDR   10 00845
000504 [illegible]              ;                                                10 00846
000505 [illegible]              ;                                                10 00847
000506 [illegible]              ;                                                10 00848
000507 [illegible]              ;                                                10 00849
000510 [illegible]              ;                                                10 00850
000511 [illegible]              ;                                                10 00851
000512 [illegible]              ;                                                10 00852
000513 [illegible]              ;                                                10 00853
000514 [illegible]              ;                                                10 00854
000515 [illegible]      ENDE    ;       OUTPUT ORG DEFINING PROGRAM SIZE.        10 00855
000516 [illegible]              ;                                                10 00856
000517 [illegible]              ;                                                10 00857
000520 [illegible]              ;       JMP                                      10 00858
000521 [illegible]              ;                                                10 00859
000522 [illegible]              ;                                                10 00860
000523 [illegible]              ;                                                10 00861
000524 [illegible]              ;       NO MAP OPTION                            10 00862
000525 [illegible]              ;                                                10 00863
000526 [illegible]              ;                                                10 00864
000527 [illegible]              ;                                                10 00865
```

```
000530 002000 A  843          CALL    LIST        BLANK LINE                          10 00843
000531 077703 R
000532 010466 A  844          LDA     SIX                                             10 00844
000533 006020 A  845          LDBI    ENDSZM                                          10 00845
000534 001100 R
000535 006030 A  846          LDXI    SLOT                                            10 00846
000536 177160 R
000537 002000 A  847          CALL    MOVE        MOVE MEMORY SIZE MESSAGE            10 00847
000540 077706 R
000541 006010 A  848          LDAI    12                                              10 00848
000542 000014 A
000543 057000 I  849          STA     CLOP                                            10 00849
000544 017000 I  850          LDA     RL                                              10 00850
000545 127000 I  851          ADD     RL+1                                            10 00851
000546 002000 A  852          CALL    LOCT        OUTPUT TOTAL SIZE                   10 00852
000547 077704 R
000550 002000 A  853          CALL    SLIT                                            10 00853
000551 077737 R
000552 002000 A  854          CALL    LIST                                            10 00854
000553 077703 R
000554 002000 A  855          CALL    ILB                                             10 00855
000555 077665 R
000556 002000 A  856          CALL    SLIT                                            10 00856
000557 077737 R
000560 002000 A  857          CALL    LIST        BLANK LINE                          10 00857
000561 077703 R
000562 002000 A  858          CALL    ILB                                             10 00858
000563 077665 R
000564 017000 I  859 ENDE2    LDA     OBUF        WRITE END RECORD                    10 00859
000565 150454 A  860          ANA     BR11                                            10 00860
000566 057000 I  861          STA     OBUF                                            10 00861
000567 002000 A  862          CALL    WROT                                            10 00862
000570 077776 R
000571 017000 I  863          LDA     BOBLCN                                          10 00863
000572 002016 A  864          JANZM   WROBO                                           10 00864
000573 077774 R
000574 017000 I  865          LDA     GOBLCN                                          10 00865
000575 002016 A  866          JANZM   WROGO                                           10 00866
000576 077775 R
000577 017000 I  867 ENDX     LDA     $PCW        IF NOT ALL LISTING SUPPRESSED,WRITE 10 00867
000600 006150 A  868          ANAI    015         "END COMPILATION" MESSAGE           10 00868
000601 000015 A
000602 130465 A  869          ERA     FIVE                                            10 00869
000603 005311 A  870          DAR                                                     10 00870
000604 006020 A  871          LDBI    NERR.                                           10 00871
000605 177127 R
000606 030425 A  872          LDX     K20                                             10 00872
000607 002002 A  873          JAPM    LIST                                            10 00873
000610 077703 R
000611 001000 A  874          JMP     FORT1                                           10 00874
000612 077651 R
000613         875 ENDT       BSS     2           TEMP                                10 00875
000615 120305 A  876 ENME     DATA    ' ENTRY/COMMON BLOCK NAMES '                    10 00876
000616 147324 A
000617 151331 A
000620 127703 A
000621 147715 A
000622 146717 A
000623 147240 A
000624 141314 A
000625 147703 A
000626 145640 A
000627 147301 A
000630 146705 A
000631 151640 A
000632 120305 A  877 EXME     DATA    ' EXTERNAL NAMES '                              10 00877
000633 154324 A
000634 142722 A
000635 147301 A
000636 146240 A
000637 147301 A
000640 146705 A
000641 151640 A
000642 120323 A  878 SYME     DATA    ' SYMBOL TABLE '                                10 00878
000643 154715 A
000644 141317 A
000645 146240 A
000646 152301 A
000647 141314 A
000650 142640 A
000651 000000 A  879 END4     ENTR                                                    10 00879
000652 001004 A  880          JAN     ENDF            (IGNORE UNWANTED ITEMS)         10 00880
000653 001065 R
000654 005301 A  881          DECR    1                                               10 00881
000655 054221 A  882          STA     ENER        SET NO END ERR                      10 00882
000656 017000 I  883          LDA     AT          IF AT IS...                         10 00883
000657 006120 A  884          ADDI    C77771                                          10 00884
000660 077771 A
000661 001004 A  885          JAN     END5                . DUM, SET AR=0100000+AF    10 00885
000662 000670 R
000663 006130 A  886          ERAI    077776                                          10 00886
```

```
000664 077776 A                                                                                    10 00887
000665 005311 A   887          DAR                 . DAT, SET AR=RL+AF                             10 00887
000666 004317 A   888          ASRA    $BIT-1                                                      10 00888
000667 157000 I   889          ANA     PL          . ANYOTHER, SET AR=AF                           10 00889
000670 127000 I   890 END5     ADD     AF                                                          10 00890
000671 002000 A   891          CALL    LOCT                                                        10 00891
000672 077704 R
000673 017000 I   892          LDA     AT                                                          10 00892
000674 130466 A   893          ERA     K6                                                          10 00893
000675 001010 A   894          JAZ     END7        (GO TO PROCESS COMMON ITEM)                     10 00894
000676 000715 R
000677 150466 A   895          ANA     K6                                                          10 00895
000700 140423 A   896          SUB     K4                                                          10 00896
000701 001010 A   897          JAZ     END6        (GO TO PROCESS EXTERNAL OR UNDEFIN).            10 00897
000702 000706 R
000703 010472 A   898          LDA     K17                                                         10 00898
000704 001000 A   899          JMP     END7        (GO TO PROCESS RELATIVE DATUM)                  10 00899
000705 000715 R
000706 017000 I   900 END6     LDA     IO                                                          10 00900
000707 140464 A   901          SUB     THREE                                                       10 00901
000710 001010 A   902          JAZ     ENDG        (GO TO PROCESS EXTERNAL DATUM)                  10 00902
000711 000714 R
000712 044164 A   903          IMR     ENER        SET END ERROR                                   10 00903
                  904 *                                                                            10 00904
000713 010425 A   905          LDA     K20                                                         10 00905
000714 120422 A   906 ENDG     ADD     K2                                                          10 00906
000715 006120 A   907 END7     ADDI    0120303     MAKE 'C','E','R', OR 'U'                        10 00907
000716 120303 A
000717 006057 A   908          STAE    CLOT+1      ADDRESS TYPE CODE                               10 00908
000720 177161 R
000721 017000 I   909          LDA     NT                                                          10 00909
000722 001010 A   910          JAZ     CMDB        (GO TO PROCESS NAMED ITEM)                      10 00910
000723 001017 R
000724 017000 I   911          LDA     $PCW                                                        10 00911
000725 054065 A   912          STA     ENDA+3                                                      10 00912
000726 110424 A   913          ORA     EIGHT       SET OBJECT-CODE LIST SWITCH ON                  10 00913
000727 057000 I   914          STA     $PCW                                                        10 00914
000730 010432 A   915          LDA     KJMP        OUTPUT CONSTANT ORIGIN                          10 00915
000731 002000 A   916          CALL    PDS                                                         10 00916
000732 077723 R
000733 017000 I   917          LDA     AF                                                          10 00917
000734 127000 I   918          ADD     RL                                                          10 00918
000735 002000 A   919          CALL    PDS                                                         10 00919
000736 077723 R
000737 017000 I   920          LDA     IM                                                          10 00920
000740 140467 A   921          SUB     SEVEN                                                       10 00921
000741 001010 A   922          JAZ     END8        (GO TO PROCESS RELATIVE CONSTANT)               10 00922
000742 001003 R
000743 010440 A   923          LDA     BS15        OUTPUT ID.                                      10 00923
000744 002000 A   924          CALL    PDS                                                         10 00924
000745 077723 R
000746 017000 I   925          LDA     ID                                                          10 00925
000747 002000 A   926          CALL    ODS                                                         10 00926
000750 077712 R
000751 017000 I   927          LDA     IM                                                          10 00927
000752 140422 A   928          SUB     TWO                                                         10 00928
000753 001010 A   929          JAZ     ENDA+2                                                      10 00929
000754 001012 R
000755 010440 A   930          LDA     BS15        OUTPUT ID+1.                                    10 00930
000756 002000 A   931          CALL    PDS                                                         10 00931
000757 077723 R
000760 017000 I   932          LDA     ID+1                                                        10 00932
000761 002000 A   933          CALL    ODS                                                         10 00933
000762 077712 R
000763 017000 I   934          LDA     EL                                                          10 00934
000764 140465 A   935          SUB     FIVE                                                        10 00935
000765 001010 A   936          JAZ     ENDA+2      REAL DATA                                       10 00936
000766 001012 R
000767 010440 A   937          LDA     BS15        OUTPUT ID+2.                                    10 00937
000770 002000 A   938          CALL    PDS                                                         10 00938
000771 077723 R
000772 017000 I   939          LDA     ID+2                                                        10 00939
000773 002000 A   940          CALL    ODS                                                         10 00940
000774 077712 R
000775 010440 A   941          LDA     BS15        OUTPUT ID+3.                                    10 00941
000776 002000 A   942          CALL    PDS                                                         10 00942
000777 077723 R
001000 017000 I   943          LDA     ID+3                                                        10 00943
001001 001000 A   944          JMP     ENDA                                                        10 00944
001002 001010 R
001003 017000 I   945 END8     LDA     ID+1        PROCESS RELATIVE CONSTANTS                      10 00945
001004 120437 A   946          ADD     BS14                                                        10 00946
001005 002000 A   947          CALL    PDS                                                         10 00947
001006 077723 R
001007 017000 I   948          LDA     ID                                                          10 00948
001010 002000 A   949 ENDA     CALL    ODS                                                         10 00949
001011 077712 R
001012 006010 A   950          LDAI    **                                                          10 00950
001013 101012 R
001014 057000 I   951          STA     $PCW        RESET ORIGINAL $PCW                             10 00951
001015 001000 A   952          JMP     ENDC        GO TO OUTPUT LIST.                              10 00952
```

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001016 001047 R
001017 010000 L   953 ENDB    LDA      =' '          OUTPUT NAME WITH LEADING BLANK          10 00953
001020 002000 A   954          CALL     SLOP                                                  10 00954
001021 077740 R
001022 017000 I   955          LDA      ID                                                    10 00955
001023 004550 A   956          LLSR     8                                                     10 00956
001024 002000 A   957          CALL     SLOP          CH-1                                    10 00957
001025 077740 R
001026 004450 A   958          LLRL     8                                                     10 00958
001027 002000 A   959          CALL     SLOP          CH-2                                    10 00959
001030 077740 R
001031 017000 I   960          LDA      ID+1                                                  10 00960
001032 004550 A   961          LLSR     8                                                     10 00961
001033 002000 A   962          CALL     SLOP          CH-3                                    10 00962
001034 077740 R
001035 004450 A   963          LLRL     8                                                     10 00963
001036 002000 A   964          CALL     SLOP          CH-4                                    10 00964
001037 077740 R
001040 017000 I   965          LDA      ID+2                                                  10 00965
001041 004550 A   966          LLSR     8                                                     10 00966
001042 002000 A   967          CALL     SLOP          CH-5                                    10 00967
001043 077740 R
001044 004450 A   968          LLRL     8                                                     10 00968
001045 002000 A   969          CALL     SLOP          CH-6                                    10 00969
001046 077740 R
001047 002000 A   970 ENDC     CALL     SLIT                                                  10 00970
001050 077737 R
001051 004255 A   971          LRLA     $BIT-3                                                10 00971
001052 002002 A   972          JAPM     LIST                                                  10 00972
001053 077703 R
001054 002000 A   973          CALL     ILB                                                   10 00973
001055 077665 R
001056 014020 A   974          LDA      ENER          GET END ERR FLAG                        10 00974
001057 001004 A   975          JAN      ENDF          ERROR ?                                 10 00975
001060 001065 R
001061 017000 I   976          LDA      IM            YES                                     10 00976
001062 140422 A   977          SUB      TWO           ERROR IF STATEMENT NUMBER               10 00977
001063 002004 A   978          JANM     ER24          UNDEFINED STATEMENT NUMBER              10 00978
001064 077645 R
001065 017000 I   979 ENDF     LDA      I             STEP TO NEXT ENTRY                      10 00979
001066 127000 I   980          ADD      EL                                                    10 00980
001067 057000 I   981          STA      I                                                     10 00981
001070 147000 I   982          SUB      IT                                                    10 00982
001071 001010 A   983          JAZ*     END4          (IF ALL ENTRYS PROCESSED)               10 00983
001072 100651 R
001073 006037 A   984          LDXE*    LAX                                                   10 00984
001074 177700 R
001075 006705 A   985          IJMP     1,X                                                   10 00985
001076 000001 A
001077 177777 A   986 ENER     DATA     -1            END ERROR FLAG                          10 00986
001100 150322 A   987 ENDSZM   DATA     'PROGRAM SIZE'                                        10 00987
001101 147707 A
001102 151301 A
001103 146640 A
001104 151711 A
001105 155305 A
                  988          END                                                           10 00988
ENTRY NAMES
EXTERNAL NAMES
000000 E BOFCB   000000 E GOFCB   000000 E LOFCB   000000 E PIFCB
000000 E SIFCB   000000 E V$EXEC  000000 E V$IOC   000000 E V$IOST
SYMBOLS
000020 A $BIT    010151 R $BUF    177325 R $ECW    177324 R $PCW
177330 R AF      177331 R AIFW    177332 R AS      077611 R ASI
077612 R ASS     177341 R AT      000002 A B       177342 R BDF
010320 R BLBF1   177250 R BLFCB   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
177343 R BOBLCN  177320 R BOBLFL  000000 E BOFCB   000441 A BR0
000442 A BR1     000453 A BR10    000454 A BR11    000455 A BR12
000456 A BR13    000457 A BR14    000460 A BR15    000443 A BR2
000444 A BR3     000445 A BR4     000446 A BR5     000447 A BR6
000450 A BR7     000451 A BR8     000452 A BR9     000421 A BS0
000422 A BS1     000433 A BS10    000434 A BS11    000435 A BS12
000436 A BS13    000437 A BS14    000440 A BS15    000423 A BS2
000424 A BS3     000425 A BS4     000426 A BS5     000427 A BS6
000430 A BS7     000431 A BS8     000432 A BS9     077613 R CAN
077614 R CBA     077615 R CCR     177344 R CF      177345 R CFPTSW
177346 R CL      177347 R CLOF    177350 R CMFL    177351 R CNP
077616 R CRT     077617 R CTS     177352 R D       077620 R DEK
177353 R DF      177354 R DFPP    077621 R DFT     177355 R DH
177356 R DI      177326 R DPB     177357 R DPCA    177327 R DPX
177373 R DR      177374 R DS      177375 R DSAV    077622 R DSM
177376 R DT      177377 R DTFL    177401 R DV      177402 R EC
177403 R EH      177405 R EHBK    000424 A EIGHT   177406 R EL
000026 R END     000060 R END00   000117 R END01   000140 R END02
000155 R END03   000172 R END04   000205 R END1    000651 R END4
000670 R END5    000706 R END6    000715 R END7    001003 R END8
001010 R ENDA    001017 R ENDB    001047 R ENDC    000503 R ENDD
000515 R ENDE    000564 R ENDE2   001065 R ENDF    000714 R ENDG
000444 R ENDH    000376 R ENDI    000327 R ENDJ    000331 R ENDJ1
```

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000336  R  ENDJ2    000363  R  ENDL     000227  R  ENDL1    001100  R  ENDSZM
000613  R  ENDT     000577  R  ENDX     000257  R  ENDX1    001077  R  ENER
000615  R  ENME     077623  R  EOLSW    077624  R  ER1      077632  R  ER11
077633  R  ER12     077634  R  ER13     077635  R  ER14     077636  R  ER15
077637  R  ER16     077640  R  ER17     077641  R  ER18     077625  R  ER2
077642  R  ER20     077643  R  ER21     077644  R  ER22     077645  R  ER24
077626  R  ER3      077627  R  ER6      077630  R  ER7      077631  R  ER8
177120  R  ERBF     077646  R  EXA      177407  R  EXAD     077647  R  EXL
000632  R  EXME     177410  R  F        105035  A  F$DOI    105027  A  F$DOI1
105036  A  F$SEI    105503  A  FADDD    105410  A  FADDS    105535  A  FDIVD
105401  A  FDIVS    177411  R  FFPFL    105400  A  FFPOP    000465  A  FIVE
105621  A  FIX      105226  A  FLAIF    105522  A  FLDD     105032  A  FLDI
105420  A  FLDS     105167  A  FLIOP    105125  A  FLJAG    105024  A  FLREL
105425  A  FLT      105037  A  FMOVI    105506  A  FMULD    105416  A  FMULS
077650  R  FNS1     077651  R  FORT1    000423  A  FOUR     105127  A  FSQRT
105710  A  FSTD     105033  A  FSTI     105600  A  FSTS     105543  A  FSUBD
105450  A  FSUBS    177262  R  GLFCB    177412  R  GOBLCN   177321  R  GOBLFL
000000  E  GOFCB    077652  R  GSE      177413  R  HCC      177414  R  I
077653  R  IAC      077654  R  ICH      077655  R  ICO      077656  R  ICORNL
077657  R  ICRD     077660  R  ICRR     077661  R  ICSI     177415  R  ID
077662  R  IDI      077663  R  IHW      077664  R  IIV      077665  R  ILB
077666  R  ILT      177421  R  IM       077667  R  INA      177422  R  INBP
077670  R  INI      077671  R  INN      077672  R  INS      077673  R  INT
177423  R  IOFL     177424  R  IP       177435  R  IS       077674  R  ISM
177445  R  IT       177446  R  IU       077675  R  IVA      077676  R  IVC
077677  R  IWI      177447  R  J        177450  R  JPFL     177454  R  JT
177455  R  K        000424  A  K10      000471  A  K12      000472  A  K17
000422  A  K2       000425  A  K20      000473  A  K37      000423  A  K4
000466  A  K6       000463  A  K77      000432  A  KJMP     177456  R  KT
000425  R  LAAT     077700  R  LAX      000300  A  LC       000050  A  LCJP
077701  R  LDX      077702  R  LEX      177457  R  LF       000462  A  LHW
177460  R  LIF      077703  R  LIST     177274  R  LLFCB    177461  R  LLOP
177322  R  LOBLFL   077704  R  LOCT     000000  E  LOFCB    077705  R  LTX
177462  R  MAXOPC   177463  R  MDTB     177516  R  MF       177517  R  MM
077706  R  MOVE     177520  R  MR       000420  A  MT       000500  A  MTE
000441  A  MTWO     077707  R  MXL      177522  R  NAME     177523  R  ND
000461  A  NEG      177127  R  NERR     177524  R  NF       177525  R  NFFW
000470  A  NINE     177526  R  NS       177527  R  NT       177530  R  NTFL
177536  R  O1       177537  R  O2       077710  R  OAB      010224  R  OBUF
077711  R  ODB      077712  R  ODS      177535  R  OITFL    000421  A  ONE
077713  R  ONEN     177531  R  OP       177532  R  OPBK     177533  R  OPCNT
077714  R  OPK      177534  R  OPW      077715  R  ORE      077716  R  OSR
077717  R  OTJ      077720  R  OUT      010150  A  OVERSZ   077721  R  OWD
077722  R  OWS      177540  R  PC       077723  R  PDS      077724  R  PEB
177544  R  PIBLCN   177323  R  PIBLFL   000000  E  PIFCB    177306  R  PLFCB
077725  R  PTR      077726  R  PTS      177545  R  QFL      077727  R  RCC
077730  R  RCCS     077731  R  RCH      000463  A  RHW      077732  R  RIO
177546  R  RL       077733  R  SAX      177550  R  SBFL     077734  R  SDX
000467  A  SEVEN    177553  R  SF       077735  R  SIDTB1   000000  E  SIFCB
077736  R  SIS      000466  A  SIX      077737  R  SLIT     077740  R  SLOP
177160  R  SLOT     177554  R  SPFL     177560  R  SSP      077741  R  STC
177555  R  STFFL    077742  R  STI      077743  R  STN      177556  R  STNB
077744  R  STS      177557  R  STSW     177565  R  SXF      000642  R  SYME
177574  R  T0       177575  R  T1       177576  R  T2       177577  R  T2IN
177600  R  T3       177601  R  T4       177602  R  T5       177603  R  T6
177604  R  T7       177605  R  T8       177606  R  T9       177566  R  TC
000471  A  TEN      077745  R  TER1     077755  R  TER11    077756  R  TER12
077757  R  TER13    077760  R  TER14    077761  R  TER15    077762  R  TER17
077763  R  TER18    077764  R  TER19    077746  R  TER2     077765  R  TER20
077766  R  TER24    077767  R  TER26    077747  R  TER3     077750  R  TER4
077751  R  TER5     077752  R  TER7     077753  R  TER8     077754  R  TER9
177570  R  TERF     000027  A  TFVCSZ   000464  A  THREE    177212  R  TITD
177217  R  TITJ     177204  R  TITL     177243  R  TITM     177206  R  TITN
177207  R  TITP     177250  R  TITQ     177571  R  TM       077770  R  TOF
077771  R  TSB      177572  R  TSFL     077772  R  TST      177573  R  TU
077773  R  TVR      000422  A  TWO      000000  R  V        000360  A  V$CTAD
000070  A  V$DATE   000355  A  V$DSTB   000000  E  V$EXEC   000000  E  V$IOC
000000  E  V$IOST   000412  A  V$JCB    000035  A  V$JCFG   000056  A  V$JFCB
000050  A  V$JNAM   000054  A  V$LCNT   000317  A  V$LLUP   000345  A  V$LUNT
000400  A  V$LUT1   000401  A  V$LUT2   000402  A  V$LUT3   000417  A  V$STSZ
000357  A  V$TKSZ   177112  R  VARBLO   000666  A  VARBLS   177330  R  VBLOBG
177611  R  VBLOND   077774  R  WROBO    077775  R  WROGO    077776  R  WROT
000001  A  X        177607  R  XRPT     077777  R  ZEB      000420  A  ZERO
  0 ERRORS ASSEMBLY COMPLETE
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```
140   $BIT      773   811   888   971
601   $BUF      602
230   $PCW      731   772   788   810   840   867   911   914   951
240   AF        241   656   714   762   786   800   890   917
241   AIFW      242
242   AS        243
352   ASI       640   643   646   704
243   AT        244   653   705   748   750   779   795   820   883
                892
244   BDF       245   612   681   829
103   BM17      185
109   BM1777    110
104   BM37      187
107   BM377     188
245   BOBLCN    246   863
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0	BOFCB	126							
71	BR0	130							
82	BR11	860							
69	BS14	946							
70	BS15	923	930	937	941				
58	BS3	183							
59	BS4	186							
64	BS9	189	712	722					
356	CAN	620	663						
358	CBA	702							
246	CF	247							
247	CFPTSW	248							
248	CL	249							
249	CLOP	250	849						
250	CMFL	251							
251	CNP	252							
0	COMP	2							
252	D	253							
253	DF	254							
254	DFPP	255							
368	DFT	661							
255	DH	256							
256	DI	257							
232	DPB	727	775	806					
257	DPCA	260	789	791					
233	DPX	239							
260	DR	261							
261	DS	262							
262	DSAV	263							
263	DT	264							
264	DTFL	265	608						
265	DV	266							
266	EC	267							
267	EH	268							
268	EHBK	269							
97	EIGHT	913							
0	EJEC	3							
269	EL	270	628	700	759	934	980		
607	END	593							
625	END00	618							
647	END01	626							
659	END02	655							
668	END03	677							
678	END04	613	648	650					
686	END1	682							
879	END4	755	805	827	983				
890	END5	885							
900	END6	897							
907	END7	894	899						
945	END8	922							
949	ENDA	912	929	936	944				
953	ENDB	910							
970	ENDC	952							
828	ENDD	726	819	823					
835	ENDE	831							
859	ENDE2	841							
979	ENDF	880	975						
906	ENDG	902							
805	ENDH	785	794						
778	ENDI	803							
748	ENDJ	741	769						
750	ENDJ1	747							
754	ENDJ2	738	745						
770	ENDL	732	757						
701	ENDL1	718							
987	ENDSZM	845							
875	ENDT	690	696	701	708	717	719		
867	ENDX	594							
719	ENDX1	707							
986	ENER	882	903	974					
876	ENME	729							
0	ENTR	4							
392	ER14	680							
400	ER18	685							
408	ER24	978							
384	ER8	615							
270	EXAD	271							
877	EXME	770							
271	F	272							
272	FFPFL	273							
162	FFPOP	163	164	165	166	167	168	169	170	171
		172	173	174	175	176				
94	FIVE	699	869	935						
416	FORT1	609	874							
93	FOUR	181								
273	GOBLCN	274	865							
0	GOFCB	127								
274	HCC	275								
275	I	276	728	758	760	776	792	807	979	981
276	ID	277	635	637	639	642	645	693	694	698
		703	764	766	768	925	932	939	943	945

		948	955	960	965				
440	ILB	855	858	973					
277	IM	278	632	692	744	920	927	976	
278	INBP	279							
279	IOFL	280							
280	IP	281							
281	IS	282							
282	IT	283	689	720	982				
283	IU	284	630	739	782	814	824	900	
284	J	285							
285	JPFL	286	616						
286	JT	287							
287	K	288							
183	K10	771							
185	K17	898							
179	K2	817	906						
186	K20	872	905						
187	K37	797							
181	K4	896							
182	K6	780	893	895					
189	KJMP	838	915						
288	KT	289							
795	LAAT	787	816						
462	LAX	736	777	802	804	813	984		
33	LC	34	35	36	37	38	39	40	41	42
		45							
15	LCJP	16	17	18	24	25			
289	LF	290							
290	LIF	291							
468	LIST	733	774	812	843	854	857	873	972
291	LLOP	292							
470	LOCT	852	891						
0	LOFCB	128							
292	MAXOPC	293							
293	MDTB	294							
0	MERG	5							
294	MF	295							
295	MM	296							
474	MOVE	847							
296	MR	297	625						
53	MT	54	55	56	57	58	59	60	61	62
		63	64	65	66	67	68	69	70	71
		72	73	74	75	76	77	78	79	80
		81	82	83	84	85	86	87	88	89
		90	91	92	93	94	95	96	97	98
		99	100	101	102	103	104	105	106	107
		108	109						
476	MXL	652	670						
297	NAME	298							
298	ND	299							
87	NEG	610	621	734	754				
203	NERR	871							
299	NF	300							
300	NFFW	301							
301	NS	302							
302	NT	303	633	695	737	752	783	815	818	909
303	NTFL	304							
309	O1	310							
310	O2	311							
478	OAB	622	624	666					
602	OBUF	603	859	861					
482	ODS	926	933	940	949				
308	OITFL	309							
90	ONE	660	667	749					
484	ONEN	301							
304	OP	305							
305	OPBK	306							
306	OPCNT	307							
307	OPW	308							
490	OSR	658	716						
494	OUT	672							
197	OVERSZ	601							
498	OWS	688	713	723	834	839			
311	PC	312							
500	PDS	916	919	924	931	938	942	947	
312	PIBLCN	313							
0	PIFCB	129							
313	QFL	314							
314	RL	315	659	683	684	687	710	721	835	836
		850	851	889	918				
315	SBFL	316	647	649	665	676	678	828	
96	SEVEN	809	921						
316	SF	317							
0	SIFCB	130							
95	SIX	182	627	746	844				
524	SLIT	842	853	856	970				
526	SLOP	954	957	959	962	964	967	969	
204	SLOT	846	908						
0	SPAC	6							
317	SPFL	318	607						
321	SSP	322							

318 STFFL 319
319 STNB 320 614 617
320 STSW 321 611
322 SXF 323
878 SYME 808
328 T0 329
329 T1 330
330 T2 331
331 T2IN 332
332 T3 333
333 T4 334
334 T5 335
335 T6 336
336 T7 337
337 T8 338 668 673
338 T9 339 735 748 756
323 TC 324
99 TEN 184
324 TERF 325 725
198 TFVCSZ 595
92 THREE 629 654 740 796 825 901
325 TM 326
326 TSFL 327
327 TU 328
91 TWO 179 706 743 821 822 928 977
350 V 352 353 354 355 356 357 358 359 360
361 362 363 364 365 366 367 368 369
370 371 372 373 374 375 376 377 378
379 380 381 382 383 384 385 386 387
388 389 390 391 392 393 394 395 396
397 398 399 400 401 402 403 404 405
406 407 408 409 410 411 412 413 414
415 416 417 418 419 420 421 422 423
424 425 426 427 428 429 430 431 432
433 434 435 436 437 438 439 440 441
442 443 444 445 446 447 448 449 450
451 452 453 454 455 456 457 458 459
460 461 462 463 464 465 466 467 468
469 470 471 472 473 474 475 476 477
478 479 480 481 482 483 484 485 486
487 488 489 490 491 492 493 494 495
496 497 498 499 500 501 502 503 504
505 506 507 508 509 510 511 512 513
514 515 516 517 518 519 520 521 522
523 524 525 526 527 528 529 530 531
532 533 534 535 536 537 538 539 540
541 542 543 544 545 546 547 548 549
550 551 552 553 554 555 556 557 558
559 560 561 562 563 564 565 566 567
568 569 570 571 572 573 574 575 576
577 578 579 580 581 582 583 584 585
586 587 588 595 601
0 V$EXEC 131
0 V$FOR3 7
0 V$IOC 132
0 V$IOST 133
200 VARBLO 202 203 204 205 206 207 208 209 210
211 212 213 214 215 226 227 228 229
230 231 232 233
199 VARBLS 200
239 VBLOBG 240
340 VBLOND 350
582 WROBO 864
584 WROGO 866
586 WROT 862
142 X 985
339 XRPT 340

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                 1 *NEW FORTRAN - OVERLAY 4                                                     04 00001
                 2 COMPL   OPSY     COMP                                                         04 00002
                 3 EJECT   OPSY     EJEC                                                         04 00003
                 4 ENTRY   OPSY     ENTR                                                         04 00004
                 5 MERGE   OPSY     MERG                                                         04 00005
                 6 SPACE   OPSY     SPAC                                                         04 00006
                 7         TITLE    V$FOR4                                                       04 00007
                 8         EJEC                                                                  04 00008
                 9 *******************************************************************************  04 00009
                10 *                                                                             04 00010
                11 ***      JOB PROCESSOR LOW CORE EQUATES                                    ** 04 00011
                12 *                                                                             04 00012
                13 *******************************************************************************  04 00013
000050 A        15 LCJP    EQU      050                                                          04 00015
000050 A        16 V$JNAM  EQU      LCJP             JCP NAME                                    04 00016
000054 A        17 V$LCNT  EQU      LCJP+4           LINE COUNT                                  04 00017
000055 A        18 V$JCFG  EQU      LCJP+5           JCP FLAGS                                   04 00018
                19 *                                 BIT 2-0   = LOAD AND GO FLAGS               04 00019
                20 *                                 BIT  3    = DUMP FLAG  1=DUMP, 0=NO DUMP    04 00020
                21 *                                 BIT 9-4   = UNUSED                          04 00021
                22 *                                 BIT 15-10 = BG EXTRA CORE BLOCKS TO ALLOC   04 00022
000056 A        24 V$JFCB  EQU      LCJP+6           JCP FILE CONTROL BLOCK                      04 00024
000070 A        25 V$DATE  EQU      LCJP+16          JCP DATA RECORD                             04 00025
                26         EJEC                                                                  04 00026
                27 *******************************************************************************  04 00027
                28 *                                                                             04 00028
                29 ****     LOW CORE DESCRIPTION                                             *** 04 00029
                30 *                                                                             04 00030
                31 *******************************************************************************  04 00031
000300 A        33 LC      EQU      0300                                                         04 00033
000317 A        34 V$LLUP  EQU      LC+15            LOC. OF LAST UNPROTECTED WORD               04 00034
000345 A        35 V$LUNT  EQU      LC+37            ADDR. OF LOGICAL UNIT NAME TABLE            04 00035
000355 A        36 V$DSTB  EQU      LC+45            BASE ADDR. FOR DST BLOCK                    04 00036
000357 A        37 V$TKSZ  EQU      LC+47            RMD TRACK SIZE                              04 00037
000360 A        38 V$CTAD  EQU      LC+48            BASE ADDR. FOR CONTROLLER ADDR. TABLE       04 00038
000400 A        39 V$LUT1  EQU      LC+64            START LUN ADDR FOR JCP/OPCOM ASSIGNABLE     04 00039
000401 A        40 V$LUT2  EQU      LC+65            START LUN ADDR FOR UNASSIGNABLE             04 00040
000402 A        41 V$LUT3  EQU      LC+66            START LUN ADDR FOR OPCOM ASSIGNABLE         04 00041
000412 A        42 V$JCB   EQU      LC+74            ALL SYSTEM BACKGROUND PROGRAMS AND JCP USE  04 00042
                43 *                                 THIS SYSTEM BUFFER TO READ DIRECTIVES AND   04 00043
                44 *                                 SOURCE RECORDS IN.                          04 00044
000417 A        45 V$STSZ  EQU      LC+79            ACTURAL SECTOR SIZE                         04 00045
                46         EJEC                                                                  04 00046
                47 *******************************************************************************  04 00047
                48 *                                                                             04 00048
                49 ****     MASK TABLE DESCRIPTION                                           *** 04 00049
                50 *                                                                             04 00050
                51 *******************************************************************************  04 00051
000420 A        53 MT      SET      0420                                                         04 00053
000420 A        54 ZERO    EQU      MT               ZERO WORD                                   04 00054
000421 A        55 BS0     EQU      MT+1             BIT MASK CONTENTS 000001                    04 00055
000422 A        56 BS1     EQU      MT+2                               000002                    04 00056
000423 A        57 BS2     EQU      MT+3                               000004                    04 00057
000424 A        58 BS3     EQU      MT+4                               000010                    04 00058
000425 A        59 BS4     EQU      MT+5                               000020                    04 00059
000426 A        60 BS5     EQU      MT+6                               000040                    04 00060
000427 A        61 BS6     EQU      MT+7                               000100                    04 00061
000430 A        62 BS7     EQU      MT+8                               000200                    04 00062
000431 A        63 BS8     EQU      MT+9                               000400                    04 00063
000432 A        64 BS9     EQU      MT+10                              001000                    04 00064
000433 A        65 BS10    EQU      MT+11                              002000                    04 00065
000434 A        66 BS11    EQU      MT+12                              004000                    04 00066
000435 A        67 BS12    EQU      MT+13                              010000                    04 00067
000436 A        68 BS13    EQU      MT+14                              020000                    04 00068
000437 A        69 BS14    EQU      MT+15                              040000                    04 00069
000440 A        70 BS15    EQU      MT+16                             0100000                    04 00070
000441 A        71 BR0     EQU      MT+17            BIT MASK CONTENTS  0177776                  04 00071
000442 A        72 BR1     EQU      MT+18                               0177775                  04 00072
000443 A        73 BR2     EQU      MT+19                               0177773                  04 00073
000444 A        74 BR3     EQU      MT+20                               0177767                  04 00074
000445 A        75 BR4     EQU      MT+21                               0177757                  04 00075
000446 A        76 BR5     EQU      MT+22                               0177737                  04 00076
000447 A        77 BR6     EQU      MT+23                               0177677                  04 00077
000450 A        78 BR7     EQU      MT+24                               0177577                  04 00078
000451 A        79 BR8     EQU      MT+25                               0177377                  04 00079
000452 A        80 BR9     EQU      MT+26                               0176777                  04 00080
000453 A        81 BR10    EQU      MT+27                               0175777                  04 00081
000454 A        82 BR11    EQU      MT+28                               0173777                  04 00082
000455 A        83 BR12    EQU      MT+29                               0167777                  04 00083
000456 A        84 BR13    EQU      MT+30                               0157777                  04 00084
000457 A        85 BR14    EQU      MT+31                               0137777                  04 00085
000460 A        86 BR15    EQU      MT+32                               0077777                  04 00086
000461 A        87 NEG     EQU      MT+33            SET ALL BITS                                04 00087
000462 A        88 LHW     EQU      MT+34            LEFT HALF WORD MASK 0177400                 04 00088
000463 A        89 RHW     EQU      MT+35            RIGHT HALF WORD MASK    0377                04 00089
000421 A        90 ONE     EQU      MT+1             CONTAINS NUMBER  1                          04 00090
000422 A        91 TWO     EQU      MT+2             CONTAINS NUMBER  2                          04 00091
000464 A        92 THREE   EQU      MT+36            CONTAINS NUMBER  3                          04 00092
000423 A        93 FOUR    EQU      MT+3             CONTAINS NUMBER  4                          04 00093
000465 A        94 FIVE    EQU      MT+37            CONTAINS NUMBER  5                          04 00094
000466 A        95 SIX     EQU      MT+38            CONTAINS NUMBER  6                          04 00095
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000467 A    96 SEVEN   EQU     MT+39          CONTAINS NUMBER  7                          04 00096
000424 A    97 EIGHT   EQU     MT+4           CONTAINS NUMBER  8                          04 00097
000470 A    98 NINE    EQU     MT+40          CONTAINS NUMBER  9                          04 00098
000471 A    99 TEN     EQU     MT+41          CONTAINS NUMBER 10                          04 00099
000421 A   100 BM1     EQU     MT+1           BIT MASK WORD 00001                         04 00100
000464 A   101 BM3     EQU     MT+36          BIT MASK WORD  00003                        04 00101
000467 A   102 BM7     EQU     MT+39          BIT MASK WORD  00007                        04 00102
000472 A   103 BM17    EQU     MT+42          BIT MASK WORD  00017                        04 00103
000473 A   104 BM37    EQU     MT+43          BIT MASK WORD  00037                        04 00104
000474 A   105 BM77    EQU     MT+44          BIT MASK WORD  00077                        04 00105
000475 A   106 BM177   EQU     MT+45          BIT MASK WORD  00177                        04 00106
000463 A   107 BM377   EQU     MT+35          BIT MASK WORD  00377                        04 00107
000476 A   108 BM777   EQU     MT+46          BIT MASK WORD  00777                        04 00108
000477 A   109 BM1777  EQU     MT+47          BIT MASK WORD  01777                        04 00109
000500 A   110 MTE     EQU     BM1777+1                                                FF 04 00110
           111         EJECT                                                              04 00111
           112 ********************************************************************** 04 00112
           113 *                                                                    * 04 00113
           114 *       P   R   O   G   R   A   M       C   O   N   T   R   O   L    * 04 00114
           115 *                                                                    * 04 00115
           116 *                           B   L   O   C   K                        * 04 00116
           117 *                                                                    * 04 00117
           118 ********************************************************************** 04 00118
           120 ********************************************************************** 04 00120
           121 *                                                                    * 04 00121
           122 *                       E X T E R N A L S                            * 04 00122
           123 *                                                                    * 04 00123
           124 ********************************************************************** 04 00124
           126         EXT     BOFCB          SYSTEM BO FCB                           04 00126
           127         EXT     GOFCB          SYSTEM GO FCB                           04 00127
           128         EXT     LOFCB          SYSTEM LO FCB                           04 00128
           129         EXT     PIFCB          SYSTEM PI FCB                           04 00129
           130         EXT     SIFCB          SYSTEM SI FCB                           04 00130
           131         EXT     V$EXEC         ENTRY TO RTE SERVICES                   04 00131
           132         EXT     V$IOC          ENTRY TO IOC                            04 00132
           133         EXT     V$IOST         ENTRY TO IOC STATUS CALL                04 00133
           134 ********************************************************************** 04 00134
           135 *                                                                    * 04 00135
           136 *                   S Y S T E M   V A R I A B L E S                  * 04 00136
           137 *                                                                    * 04 00137
           138 ********************************************************************** 04 00138
000020 A   140 $BIT    SET     16             SELECT 16-BIT VDM 620 COMPUTER          04 00140
000002 A   141 B       SET     2              B-REGISTER                              04 00141
000001 A   142 X       SET     1              X-REGISTER                              04 00142
           143 *                                                                      04 00143
           144 *                                                                      04 00144
           145 *       PARAMETERS FOR WCS V74 FORTRAN                                 04 00145
           146 *                                                                      04 00146
           147 *                                                                      04 00147
105032 A   148 FLDI    EQU     0105032        FLD BCS OPCODE                          04 00148
105033 A   149 FSTI    EQU     0105033        FST BCS OPCODE                          04 00149
105035 A   150 FSDDI   EQU     0105035        $DD BCS OPCODE                          04 00150
105027 A   151 FSDDI1  EQU     0105027        $DD BCS OPCODE(INCREMENT=1)          FF 04 00151
105036 A   152 FSSEI   EQU     0105036        $SE BCS OPCODE                          04 00152
105037 A   153 FMOVI   EQU     0105037        FMOV BCS INSTRUCTION                    04 00153
105127 A   154 FSQRT   EQU     0105127        FLOATING SQUARE-ROOT BCS INSTRUCTION    04 00154
105024 A   155 FLREL   EQU     0105024        FLOATING RELATIONAL BASE OP-CODE        04 00155
105125 A   156 FLJAG   EQU     0105125        BCS JMP A.GT.0                          04 00156
105226 A   157 FLAIF   EQU     0105226        FLOATING ARITHMETIC-IF OP-CODE          04 00157
105167 A   158 FLIOP   EQU     0105167        BCS SUBSCRIPT OPERATOR                  04 00158
           159 *                                                                  FF 04 00159
           160 * FAST FLOATING-POINT BOX OP CODES                                  FF 04 00160
           161 *                                                                  FF 04 00161
105400 A   162 FFPOP   EQU     0105400          BASIC FFP OP                        FF 04 00162
105503 A   163 FADDD   EQU     FFPOP+0103       DP ADD                              FF 04 00163
105410 A   164 FADDS   EQU     FFPOP+010        SP ADD                              FF 04 00164
105535 A   165 FDIVD   EQU     FFPOP+0135       DP DIVIDE                           FF 04 00165
105401 A   166 FDIVS   EQU     FFPOP+1          SP DIVIDE                           FF 04 00166
105621 A   167 FIX     EQU     FFPOP+0221       FIX FP                              FF 04 00167
105420 A   168 FLDS    EQU     FFPOP+020        LOAD SP                             FF 04 00168
105522 A   169 FLDD    EQU     FFPOP+0122       LOAD DP                             FF 04 00169
105425 A   170 FLT     EQU     FFPOP+025        FLOAT INTEGER                       FF 04 00170
105506 A   171 FMULD   EQU     FFPOP+0106       MULTIPLY DP                         FF 04 00171
105416 A   172 FMULS   EQU     FFPOP+016        MULTIPLY SP                         FF 04 00172
105710 A   173 FSTD    EQU     FFPOP+0310       STORE DP                            FF 04 00173
105600 A   174 FSTS    EQU     FFPOP+0200       STORE SP                            FF 04 00174
105543 A   175 FSUBD   EQU     FFPOP+0143       SUBTRACT DP                         FF 04 00175
105450 A   176 FSUBS   EQU     FFPOP+050        SUBTRACT SP                         FF 04 00176
           177 *                                                                      04 00177
           178 *                                                                      04 00178
000422 A   179 K2      EQU     TWO                                                     04 00179
000441 A   180 MTWO    EQU     BR0                                                     04 00180
000423 A   181 K4      EQU     FOUR                                                    04 00181
000466 A   182 K6      EQU     SIX                                                     04 00182
000424 A   183 K10     EQU     BS3                                                     04 00183
000471 A   184 K12     EQU     TEN                                                     04 00184
000472 A   185 K17     EQU     BM17                                                    04 00185
000425 A   186 K20     EQU     BS4                                                     04 00186
000473 A   187 K37     EQU     BM37                                                    04 00187
000463 A   188 K77     EQU     BM377                                                   04 00188
000432 A   189 KJMP    EQU     BS9                                                     04 00189
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           190        EJECT                                                           04 00190
           191 ***********************************************************************04 00191
           192 *                                                                    * 04 00192
           193 * I/O BUFFER, VARIABLE BLOCK, AND TRANSFER VECTOR DEFINITIONS         * 04 00193
           194 *                                                                    * 04 00194
           195 ***********************************************************************04 00195
010150 A   197 OVERSZ SET     4200           MAXIMUM OVERLAY SIZE                     04 00197
000027 A   198 TFVCSZ SET     027            FROM-COMPILER TRANSFER VECTOR SIZE       04 00198
000666 A   199 VARBLS SET     0666           VARIABLE BLOCK SIZE                      04 00199
177112 R   200 VARBLO EQU     *-VARBLS       VARIABLE BLOCK START ADDRESS             04 00200
177120 R   202 ERBF   EQU     VARBLO+06      ERROR BUFFER                             04 00202
177127 R   203 NERR   EQU     VARBLO+015     ERROR COUNT                              04 00203
177160 R   204 SLOT   EQU     VARBLO+0046    SPECIAL LIST BUFFER                      04 00204
177204 R   205 TITL   EQU     VARBLO+0072    TITLE BUFFER                             04 00205
177207 R   206 TITP   EQU     VARBLO+0075         TITLE PAGE NUMBER                   04 00206
177212 R   207 TITD   EQU     VARBLO+0100         TITLE DATE                          04 00207
177217 R   208 TITJ   EQU     VARBLO+0105         TITLE JOB NAME                      04 00208
177236 R   209 TITN   EQU     VARBLO+0124    TITLE NAME                               04 00209
177243 R   210 TITM   EQU     VARBLO+0131         TIME                                04 00210
177250 R   211 TITQ   EQU     VARBLO+0136         END                                 04 00211
177250 R   212 BLFCB  EQU     VARBLO+0136    BO FCB                                   04 00212
177262 R   213 GLFCB  EQU     VARBLO+0150    GO FCB                                   04 00213
177274 R   214 LLFCB  EQU     VARBLO+0162    LO FCB                                   04 00214
177306 R   215 PLFCB  EQU     VARBLO+0174    PI FCB                                   04 00215
           216        EJEC                                                            04 00216
           217 ***********************************************************************04 00217
           218 *                                                                    * 04 00218
           219 *               C O M P I L E R   V A R I A B L E   B L O C K        * 04 00219
           220 *                                                                    * 04 00220
           221 ***********************************************************************04 00221
           223 ********************************                                       04 00223
           224 * FIXED ON LOADING BY ROUTINE FORT *                                   04 00224
           225 ********************************                                       04 00225
177320 R   226 BOBLFL EQU     VARBLO+0206    BO BLOCKING FLAG                         04 00226
177321 R   227 GOBLFL EQU     VARBLO+0207    GO BLOCKING FLAG                         04 00227
177322 R   228 LOBLFL EQU     VARBLO+0210    LO BLOCKING FLAG                         04 00228
177323 R   229 PIBLFL EQU     VARBLO+0211    PI BLOCKING FLAG                         04 00229
177324 R   230 $PCW   EQU     VARBLO+0212    COMPILER CONTROL FLAGS                   04 00230
177325 R   231 $ECW   EQU     VARBLO+0213    ERROR CONTROL WORD                       04 00231
177326 R   232 DPB    EQU     VARBLO+0214    AVAILABLE CORE START ADDRESS             04 00232
177327 R   233 DPX    EQU     VARBLO+0215    AVAILABLE CORE END ADDRESS               04 00233
           235 ******************************                                         04 00235
           236 * CLEARED FOR EACH COMPILATION *                                       04 00236
           237 ******************************                                         04 00237
177330 R   239 VBLOBG EQU     DPX+1          START OF CLEARED VARIABLES               04 00239
177330 R   240 AF     EQU     VBLOBG         ADDRESS FIELD                         01 04 00240
177331 R   241 AIFW   EQU     AF+1           SCAN FORWARD I POINTER                01 04 00241
177332 R   242 AS     EQU     AIFW+1         ARRAY SUBSCRIPTS                      07 04 00242
177341 R   243 AT     EQU     AS+7           ADDRESS TYPE                          01 04 00243
177342 R   244 BDF    EQU     AT+1           BLOCK DATA FLAG                       01 04 00244
177343 R   245 BOBLCN EQU     BDF+1          BO BLOCKING FLAG                      01 04 00245
177344 R   246 CF     EQU     BOBLCN+1       SCAN COMPLIMENT FLAG                  01 04 00246
177345 R   247 CFPTSW EQU     CF+1           FINAL POINT CHECK SWITCH              01 04 00247
177346 R   248 CL     EQU     CFPTSW+1                                             01 04 00248
177347 R   249 CLOP   EQU     CL+1           LIST OUTPUT PACK COUNT                01 04 00249
177350 R   250 CMFL   EQU     CLOP+1         COMMON FLAGS                          01 04 00250
177351 R   251 CNP    EQU     CMFL+1         COMMON NAME POINTER                   01 04 00251
177352 R   252 D      EQU     CNP+1          DO POINTER                            01 04 00252
177353 R   253 DF     EQU     D+1            DELIMITER FLAG                        01 04 00253
177354 R   254 DFPP   EQU     DF+1           FLOATING POINT DISABLE FLAG           01 04 00254
177355 R   255 DH     EQU     DFPP+1         DO LIMIT POINTER                      01 04 00255
177356 R   256 DI     EQU     DH+1           DO INCREMENT POINTER                  01 04 00256
177357 R   257 DPCA   EQU     DI+1           DATA POOL CONTSANTS - I-POINTER FOR      04 00257
           258 *                                   1,2,0,4,0.0,0D0,A$C,SQRT,IFIX,FLOAT 04 00258
           259 *                                 ,-1,DFLOAT                           04 00259
177373 R   260 DR     EQU     DPCA+12        DO RETURN ADDRESS                        04 00260
177374 R   261 DS     EQU     DR+1                                                 01 04 00261
177375 R   262 DSAV   EQU     DS+1           DT SAVE FOR RD/WR PROCESSING          01 04 00262
177376 R   263 DT     EQU     DSAV+1         DO TOP POINTER                        01 04 00263
177377 R   264 DTFL   EQU     DT+1           DO TERMINATION FLAG                   02 04 00264
177401 R   265 DV     EQU     DTFL+2         DO VARIABLE POINTER                   01 04 00265
177402 R   266 EC     EQU     DV+1           ERROR COUNT                           01 04 00266
177403 R   267 EH     EQU     EC+1           EXPRESSION HIERARCHYS                 02 04 00267
177405 R   268 EHBK   EQU     EH+2           SCAN BACKWARD EXPRESSION HEIRARCHY    01 04 00268
177406 R   269 EL     EQU     EHBK+1         ENTRY LENGTH                          01 04 00269
177407 R   270 EXAD   EQU     EL+1           EXECUTEABLE ADDRESS                   01 04 00270
177410 R   271 F      EQU     EXAD+1         ALTERNATE I POINTER                   01 04 00271
177411 R   272 FFPFL  EQU     F+1            FLOATING POINT PROCESSOR FLAG         01 04 00272
177412 R   273 GOBLCN EQU     FFPFL+1        GO BLOCKING COUNT                     01 04 00273
177413 R   274 HCC    EQU     GOBLCN+1       HOLLERITH COLUMN COUNTER              01 04 00274
177414 R   275 I      EQU     HCC+1          ASSIGNMENT TABLE POINTER              01 04 00275
177415 R   276 ID     EQU     I+1            IDENTIFICATION                        04 04 00276
177421 R   277 IM     EQU     ID+4           ITEM MODE                             01 04 00277
177422 R   278 INBP   EQU     IM+1           INPUT BUFFER POINTER                  01 04 00278
177423 R   279 IOFL   EQU     INBP+1         I/O FLAG                              01 04 00279
177424 R   280 IP     EQU     IOFL+1         ARRAY POINTERS                        09 04 00280
177435 R   281 IS     EQU     IP+9           ARRAY DIMENSIONS                      08 04 00281
177445 R   282 IT     EQU     IS+8           ASSIGNMENT TOP POINTER                01 04 00282
177446 R   283 IU     EQU     IT+1           ITEM USAGE                            01 04 00283
177447 R   284 J      EQU     IU+1           TRIAD POINTER                         01 04 00284
177450 R   285 JPFL   EQU     J+1            JUMP FLAGS                            04 04 00285
```

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177454 R  286 JT      EQU     JPFL+4          TRIAD TOP POINTER                          01 04 00286
177455 R  287 K       EQU     JT+1            EXPRESSION POINTER                         01 04 00287
177456 R  288 KT      EQU     K+1             EXPRESSION TOP POINTER                     01 04 00288
177457 R  289 LF      EQU     KT+1            LOCATION FIELD                             01 04 00289
177460 R  290 LIF     EQU     LF+1            LOGICAL IF FLAG                            01 04 00290
177461 R  291 LLOP    EQU     LIF+1           NO. OF LINES LEFT ON PAGE                  01 04 00291
177462 R  292 MAXOPC  EQU     LLOP+1          MAXIMUM FPP OPERATION COUNT                01 04 00292
177463 R  293 MDTB    EQU     MAXOPC+1        OPERAND IMPLICIT MODE TABLE                26 04 00293
177516 R  294 MF      EQU     MDTB+27         MODE FLAG                                     04 00294
177517 R  295 MM      EQU     MF+1            MAX/MIN LIST FLAF                          01 04 00295
177520 R  296 MR      EQU     MM+1            MULTIPLY REGISTERS                         02 04 00296
177522 R  297 NAME    EQU     MR+2            SUBROUTINE GENERATION NAME                 01 04 00297
177523 R  298 ND      EQU     NAME+1          NUMBER OF DIMENSIONS                       01 04 00298
177524 R  299 NF      EQU     ND+1            NEGATION FLAG                              01 04 00299
177525 R  300 NFFW    EQU     NF+1            SCAN FORWARD NEGATION FLAG                 01 04 00300
177526 R  301 NS      EQU     NFFW+1          NUMBER OF SUBSCRIPTS                       01 04 00301
177527 R  302 NT      EQU     NS+1            NAME TAG                                   01 04 00302
177530 R  303 NTFL    EQU     NT+1            NO TAG-USAGE FLAG                          01 04 00303
177531 R  304 OP      EQU     NTFL+1          OPERATION                                  01 04 00304
177532 R  305 OPBK    EQU     OP+1            SCAN BACKWARD OPERATION                    01 04 00305
177533 R  306 OPCNT   EQU     OPBK+1          OPERATION COUNT                            01 04 00306
177534 R  307 OPW     EQU     OPCNT+1         OUTPUT PACK WORD                           01 04 00307
177535 R  308 OITFL   EQU     OPW+1           OUTPUT-ITEM FLAG                           01 04 00308
177536 R  309 O1      EQU     OITFL+1         LEFT OPERAND                               01 04 00309
177537 R  310 O2      EQU     O1+1            RIGHT OPERAND                              01 04 00310
177540 R  311 PC      EQU     O2+1            PACK CONTROL                               04 04 00311
177544 R  312 PIBLCN  EQU     PC+4            PI BLOCKING COUNT                          01 04 00312
177545 R  313 QFL     EQU     PIBLCN+1        QUOTE FLAG                                 01 04 00313
177546 R  314 RL      EQU     QFL+1           RELATIVE PROGRAM LOCATIONS                 02 04 00314
177550 R  315 SBFL    EQU     RL+2            SUBPROGRAM FLAGS                           02 04 00315
177553 R  316 SF      EQU     SBFL+3          STORAGE FLAG                                  04 00316
177554 R  317 SPFL    EQU     SF+1            SPECIFICATION FLAG                         01 04 00317
177555 R  318 STFFL   EQU     SPFL+1          STATEMENT FUNCTION FLAG                    01 04 00318
177556 R  319 STNB    EQU     STFFL+1         STATEMENT NUMBER                           01 04 00319
177557 R  320 STSW    EQU     STNB+1          STATEMENT SWITCH                           01 04 00320
177560 R  321 SSP     EQU     STSW+1          SPECIFICATION STACK POINTERS               05 04 00321
177565 R  322 SXF     EQU     SSP+5           COMPLEX FLAG                               01 04 00322
177566 R  323 TC      EQU     SXF+1           TERM CHARACTER/ CHARACTER IMAGE            02 04 00323
177570 R  324 TERF    EQU     TC+2            TERMINATING ERROR FLAG                     01 04 00324
177571 R  325 TM      EQU     TERF+1          TRIAD MODE                                 01 04 00325
177572 R  326 TSFL    EQU     TM+1            TEMPORARY STORAGE FLAG                     01 04 00326
177573 R  327 TU      EQU     TSFL+1          TRIAD USE                                  01 04 00327
177574 R  328 T0      EQU     TU+1            TEMPORARY STORAGE                          01 04 00328
177575 R  329 T1      EQU     T0+1            TEMPORARY STORAGE                          01 04 00329
177576 R  330 T2      EQU     T1+1            TEMPORARY STORAGE                          01 04 00330
177577 R  331 T2IN    EQU     T2+1                                                       01 04 00331
177600 R  332 T3      EQU     T2IN+1          TEMPORARY STORAGE                          01 04 00332
177601 R  333 T4      EQU     T3+1            TEMPORARY STORAGE                          01 04 00333
177602 R  334 T5      EQU     T4+1            TEMPORARY STORAGE                          01 04 00334
177603 R  335 T6      EQU     T5+1            TEMPORARY STORAGE                          01 04 00335
177604 R  336 T7      EQU     T6+1            TEMPORARY STORAGE                          01 04 00336
177605 R  337 T8      EQU     T7+1            TEMPORARY STORAGE                          01 04 00337
177606 R  338 T9      EQU     T8+1            TEMPORARY STORAGE                          01 04 00338
177607 R  339 XRPT    EQU     T9+1            OBJECT X-REGISTER POINTER                  01 04 00339
177611 R  340 VBLOND  EQU     XRPT+2          END OF CLEARED VARIABLES                      04 00340
          341         EJECT                                                              04 00341
          342 ********************************************************************************* 04 00342
          343 *                                                                           * 04 00343
          344 *          C O M P I L E R   T R A N S F E R   V E C T O R                  * 04 00344
          345 *                                                                           * 04 00345
          346 ********************************************************************************* 04 00346
          348 *       T O - C O M P I L E R                                               * 04 00348
077611 R  350 V       SET     VBLOND-0100000                                             04 00350
077611 R  352 ASI     EQU     V               ASSIGN ITEM                                04 00352
077612 R  353 V       SET     V+1                                                        04 00353
077612 R  354 AS$     EQU     V               ASSIGN SPECIAL                             04 00354
077613 R  355 V       SET     V+1                                                        04 00355
077613 R  356 CAN     SET     V               "ALL NAME                                  04 00356
077614 R  357 V       SET     V+1                                                        04 00357
077614 R  358 CBA     SET     V               CONVERT BINARY TO ASCII                    04 00358
077615 R  359 V       SET     V+1                                                        04 00359
077615 R  360 CCR     EQU     V               COMMA OR C/R TEST                          04 00360
077616 R  361 V       SET     V+1                                                        04 00361
077616 R  362 CRT     EQU     V               C/R TEST                                   04 00362
077617 R  363 V       SET     V+1                                                        04 00363
077617 R  364 CTS     EQU     V               COMMA TEST                                 04 00364
077620 R  365 V       SET     V+1                                                        04 00365
077620 R  366 DEK     SET     V               DEKREMENT K                                04 00366
077621 R  367 V       SET     V+1                                                        04 00367
077621 R  368 DFT     EQU     V               DEFINE AF,AT                               04 00368
077622 R  369 V       SET     V+1                                                        04 00369
077622 R  370 DSM     SET     V               DEFINE STATEMENT MODE                      04 00370
077623 R  371 V       SET     V+1                                                        04 00371
077623 R  372 EOLSW   SET     V                                                          04 00372
077624 R  373 V       SET     V+1                                                        04 00373
077624 R  374 ER1     SET     V                                                          04 00374
077625 R  375 V       SET     V+1                                                        04 00375
077625 R  376 ER2     EQU     V               USAGE ERROR                                04 00376
077626 R  377 V       SET     V+1                                                        04 00377
077626 R  378 ER3     EQU     V               MODE ERROR                                 04 00378
077627 R  379 V       SET     V+1                                                        04 00379
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077627 R  380 ER6    EQU  V      COMMON BASE LOWERED                          04 00380
077630 R  381 V      SET  V+1                                                 04 00381
077630 R  382 ER7    EQU  V      ILLEGAL EQUIVALENCE GROUP                    04 00382
077631 R  383 V      SET  V+1                                                 04 00383
077631 R  384 ER8    SET  V                                                   04 00384
077632 R  385 V      SET  V+1                                                 04 00385
077632 R  386 ER11   SET  V                                                   04 00386
077633 R  387 V      SET  V+1                                                 04 00387
077633 R  388 ER12   SET  V                                                   04 00388
077634 R  389 V      SET  V+1                                                 04 00389
077634 R  390 ER13   SET  V                                                   04 00390
077635 R  391 V      SET  V+1                                                 04 00391
077635 R  392 ER14   SET  V                                                   04 00392
077636 R  393 V      SET  V+1                                                 04 00393
077636 R  394 ER15   EQU  V      TRUNCATED VALUE ERROR                        04 00394
077637 R  395 V      SET  V+1                                                 04 00395
077637 R  396 ER16   EQU  V      STATEMENT OUT OF ORDER                       04 00396
077640 R  397 V      SET  V+1                                                 04 00397
077640 R  398 ER17   EQU  V      MORE THAN 29 COMMON REGIONS                  04 00398
077641 R  399 V      SET  V+1                                                 04 00399
077641 R  400 ER18   EQU  V      NON-COMMON DATA ERROR                        04 00400
077642 R  401 V      SET  V+1                                                 04 00401
077642 R  402 ER20   EQU  V      DO INDEX NOT REFERENCED                      04 00402
077643 R  403 V      SET  V+1                                                 04 00403
077643 R  404 ER21   SET  V                                                   04 00404
077644 R  405 V      SET  V+1                                                 04 00405
077644 R  406 ER22   EQU  V      ARRAY NAME PREVIOUSLY DECLARED               04 00406
077645 R  407 V      SET  V+1                                                 04 00407
077645 R  408 ER24   SET  V                                                   04 00408
077646 R  409 V      SET  V+1                                                 04 00409
077646 R  410 EXA    EQU  V      EXAMINE NEXT CHARACTER                       04 00410
077647 R  411 V      SET  V+1                                                 04 00411
077647 R  412 EXL    EQU  V      EXCHANGE LINKS                               04 00412
077650 R  413 V      SET  V+1                                                 04 00413
077650 R  414 FNS1   EQU  V      ENTRY TO FNS                                 04 00414
077651 R  415 V      SET  V+1                                                 04 00415
077651 R  416 FORT1  SET  V                                                   04 00416
077652 R  417 V      SET  V+1                                                 04 00417
077652 R  418 GSE    EQU  V      GENERATE SUBPROGRAM ENTRANCE                 04 00418
077653 R  419 V      SET  V+1                                                 04 00419
077653 R  420 IAC    SET  V      INPUT (A) CHARACTERS                         04 00420
077654 R  421 V      SET  V+1                                                 04 00421
077654 R  422 ICH    EQU  V      INPUT CHARACTER                              04 00422
077655 R  423 V      SET  V+1                                                 04 00423
077655 R  424 ICO    EQU  V      INPUT COLUMN                                 04 00424
077656 R  425 V      SET  V+1                                                 04 00425
077656 R  426 ICORNL SET  V                                                   04 00426
077657 R  427 V      SET  V+1                                                 04 00427
077657 R  428 ICRD   SET  V                                                   04 00428
077660 R  429 V      SET  V+1                                                 04 00429
077660 R  430 ICRR   SET  V                                                   04 00430
077661 R  431 V      SET  V+1                                                 04 00431
077661 R  432 ICSI   EQU  V      INPUT SOURCE CONTROL SWITCH                  04 00432
077662 R  433 V      SET  V+1                                                 04 00433
077662 R  434 IDI    SET  V      INPUT DIGIT                                  04 00434
077663 R  435 V      SET  V+1                                                 04 00435
077663 R  436 IHW    EQU  V      INPUT HOLLERITH WORD                         04 00436
077664 R  437 V      SET  V+1                                                 04 00437
077664 R  438 IIV    EQU  V      INPUT INTEGER VARIABLE                       04 00438
077665 R  439 V      SET  V+1                                                 04 00439
077665 R  440 ILB    SET  V      INITIALIZE LIST BUFFER                       04 00440
077666 R  441 V      SET  V+1                                                 04 00441
077666 R  442 ILT    EQU  V      ILLEGAL DO TERMINATION/CONTROL CONTINUE      04 00442
077667 R  443 V      SET  V+1                                                 04 00443
077667 R  444 INA    EQU  V      INPUT NAME                                   04 00444
077670 R  445 V      SET  V+1                                                 04 00445
077670 R  446 INI    EQU  V      INPUT ITEM                                   04 00446
077671 R  447 V      SET  V+1                                                 04 00447
077671 R  448 INN    EQU  V      INPUT (DO NOT ASSIGN)                        04 00448
077672 R  449 V      SET  V+1                                                 04 00449
077672 R  450 INS    SET  V      INPUT NORMAL STATEMENT NUMBER                04 00450
077673 R  451 V      SET  V+1                                                 04 00451
077673 R  452 INT    EQU  V      INTEGER TEST                                 04 00452
077674 R  453 V      SET  V+1                                                 04 00453
077674 R  454 ISN    SET  V      INPUT STATEMENT NUMBER                       04 00454
077675 R  455 V      SET  V+1                                                 04 00455
077675 R  456 IVA    EQU  V      INPUT VARIABLE                               04 00456
077676 R  457 V      SET  V+1                                                 04 00457
077676 R  458 IVC    SET  V      INPUT INTEGER VARIABLE/CONSTANT              04 00458
077677 R  459 V      SET  V+1                                                 04 00459
077677 R  460 IWI    EQU  V      WORDS/ITEM                                   04 00460
077700 R  461 V      SET  V+1                                                 04 00461
077700 R  462 LAX    EQU  V      LOAD ASSIGNMENT DATA                         04 00462
077701 R  463 V      SET  V+1                                                 04 00463
077701 R  464 LDX    SET  V      LOAD DO                                      04 00464
077702 R  465 V      SET  V+1                                                 04 00465
077702 R  466 LEX    SET  V      LOAD EXPRESSION                              04 00466
077703 R  467 V      SET  V+1                                                 04 00467
077703 R  468 LIST   EQU  V      LIST A LINE                                  04 00468
077704 R  469 V      SET  V+1                                                 04 00469
077704 R  470 LOCT   SET  V                                                   04 00470
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077705 R  471 V       SET   V+1                                                  04 00471
077705 R  472 LTX     SET   V                                                    04 00472
077706 R  473 V       SET   V+1                                                  04 00473
077706 R  474 MOVE    EQU   V       MOVE ALPHA DATA                              04 00474
077707 R  475 V       SET   V+1                                                  04 00475
077707 R  476 MXL     EQU   V       MAKE EXIT LABEL                              04 00476
077710 R  477 V       SET   V+1                                                  04 00477
077710 R  478 OAB     EQU   V       OUTPUT ABSOLUTE                              04 00478
077711 R  479 V       SET   V+1                                                  04 00479
077711 R  480 ODB     SET   V       OUTPUT DOUBLE                                04 00480
077712 R  481 V       SET   V+1                                                  04 00481
077712 R  482 ODS     SET   V       OUTPUT DATA STRING                           04 00482
077713 R  483 V       SET   V+1                                                  04 00483
077713 R  484 ONEN    EQU   V       OUTPUT NAME                                  04 00484
077714 R  485 V       SET   V+1                                                  04 00485
077714 R  486 OPK     SET   V       OUTPUT PACK                                  04 00486
077715 R  487 V       SET   V+1                                                  04 00487
077715 R  488 ORE     SET   V       OUTPUT RELATIVE                              04 00488
077716 R  489 V       SET   V+1                                                  04 00489
077716 R  490 OSR     SET   V       OUTPUT STRING RELATIVE                       04 00490
077717 R  491 V       SET   V+1                                                  04 00491
077717 R  492 OTJ     EQU   V       OUTPUT JUMP                                  04 00492
077720 R  493 V       SET   V+1                                                  04 00493
077720 R  494 OUT     SET   V       OUTPUT OPERATOR/OPERAND                      04 00494
077721 R  495 V       SET   V+1                                                  04 00495
077721 R  496 OWD     SET   V       OUTPUT WORD                                  04 00496
077722 R  497 V       SET   V+1                                                  04 00497
077722 R  498 OWS     EQU   V       OUTPUT WORDS                                 04 00498
077723 R  499 V       SET   V+1                                                  04 00499
077723 R  500 PDS     SET   V       PACK DATA STRING                             04 00500
077724 R  501 V       SET   V+1                                                  04 00501
077724 R  502 PEB     SET   V       PACK ERROR BUFFER                            04 00502
077725 R  503 V       SET   V+1                                                  04 00503
077725 R  504 PTR     SET   V       PURGE TRIADS                                 04 00504
077726 R  505 V       SET   V+1                                                  04 00505
077726 R  506 PTS     EQU   V       '(' TEST                                     04 00506
077727 R  507 V       SET   V+1                                                  04 00507
077727 R  508 RCC     EQU   V       RESTORE SCAN PARAMETERS                      04 00508
077730 R  509 V       SET   V+1                                                  04 00509
077730 R  510 RCCS    EQU   V       SAVE SCAN PARAMETERES                        04 00510
077731 R  511 V       SET   V+1                                                  04 00511
077731 R  512 RCH     EQU   V       REREAD CHARACTER                             04 00512
077732 R  513 V       SET   V+1                                                  04 00513
077732 R  514 RIO     EQU   V       RIGHT INPUT OPERATOR                         04 00514
077733 R  515 V       SET   V+1                                                  04 00515
077733 R  516 SAX     EQU   V       STORE ASSIGNMENT DATA                        04 00516
077734 R  517 V       SET   V+1                                                  04 00517
077734 R  518 SDX     SET   V       STORE DO                                     04 00518
077735 R  519 V       SET   V+1                                                  04 00519
077735 R  520 SIDTB1  SET   V       END OF MODE-SETTING IN SIDTB                 04 00520
077736 R  521 V       SET   V+1                                                  04 00521
077736 R  522 SIS     EQU   V       STATEMENT IDENTIFICATION SCAN                04 00522
077737 R  523 V       SET   V+1                                                  04 00523
077737 R  524 SLIT    SET   V                                                    04 00524
077740 R  525 V       SET   V+1                                                  04 00525
077740 R  526 SLOP    SET   V       SPECIAL LIST OUTPUT                          04 00526
077741 R  527 V       SET   V+1                                                  04 00527
077741 R  528 STC     SET   V       STATEMENT COMPLETION                         04 00528
077742 R  529 V       SET   V+1                                                  04 00529
077742 R  530 STI1    EQU   V       ENTRY TO STI                                 04 00530
077743 R  531 V       SET   V+1                                                  04 00531
077743 R  532 STN     EQU   V       ILLEGAL DO TERM./NO CONTROL CONTINUE         04 00532
077744 R  533 V       SET   V+1                                                  04 00533
077744 R  534 STS     SET   V       STATEMENT SCAN                               04 00534
077745 R  535 V       SET   V+1                                                  04 00535
077745 R  536 TER1    EQU   V       CONSTRUCTION                                 04 00536
077746 R  537 V       SET   V+1                                                  04 00537
077746 R  538 TER2    EQU   V       NOT IN SUBPROGRAM                            04 00538
077747 R  539 V       SET   V+1                                                  04 00539
077747 R  540 TER3    EQU   V       DATA POOL FULL                               04 00540
077750 R  541 V       SET   V+1                                                  04 00541
077750 R  542 TER4    EQU   V       ILLEGAL STATEMENT                            04 00542
077751 R  543 V       SET   V+1                                                  04 00543
077751 R  544 TER5    SET   V                                                    04 00544
077752 R  545 V       SET   V+1                                                  04 00545
077752 R  546 TER7    SET   V                                                    04 00546
077753 R  547 V       SET   V+1                                                  04 00547
077753 R  548 TER8    SET   V                                                    04 00548
077754 R  549 V       SET   V+1                                                  04 00549
077754 R  550 TER9    EQU   V       IMPROPER DO NEST                             04 00550
077755 R  551 V       SET   V+1                                                  04 00551
077755 R  552 TER11   EQU   V       ITEM NOT OPERAND                             04 00552
077756 R  553 V       SET   V+1                                                  04 00553
077756 R  554 TER12   EQU   V       ITEM NOT FUNCTION                            04 00554
077757 R  555 V       SET   V+1                                                  04 00555
077757 R  556 TER13   SET   V                                                    04 00556
077760 R  557 V       SET   V+1                                                  04 00557
077760 R  558 TER14   EQU   V       SUBSCRIPT VARIABLE NOT DUMMY                 04 00558
077761 R  559 V       SET   V+1                                                  04 00559
077761 R  560 TER15   SET   V                                                    04 00560
077762 R  561 V       SET   V+1                                                  04 00561
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                077762 R   562 TER17   EQU     V                                                    04 00562
                077763 R   563 V       SET     V+1                                                  04 00563
                077763 R   564 TER18   SET     V                                                    04 00564
                077764 R   565 V       SET     V+1                                                  04 00565
                077764 R   566 TER19   SET     V                                                    04 00566
                077765 R   567 V       SET     V+1                                                  04 00567
                077765 R   568 TER20   SET     V                                                    04 00568
                077766 R   569 V       SET     V+1                                                  04 00569
                077766 R   570 TER24   SET     V                                                    04 00570
                077767 R   571 V       SET     V+1                                                  04 00571
                077767 R   572 TER26   EQU     V       SUBSCRIPT NOT INTEGER CONSTANT               04 00572
                077770 R   573 V       SET     V+1                                                  04 00573
                077770 R   574 TOF     SET     V       TEST OVERFLOW                                04 00574
                077771 R   575 V       SET     V+1                                                  04 00575
                077771 R   576 TSB     EQU     V       TAG SUBPROGRAM                               04 00576
                077772 R   577 V       SET     V+1                                                  04 00577
                077772 R   578 TST     EQU     V       CHARACTER TEST                               04 00578
                077773 R   579 V       SET     V+1                                                  04 00579
                077773 R   580 TVR     EQU     V       TAG VARIABLE                                 04 00580
                077774 R   581 V       SET     V+1                                                  04 00581
                077774 R   582 WROBO   SET     V                                                    04 00582
                077775 R   583 V       SET     V+1                                                  04 00583
                077775 R   584 WROGO   SET     V                                                    04 00584
                077776 R   585 V       SET     V+1                                                  04 00585
                077776 R   586 WROT    SET     V                                                    04 00586
                077777 R   587 V       SET     V+1                                                  04 00587
                077777 R   588 ZEB     EQU     V       ZERO ERROR BUFFER                            04 00588
                           590 *       F R O M - C O M P I L E R                                  * 04 00590
                000000 R   592 V       SET     *                                                    04 00592
000000          000026 R   593         DATA    FOR     FORMAT                                       04 00593
000001                     594         BSS     TFVCSZ-*+V-1                                         04 00594
                           595         EJECT                                                        04 00595
                           596 ****************                                                     04 00596
                           597 * I/O BUFFERS *                                                      04 00597
                           598 ****************                                                     04 00598
                010151 R   600 $BUF    EQU     V+OVERSZ+1      INPUT BUFFER AREA                    04 00600
                010224 R   601 OBUF    EQU     $BUF+43         OBJECT BUFFER                        04 00601
                010320 R   602 BLBF1   EQU     OBUF+60         BLOCKING BUFFER 1                    04 00602
                           603         EJEC                                                         04 00603
                           604 *       FOR     FORMAT PROCESSOR                                     04 00604
000026          005001 A   606 FOR     TZA                                                          04 00606
000027          057000 I   607         STA     OPW                                                  04 00607
000030          057000 I   608         STA     QFL                                                  04 00608
000031          010000 L   609         LDA     ='('                                                 04 00609
000032          002000 A   610         CALL    OPK                                                  04 00610
000033          077714 R
000034          005001 A   611         TZA                                                          04 00611
000035          057000 I   612         STA     T3                                                   04 00612
000036          147000 I   613         SUB     JPFL                                                 04 00613
000037          001002 A   614         JAP     FOR1    NOT GTR ZERO                                 04 00614
000040          000054 R
000041          017000 I   615         LDA     RL                                                   04 00615
000042          140422 A   616         SUB     K2                                                   04 00616
000043          057000 I   617         STA     RL                                                   04 00617
000044          005211 A   618         CPA                                                          04 00618
000045          057000 I   619         STA     JPFL    FORMAT CHAIN                                 04 00619
000046          027000 I   620         LDB     RL                                                   04 00620
000047          010432 A   621         LDA     KJMP                                                 04 00621
000050          002000 A   622         CALL    OWS                                                  04 00622
000051          077722 R
000052          002000 A   623         CALL    OTJ                                                  04 00623
000053          077717 R
000054          017000 I   624 FOR1    LDA     STNB                                                 04 00624
000055          002010 A   625         JAZM    ER13    NO FORMAT STATEMENT NUMBER                   04 00625
000056          077634 R
000057          002000 A   626 FOR2    JMPM    IFS     INPUT FORMAT STRING                          04 00626
000060          000370 R
000061          001020 A   627         JBZ     FOR3    NO NUMBER                                    04 00627
000062          000107 R
000063          017000 I   628         LDA     TC                                                 V 04 00628
000064          006140 A   629         SUBI    'P'                                                  04 00629
000065          000320 A
000066          001010 A   630         JAZ     FOR2    SCALE FACTOR                               V 04 00630
000067          000057 R
000070          006120 A   631         ADDI    043                                                  04 00631
000071          000043 A
000072          001010 A   632         JAZ     TER1    '-'                                          04 00632
000073          077745 R
000074          017000 I   633         LDA     T1                                                   04 00633
000075          002010 A   634         JAZM    ER11                                                 04 00634
000076          077632 R
000077          017000 I   635         LDA     TC                                                   04 00635
000100          006140 A   636         SUBI    'H'                                                  04 00636
000101          000310 A
000102          001010 A   637         JAZ     FOR5    HOLLERITH                                    04 00637
000103          000206 R
000104          140425 A   638         SUB     K20                                                  04 00638
000105          001010 A   639         JAZ     FORX    SPACES (X)                                   04 00639
000106          000164 R
000107          017000 I   640 FOR3    LDA     TC                                                   04 00640
000110          140000 L   641         SUB     ='('                                                 04 00641
```

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000111 001010 A  642          JAZ     FORB                                    04 00642
000112 000347 R
000113 006140 A  643          SUBI    036                                     04 00643
000114 000036 A
000115 001010 A  644          JAZ     FOR6      'F'                           04 00644
000116 000272 R
000117 005111 A  645          IAR                                             04 00645
000120 001010 A  646          JAZ     FOR6      'E'                           04 00646
000121 000272 R
000122 005111 A  647          IAR                                             04 00647
000123 001010 A  648          JAZ     FOR6      'D'                           04 00648
000124 000272 R
000125 120464 A  649          ADD     THREE                                   04 00649
000126 001010 A  650          JAZ     FOR7      'A'                           04 00650
000127 000305 R
000130 140466 A  651          SUB     K6                                      04 00651
000131 001010 A  652          JAZ     FOR6      'G'                           04 00652
000132 000272 R
000133 140422 A  653          SUB     K2                                    V 04 00653
000134 001010 A  654          JAZ     FOR7      'I'                           04 00654
000135 000305 R
000136 140464 A  655          SUB     THREE                                   04 00655
000137 001010 A  656          JAZ     FOR7      'L'                           04 00656
000140 000305 R
000141 006140 A  657          SUBI    016                                     04 00657
000142 000016 A
000143 001010 A  658          JAZ     FOR7      'Z'                           04 00658
000144 000305 R
000145 006120 A  659          ADDI    'Z'-'-'                                 04 00659
000146 000055 A
000147 001010 A  660 FOR4     JAZ     FORC      '-'                           04 00660
000150 000175 R
000151 006140 A  661          SUBI    047                                     04 00661
000152 000047 A
000153 001010 A  662          JAZ     FOR7      'T'                           04 00662
000154 000305 R
000155 006120 A  663          ADDI    055                                     04 00663
000156 000055 A
000157 001010 A  664          JAZ     FOR5-1    '*'                           04 00664
000160 000205 R
000161 010000 L  665          LDA     ='/'                                    04 00665
000162 002000 A  666          CALL    TST                                     04 00666
000163 077772 R
000164 002000 A  667 FORX     JMPM    IFS                                     04 00667
000165 000370 R
000166 001026 A  668          JBNZ    FOR2+4    NUMBER PRESENT                04 00668
000167 000063 R
000170 017000 I  669          LDA     DF                                      04 00669
000171 001004 A  670          JAN     FOR3      ALPHABETIC CHARACTER          04 00670
000172 000107 R
000173 001000 A  671          JMP     FOR7+2    SPECIAL CHARACTER             04 00671
000174 000307 R
000175 002000 A  672 FORC     JMPM    FORA                                  V 04 00672
000176 000356 R
000177 006010 A  673          LDAI    'P'                                     04 00673
000200 000320 A
000201 002000 A  674          CALL    TST                                     04 00674
000202 077772 R
000203 001000 A  675          JMP     FOR2                                  V 04 00675
000204 000057 R
000205 047000 I  676          INR     QFL                                     04 00676
000206 002000 A  677 FOR5     CALL    ICO                                     04 00677
000207 077655 R
000210 002000 A  678          CALL    PEB                                     04 00678
000211 077724 R
000212 140463 A  679          SUB     K77                                     04 00679
000213 001010 A  680          JAZ     TER1                                    04 00680
000214 077745 R
000215 017000 I  681          LDA     QFL                                     04 00681
000216 140422 A  682          SUB     TWO                                     04 00682
000217 002016 A  683          JANZM   OPK                                     04 00683
000220 077714 R
000221 017000 I  684          LDA     QFL                                 B.2 04 00684
000222 001010 A  685          JAZ     FOR53     QUOTE FIELD?              B.2 04 00685
000223 000263 R
000224 140422 A  686          SUB     TWO       YES                       B.2 04 00686
000225 001016 A  687          JANZ    FOR51     2 QUOTES INPUT?           B.2 04 00687
000226 000247 R
000227 017000 I  688          LDA     TC        YES                       B.2 04 00688
000230 140000 L  689          SUB     =0247     ***                           04 00689
000231 001010 A  690          JAZ     FOR52     3RD QUOTE?                B.2 04 00690
000232 000255 R
000233 005001 A  691          TZA               NO                        B.2 04 00691
000234 057000 I  692          STA     QFL       CLEAR QUOTE FLAG          B.2 04 00692
000235 017000 I  693          LDA     TC                                      04 00693
000236 140000 L  694          SUB     =' '                                    04 00694
000237 001010 A  695          JAZ     FORX                                    04 00695
000240 000164 R
000241 017000 I  696          LDA     TC                                      04 00696
000242 057000 I  697          STA     TC+1      SETUP RESCAN                  04 00697
000243 002000 A  698          CALL    RCH                                     04 00698
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000244 077731 R
000245 001000 A  699          JMP     FORX                                    FF  04 00699
000246 000164 R
000247 017000 I  700 FOR51    LDA     TC      BUMP QUOTE COUNT                B.2 04 00700
000250 140000 L  701          SUB     =0247   ***                                 04 00701
000251 003010 A  702          XAZ     FOR5-1                                      04 00702
000252 000205 R
000253 001000 A  703          JMP     FOR5                                    B.2 04 00703
000254 000206 R
000255 005101 A  704 FOR52    INCR    1       SET QUOTE COUNT BACK TO 1       B.2 04 00704
000256 057000 I  705          STA     QFL                                     B.2 04 00705
000257 002000 A  706          CALL    OPK                                         04 00706
000260 077714 R
000261 001000 A  707          JMP     FOR5                                    B.2 04 00707
000262 000206 R
000263 017000 I  708 FOR53    LDA     T1                                      B.2 04 00708
000264 005311 A  709          DAR                                                 04 00709
000265 057000 I  710          STA     T1                                          04 00710
000266 001010 A  711          JAZ     FORX                                        04 00711
000267 000164 R
000270 001000 A  712          JMP     FOR5                                        04 00712
000271 000206 R
000272 002000 A  713 FOR6     JMPM    FORA                                        04 00713
000273 000356 R
000274 010000 L  714          LDA     ='.'                                        04 00714
000275 002000 A  715          CALL    TST                                         04 00715
000276 077772 R
000277 002000 A  716          JMPM    IFS                                         04 00716
000300 000370 R
000301 002020 A  717          JBZM    TER11                                       04 00717
000302 077755 R
000303 001000 A  718          JMP     *+4                                         04 00718
000304 000307 R
000305 002000 A  719 FOR7     JMPM    FORA                                        04 00719
000306 000356 R
000307 017000 I  720          LDA     TC                                          04 00720
000310 140000 L  721          SUB     ='('                                        04 00721
000311 001010 A  722          JAZ     FORB                                        04 00722
000312 000347 R
000313 005311 A  723          DAR                                                 04 00723
000314 001010 A  724          JAZ     FOR9    ')'                                 04 00724
000315 000324 R
000316 140464 A  725          SUB     THREE                                       04 00725
000317 001010 A  726          JAZ     FOR2    ','                                 04 00726
000320 000057 R
000321 005311 A  727          DAR                                                 04 00727
000322 001000 A  728          JMP     FOR4                                        04 00728
000323 000147 R
000324 017000 I  729 FOR9     LDA     T3                                          04 00729
000325 001010 A  730          JAZ     FORD    END OF FORMAT                       04 00730
000326 000337 R
000327 005311 A  731          DAR             COUNT RIGHT PAREN.                  04 00731
000330 057000 I  732          STA     T3                                          04 00732
000331 002000 A  733          JMPM    IFS                                         04 00733
000332 000370 R
000333 001020 A  734          JBZ     FOR7+2                                      04 00734
000334 000307 R
000335 001000 A  735          JMP     TER1                                        04 00735
000336 077745 R
000337 002000 A  736 FORD     CALL    ICH                                         04 00736
000340 077654 R
000341 017000 I  737          LDA     OPW                                         04 00737
000342 002016 A  738          JANZM   OPK     FILL LAST FORMAT WORD               04 00738
000343 077714 R
000344 017000 I  739          LDA     JPFL                                        04 00739
000345 001000 A  740          JMP     STC                                         04 00740
000346 077741 R
000347 047000 I  741 FORB     INR     T3      COUNT LEFT PARENS.                  04 00741
000350 017000 I  742          LDA     T3                                          04 00742
000351 140464 A  743          SUB     THREE                                       04 00743
000352 001002 A  744          JAP     TER1    TO MUCH NESTING                     04 00744
000353 077745 R
000354 001000 A  745          JMP     FOR2                                        04 00745
000355 000057 R
000356 000000 A  746 FORA     ENTRY                                               04 00746
000357 002000 A  747          JMPM    IFS     INPUT FORMAT STRING                 04 00747
000360 000370 R
000361 001020 A  748          JBZ     *+3                                         04 00748
000362 000364 R
000363 027000 I  749          LDB     T1                                          04 00749
000364 002020 A  750          JBZM    TER11                                       04 00750
000365 077755 R
000366 001000 A  751          JMP*    FORA                                        04 00751
000367 100356 R
                 752          EJECT                                               04 00752
                 753 *        IFS     INPUT FORMAT STRING                         04 00753
000370 000000 A  754 IFS      ENTRY                                               04 00754
000371 005001 A  755          IZA                                                 04 00755
000372 057000 I  756          STA     T2                                          04 00756
000373 057000 I  757 IFS1     STA     T1                                          04 00757
000374 002000 A  758          CALL    ICH                                         04 00758
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000375 077654 R
000376 002000 A   759          CALL     OPK                                    04 00759
000377 077714 R
000400 017000 I   760          LDA      TC                                     04 00760
000401 027000 I   761          LDB      T2          FLAG                       04 00761
000402 006140 A   762          SUBI     ':'                                    04 00762
000403 000272 A
000404 001002 A   763          JAP*     IFS         NOT DIGIT                  04 00763
000405 100370 R
000406 120471 A   764          ADD      TEN                                    04 00764
000407 001004 A   765          JAN*     IFS         NOT DIGIT                  04 00765
000410 100370 R
000411 047000 I   766          INR      T2                                     04 00766
000412 017000 I   767          LDA      T1                                     04 00767
000413 004201 A   768          ASLA     1           *2                         04 00768
000414 057000 I   769          STA      T1                                     04 00769
000415 004202 A   770          ASLA     2           *8                         04 00770
000416 127000 I   771          ADD      T1                                     04 00771
000417 127000 I   772          ADD      TC                                     04 00772
000420 140000 L   773          SUB      ='0'                                   04 00773
000421 001000 A   774          JMP      IFS1                                   04 00774
000422 000373 R
               775          END                                                 04 00775
```

ENTRY NAMES

EXTERNAL NAMES

000000	E	BOFCB	000000	E	GOFCB	000000	E	LOFCB	000000	E	PIFCB
000000	E	SIFCB	000000	E	V$EXEC	000000	E	V$IOC	000000	E	V$IOST

SYMBOLS

000020	A	$BIT	010151	R	$BUF	177325	R	$ECW	177324	R	$PCW
177330	R	AF	177331	R	AIFW	177332	R	AS	077611	R	ASI
077612	R	ASS	177341	R	AT	000002	A	B	177342	R	BDF
010320	R	BLBF1	177250	R	BLFCB	000421	A	BM1	000472	A	BM17
000475	A	BM177	000477	A	BM1777	000464	A	BM3	000473	A	BM37
000463	A	BM377	000467	A	BM7	000474	A	BM77	000476	A	BM777
177343	R	BOBLCN	177320	R	BOBLFL	000000	E	BOFCB	000441	A	BR0
000442	A	BR1	000453	A	BR10	000454	A	BR11	000455	A	BR12
000456	A	BR13	000457	A	BR14	000460	A	BR15	000443	A	BR2
000444	A	BR3	000445	A	BR4	000446	A	BR5	000447	A	BR6
000450	A	BR7	000451	A	BR8	000452	A	BR9	000421	A	BS0
000422	A	BS1	000433	A	BS10	000434	A	BS11	000435	A	BS12
000436	A	BS13	000437	A	BS14	000440	A	BS15	000423	A	BS2
000424	A	BS3	000425	A	BS4	000426	A	BS5	000427	A	BS6
000430	A	BS7	000431	A	BS8	000432	A	BS9	077613	R	CAN
077614	R	CBA	077615	R	CCR	177344	R	CF	177345	R	CFPTSW
177346	R	CL	177347	R	CLOP	177350	R	CMFL	177351	R	CNP
077616	R	CRT	077617	R	CTS	177352	R	D	077620	R	DEK
177353	R	DF	177354	R	DFPP	077621	R	DFT	177355	R	DH
177356	R	DI	177326	R	DPB	177357	R	DPCA	177327	R	DPX
177373	R	DR	177374	R	DS	177375	R	DSAV	077622	R	DSM
177376	R	DT	177377	R	DTFL	177401	R	DV	177402	R	EC
177403	R	EH	177405	R	EHBK	000424	A	EIGHT	177406	R	EL
077623	R	EOLSW	077624	R	ER1	077632	R	ER11	077633	R	ER12
077634	R	ER13	077635	R	ER14	077636	R	ER15	077637	R	ER16
077640	R	ER17	077641	R	ER18	077625	R	ER2	077642	R	ER20
077643	R	ER21	077644	R	ER22	077645	R	ER24	077626	R	ER3
077627	R	ER6	077630	R	ER7	077631	R	ER8	177120	R	ERBF
077646	R	EXA	177407	R	EXAD	077647	R	EXL	177410	R	F
105035	A	F$DDI	105027	A	F$DDI1	105036	A	F$SEI	105503	A	FADDD
105410	A	FADDS	105535	A	FDIVD	105401	A	FDIVS	177411	R	FFPFL
105400	A	FFFOP	000465	A	FIVE	105621	A	FIX	105226	A	FLAIF
105522	A	FLDD	105032	A	FLDI	105420	A	FLDS	105167	A	FLIOP
105125	A	FLJAG	105024	A	FLREL	105425	A	FLT	105037	A	FMOVI
105506	A	FMULD	105416	A	FMULS	077650	R	FNS1	000026	R	FOR
000054	R	FOR1	000057	R	FOR2	000107	R	FOR3	000147	R	FOR4
000206	R	FOR5	000247	R	FOR51	000255	R	FOR52	000263	R	FOR53
000272	R	FOR6	000305	R	FOR7	000324	R	FOR9	000356	R	FORA
000347	R	FORB	000175	R	FORC	000337	R	FORD	077651	R	FORT1
000164	R	FORX	000423	A	FOUR	105127	A	FSQRT	105710	A	FSTD
105033	A	FSTI	105600	A	FSTS	105543	A	FSUBD	105450	A	FSUBS
177262	R	GLFCB	177412	R	GOBLCN	177321	R	GOBLFL	000000	E	GOFCB
077652	R	GSE	177413	R	HCC	177414	R	I	077653	R	IAC
077654	R	ICH	077655	R	ICO	077656	R	ICORNL	077657	R	ICRD
077660	R	ICRR	077661	R	ICSI	177415	R	ID	077662	R	IDI
000370	R	IFS	000373	R	IFS1	077663	R	IHW	077664	R	IIV
077665	R	ILB	077666	R	ILT	177421	R	IM	077667	R	INA
177422	R	INBP	077670	R	INI	077671	R	INN	077672	R	INS
077673	R	INT	177423	R	IOFL	177424	R	IP	177435	R	IS
077674	R	ISN	177445	R	IT	177446	R	IU	077675	R	IVA
077676	R	IVC	077677	R	IWI	177447	R	J	177450	R	JPFL
177454	R	JT	177455	R	K	000424	A	K10	000471	A	K12
000472	A	K17	000422	A	K2	000425	A	K20	000473	A	K37
000423	A	K4	000466	A	K6	000463	A	K77	000432	A	KJMP
177456	R	KT	077700	R	LAX	000300	A	LC	000050	A	LCJP
077701	R	LDX	077702	R	LEX	177457	R	LF	000462	A	LHW
177460	R	LIF	077703	R	LIST	177274	R	LLFCB	177461	R	LLOP
177322	R	LOBLFL	077704	R	LOCT	000000	E	LOFCB	077705	R	LTX
177462	R	MAXOPC	177463	R	MDTB	177516	R	MF	177517	R	MM
077706	R	MOVE	177520	R	MR	000420	A	MT	000500	A	MTE
000441	A	MTWO	077707	R	NXL	177522	R	NAME	177523	R	ND
000461	A	NEG	177127	R	NERR	177524	R	NF	177525	R	NFFW
000470	A	NINE	177526	R	NS	177527	R	NT	177530	R	NTFL

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177536  R  01      177537  R  02      077710  R  DAB     010224  R  DBUF
077711  R  DDB     077712  R  DDS     177535  R  DITFL   000421  A  ONE
077713  R  DNEN    177531  R  DP      177532  R  DPBK    177533  R  DPCNT
077714  R  DPK     177534  R  DPW     077715  R  DRE     077716  R  DSR
077717  R  DTJ     077720  R  DUT     010150  A  DVERSZ  077721  R  DWD
077722  R  DWS     177540  R  PC      077723  R  PDS     077724  R  PE2
177544  R  PIBLCN  177323  R  PIBLFL  000000  E  PIFCB   177306  R  PLFCB
077725  R  PTR     077726  R  PTS     177545  R  QFL     077727  R  RCC
077730  R  RCCS    077731  R  RCH     000463  A  RHW     077732  R  RIO
177546  R  RL      077733  R  SAX     177550  R  SBFL    077734  R  SDX
000467  A  SEVEN   177553  R  SF      077735  R  SIDTB1  000006  E  SIFCB
077736  R  SIS     000466  A  SIX     077737  R  SLIT    077740  R  SLOP
177160  R  SLOT    177554  R  SPFL    177560  R  SSP     077741  R  STC
177555  R  STFFL   077742  R  STI1    077743  R  STN     177556  R  STNB
077744  R  STS     177557  R  STSW    177565  R  SXF     177574  R  T0
177575  R  T1      177576  R  T2      177577  R  T2IM    177600  R  T3
177601  R  T4      177602  R  T5      177603  R  T6      177604  R  T7
177605  R  T8      177606  R  T9      177566  R  TC      000471  A  TEN
077745  R  TER1    077755  R  TER11   077756  R  TER12   077757  R  TER13
077760  R  TER14   077761  R  TER15   077762  R  TER17   077763  R  TER18
177764  R  TER19   077746  R  TER2    077765  R  TER20   077766  R  TER24
077767  R  TER26   077747  R  TER3    077750  R  TER4    077751  R  TER5
077752  R  TER7    077753  R  TER8    077754  R  TLR9    177570  R  TERF
000027  A  TFVCSZ  000464  A  THREE   177212  R  TITD    177217  R  TITJ
177204  R  TITL    177243  R  TITM    177206  R  TITN    177207  R  TITP
177250  R  TITQ    177571  R  TM      077710  R  TOF     077771  R  TSB
177572  R  TSFL    077772  R  TST     177573  R  TU      077773  R  TVR
000422  A  TWO     000000  R  V       000260  A  V$CTAD  000070  R  V$DATE
000355  A  V$DSTB  000000  E  V$EXEC  000000  E  V$IOC   000000  E  V$IOST
000412  A  V$JCB   000055  A  V$JCFG  000036  A  V$JFCB  000050  A  V$JNAM
000054  A  V$LUNT  000317  A  V$LLUP  000343  A  V$LUNT  000400  A  V$LUT1
000401  A  V$LUT2  000402  A  V$LUT3  000417  A  V$STSZ  000357  A  V$TKSZ
177712  R  VARBLO  000666  A  VARBLS  177330  R  VBLOBG  177631  R  VBLONB
077774  R  WRGBO   077775  R  WSOGO   077776  R  WROT    000001  A  X
177607  R  XRPT    077777  R  ZEB     000420  A  ZERO
    3  ERRORS  ASSEMBLY  COMPLETE
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600   $BUF       601
240   AF         241
241   AIFW       242
242   AS         243
243   AT         244
244   BDF        245
103   BM17       105
109   BM1777     110
104   BM37       107
107   BM377      108
245   BOBLCN     246
  0   BOFCB      106
 71   BR0        180
 50   BS3        183
 52   BS4        186
 64   BS9        189
246   CF         247
247   CFPTSW     248
248   CL         249
249   CLOP       250
250   CMFL       251
251   CNP          2
  0   COMP       252
252   D          253
253   DF         254    669
254   DFPP       255
255   DH         256
256   DI         257
257   DPCA       260
233   DPX        239
260   DR         261
261   DS         262
262   DSAV       263
263   DT         264
264   DTFL       265
265   DV         266
266   EC         267
267   EH         268
268   EHBK       269
  0   EJEC         3
269   EL         270
  0   ENTR         4
386   ER11       634
390   ER13       625
270   EXAD       271
271   F          272
272   FFPFL      273
162   FFPOP      163    164   165   166   167   168   169   170   171
                 172    173   174   175   176
606   FOR        593
624   FOR1       614
626   FOR2       630    668   675   726   745
640   FOR3       627    670
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660   FOR4      728
677   FOR5      637   664   702   703   707   712
700   FOR51     687
704   FOR52     690
708   FOR53     685
713   FOR6      644   646   648   658
719   FOR7      650   654   656   658   662   671   734
729   FOR9      724
746   FORA      672   713   719   751
741   FORB      642   722
672   FORC      660
736   FORD      730
667   FORX      639   695   699   711
 93   FOUR      181
273   GOBLCN    274
  0   GOFCB     127
274   HCC       275
275   I         276
422   ICH       736   758
424   ICO       677
276   ID        277
754   IFS       626   667   716   733   747   763   765
757   IFS1      774
277   IM        278
278   INBP      279
279   IOFL      280
280   IP        281
281   IS        282
282   IT        283
283   IU        284
284   J         285
285   JPFL      286   613   619   739
286   JT        287
287   K         288
179   K2        616   653
186   K20       638
182   K6        651
188   K77       679
189   KJMP      621
288   KT        289
 33   LC         34    35    36    37    38    39    40    41    42
                 45
 15   LCJP       16    17    18    24    25
289   LF        290
290   LIF       291
291   LLOP      292
  0   LOFCB     128
292   MAXOPC    293
293   MDTB      294
  0   MERG        5
294   MF        295
295   MM        296
296   MR        297
 53   MT         54    55    56    57    58    59    60    61    62
                 63    64    65    66    67    68    69    70    71
                 72    73    74    75    76    77    78    79    80
                 81    82    83    84    85    86    87    88    89
                 90    91    92    93    94    95    96    97    98
                 99   100   101   102   103   104   105   106   107
                108   109
297   NAME      298
298   ND        299
299   NF        300
300   NFFW      301
301   NS        302
302   NT        303
303   NTFL      304
309   O1        310
310   O2        311
601   OBUF      602
308   OITFL     309
304   OP        305
305   OPBK      306
306   OPCNT     307
486   OPK       610   683   706   738   759
307   OPW       308   607   737
492   OTJ       623
197   OVERSZ    600
498   OWS       622
311   PC        312
502   PEB       678
312   PIBLCN    313
  0   PIFCB     129
313   QFL       314   608   676   681   684   692   705
512   RCH       698
314   RL        315   615   617   620
315   SBFL      316
316   SF        317
  0   SIFCB     130
 95   SIX       182
  0   SPAC        6
```

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317   SPFL      318
321   SSP       322
528   STC       740
[illegible]  STFFL     319
319   STNB      320     624
320   STSW      321
322   SXF       323
328   T0        329
329   T1        330     633     708     710     749     757     767     769     771
330   T2        331     756     761     766
331   T2IN      332
332   T3        333     612     729     732     741     742
333   T4        334
334   T5        335
335   T6        336
336   T7        337
337   T8        338
338   T9        339
323   TC        324     628     635     640     688     693     696     697     700
                720     760     772
 99   TEN       184     764
536   TER1      632     680     735     744
552   TER11     717     750
324   TERF      325
198   TFVCSZ    594
 92   THREE     649     655     725     743
325   TM        326
326   TSFL      327
578   TST       666     674     715
327   TU        328
 91   TWO       179     682     686
350   V         352     353     354     355     356     357     358     359     360
                361     362     363     364     365     366     367     368     369
                370     371     372     373     374     375     376     377     378
                379     380     381     382     383     384     385     386     387
                388     389     390     391     392     393     394     395     396
                397     398     399     400     401     402     403     404     405
                406     407     408     409     410     411     412     413     414
                415     416     417     418     419     420     421     422     423
                424     425     426     427     428     429     430     431     432
                433     434     435     436     437     438     439     440     441
                442     443     444     445     446     447     448     449     450
                451     452     453     454     455     456     457     458     459
                460     461     462     463     464     465     466     467     468
                469     470     471     472     473     474     475     476     477
                478     479     480     481     482     483     484     485     486
                487     488     489     490     491     492     493     494     495
                496     497     498     499     500     501     502     503     504
                505     506     507     508     509     510     511     512     513
                514     515     516     517     518     519     520     521     522
                523     524     525     526     527     528     529     530     531
                532     533     534     535     536     537     538     539     540
                541     542     543     544     545     546     547     548     549
                550     551     552     553     554     555     556     557     558
                559     560     561     562     563     564     565     566     567
                568     569     570     571     572     573     574     575     576
                577     578     579     580     581     582     583     584     585
                586     587     588     594     600
  0   V$EXEC    131
  0   V$FOR4      7
  0   V$IOC     132
  0   V$IOST    133
200   VARBLO    202     203     204     205     206     207     208     209     210
                211     212     213     214     215     226     227     228     229
                230     231     232     233
199   VARBLS    200
239   VBLOBG    240
340   VBLOND    350
339   XRPT      340
```

```
000001 A     1 VORTEX SET     1                PUT LAST FOR VORTEX                    V2  05 00001
             2 *  THIS IS A COPYRIGHTED PROGRAM 1974 BY VARIAN DATA MACHINES          PD  05 00002
             3 *                                                                         05 00003
[redacted]   4 *                VDM PART NO.     81L0405-015                        PD  05 00004
             5 *                                                                         05 00005
             6 *  RELEASED 12/17/74                                                  PD  05 00006
             7 *    VERSION PD REFERS TO E3393                                       PD  05 00007
             8 *                                                                         05 00008
             9 *                 V$FORTID                                                05 00009
            10 *                                                                         05 00010
            11         TITLE    V$FORTID                                                05 00011
            12 *                                                                         05 00012
            13 ***************************************************************************05 00013
            14 *                                                                       *  05 00014
            15 *  R U N - T I M E   I / O   I N T E R F A C E ( V $ F O R T I O )    *  05 00015
            16 *                                                                       *  05 00016
            17 * FUNCTION: THIS PROGRAM PROVIDES AN INTERFACE BETWEEN USER MODULES    *  05 00017
            18 *           AND THE RE-ENTRANT PART OF THE RUN-TIME I/O PACKAGE        *  05 00018
            19 *                                                                       *  05 00019
            20 ***************************************************************************05 00020
            22 ************                                                             05 00022
            23 * ENTRIES *                                                             05 00023
            24 ************                                                             05 00024
            25          NAME    $BA          BACKSPACE ENTRY                           05 00025
            26          NAME    $EN          WRITE EOF ENTRY                           05 00026
            27          NAME    $RE          REWIND ENTRY                              05 00027
            29          NAME    $I1          XFER 1-WORD INTEGER/LOGICAL               05 00029
            30          NAME    $I2          XFER 2-WORD INTEGER/LOGICAL               05 00030
            31          NAME    $I3          XFER REAL                                 05 00031
            32          NAME    $I4          XFER DOUBLE PRECISION                     05 00032
            33          NAME    $I5          XFER COMPLEX                              05 00033
            34          NAME    $I6          XFER DOUBLE PRECISION INTEGER             05 00034
            36          NAME    $RD          READ ENTRY                                05 00036
            37          NAME    $WR          WRITE ENTRY                               05 00037
            38          NAME    $ND          TERMINATE I/O                             05 00038
            39          NAME    $DQ          DECODE                                    05 00039
            40          NAME    $EQ          ENCODE                                    05 00040
            41          NAME    R$X          DIRECT ACCESS READ                        05 00041
            42          NAME    W$X          DIRECT ACCESS WRITE                       05 00042
            44          NAME    V$CLOS       CLOSE NORMAL RMD FILE                     05 00044
            45          NAME    V$CLSB       CLOSE BLOCKED(LOGICAL) RMD FILE           05 00045
            46          NAME    V$OPEN       OPEN NORMAL RMD FILE                      05 00046
            47          NAME    V$OPNB       OPEN BLOCKED(LOGICAL) RMD FILE            05 00047
            49          NAME    IOCHK        I/O CHECK                                 05 00049
            51 ************                                                             05 00051
            52 * EXTERNALS *                                                           05 00052
            53 ************                                                             05 00053
            54          EXT     $EE          ERROR PROCESSOR                           05 00054
            55          EXT     $SE          PARAMETER XFER                            05 00055
            56          EXT     V$EXEC       VORTEX EXECUTIVE                          05 00056
            57          EXT     V$IOC        VORTEX IOC                                05 00057
            58          EXT     V$IOST       VORTEX IOC STATUS                         05 00058
            59          EXT     V$RERR       REENTRANT BLOCK ENTRY(VIA ALOC)           05 00059
            60          EXT     V$RER1       REENTRANT BLOCK ENTRY(VIA DIRECT JUMP)    05 00060
            61          EXT     V$RERN       V$RERR NUCLEUS FLAG                  V2   05 00061
            62          EXT     POFCB        MAP GLOBAL FCB'S INTO TASK           V2   05 00062
            63          EXT     V$DSTB       MAP NUCLEUS TABLES INTO TASK         V2   05 00063
            65 ************                                                             05 00065
            66 * SET BLOCK *                                                          05 00066
            67 ************                                                             05 00067
000000 A    68 ASET     SET     0            A-REG BIT SET                             05 00068
000002 A    69 B        SET     2            B-REGISTER                                05 00069
000010 A    70 BF       SET     8            BUFFER FILL FLAG                     V2   05 00070
000300 A    71 LC       SET     0300                                                   05 00071
000420 A    72 MT       SET     0420                                                   05 00072
000472 A    73 BM17     SET     MT+42                                                  05 00073
000422 A    74 BS1      SET     MT+2                                                   05 00074
000425 A    75 BS4      SET     MT+5                                                   05 00075
000431 A    76 BS8      SET     MT+9                                                   05 00076
000432 A    77 BS9      SET     MT+10                                                  05 00077
000433 A    78 BS10     SET     MT+11                                                  05 00078
000424 A    79 EIGHT    SET     MT+4                                                   05 00079
000465 A    80 FIVE     SET     MT+37                                                  05 00080
000423 A    81 FOUR     SET     MT+3                                                   05 00081
000472 A    82 KD15     SET     BM17                                                   05 00082
000425 A    83 KD16     SET     BS4                                                    05 00083
000000 A    84 LF       SET     0            LOGICAL FILE FLAG                    V2   05 00084
000470 A    85 NINE     SET     MT+40                                                  05 00085
000421 A    86 ONE      SET     MT+1                                                   05 00086
000467 A    87 SEVEN    SET     MT+39                                                  05 00087
000466 A    88 SIX      SET     MT+38                                                  05 00088
000471 A    89 TEN      SET     MT+41                                                  05 00089
000464 A    90 THREE    SET     MT+36                                                  05 00090
000422 A    91 TWO      SET     MT+2                                                   05 00091
000420 A    92 ZERO     SET     MT                                                     05 00092
000414 A    93 V$BVN    SET     LC+76        BOTTOM OF VORTEX NUCLEUS                  05 00093
000301 A    94 V$CPL    SET     LC+1         CURRENT PRIORITY LEVEL                    05 00094
000011 A    95 WR       SET     9            READ/WRITE FLAG                      V2   05 00095
000001 A    96 X        SET     1            X-REGISTER                                05 00096
            98 ************                                                             05 00098
            99 * STACK OPS *                                                          05 00099
```

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                 100 *************                                                                                 05 00100
000012 A         101 STKSZ   SET      10               STACK SIZE                                                  05 00101
000420 A         102 CXC     SET      ZERO             CALL EXEC FOR IOLINK                                        05 00102
000421 A         103 CER     SET      ONE              CALL ERROR                                                  05 00103
000422 A         104 CEX     SET      TWO              CALL EXIT                                                   05 00104
000464 A         105 CIO     SET      THREE            CALL I/O                                                    05 00105
000423 A         106 CRB     SET      FOUR             CALL REENTRANT BLOCK                                        05 00106
000465 A         107 CTR     SET      FIVE             TERMINATE                                                   05 00107
000466 A         108 CXF     SET      SIX              PARAMETER XFER                                         V2   05 00108
000467 A         109 CBK     SET      SEVEN            BACKSPACE                                              V2   05 00109
000424 A         110 CEF     SET      EIGHT            ENDFILE                                                V2   05 00110
000470 A         111 CRW     SET      NINE             REWIND                                                 V2   05 00111
000471 A         112 CRD     SET      TEN              READ                                                   V2   05 00112
000464 R         113 CWR     SET      KD11             WRITE                                                  V2   05 00113
000465 R         114 CCL     SET      KD12             CLOSE FILE                                             V2   05 00114
000466 R         115 CCB     SET      KD13             CLOSE BLOCKED FILE                                     V2   05 00115
000467 R         116 COP     SET      KD14             OPEN FILE                                              V2   05 00116
000472 A         117 COB     SET      KD15             OPEN BLOCKED FILE                                      V2   05 00117
000425 A         118 CDC     SET      KD16             DECODE                                                 V2   05 00118
000470 R         119 CEN     SET      KD17             ENCODE                                                 V2   05 00119
000471 R         120 CRA     SET      KD18             DIRECT ACCESS READ                                          05 00120
000472 R         121 CWA     SET      KD19             DIRECT ACCESS WRITE                                         05 00121
                 123         EJEC                                                                              05 00123
                 124 ******************************************************************************************** 05 00124
                 125 *                                                                                        * 05 00125
                 126 *                  B A S E - R E L A T I V E   S Y M B O L S                             * 05 00126
                 127 *                                                                                        * 05 00127
                 128 ******************************************************************************************** 05 00128
000001 A         130 AACC    SET      VAACC-BASE       ADDRESS OF ACCUMULATOR ACC                                  05 00130
000002 A         131 ABSCB   SET      VABSCB-BASE      ADDRESS OF BUFFER SCB                                       05 00131
000003 A         132 ACC     SET      VACC-BASE        4-WORD ACCUMULATOR                                          05 00132
000007 A         133 ACHB    SET      VACHB-BASE       ADDRESS OF DECIMAL DIGIT ARRAY                              05 00133
000010 A         134 ADFCB   SET      VADFCB-BASE      DCB/FCB ADDRESS                                             05 00134
000011 A         135 AFSCB   SET      VAFSCB-BASE      ADDRESS OF FORMAT SCB                                       05 00135
000012 A         136 AGPAR   SET      VAGPAR-BASE      ADDRESS OF '(' GROUP BLOCK                                  05 00136
000110 A         137 AIBUF   SET      VISCB-BASE+1     LIST ITEM ADDRESS                                           05 00137
000013 A         138 AISCB   SET      VAISCB-BASE      ADDRESS OF LIST ITEM SCB                                    05 00138
000027 A         139 ALBF    SET      VBSCB-BASE+1     ADDRESS OF LOGICAL BUFFER                                   05 00139
000014 A         140 ALOC    SET      VALOC-BASE       ALOC ENTRY FLAG                                        V2   05 00140
000015 A         141 ANPOJ   SET      VANPOJ-BASE      ADDRESS OF NON-REENTRANT POP/JUMP                           05 00141
000016 A         142 ANRB    SET      VANRB-BASE       ADDRESS OF NON-REENTRANT BLOCK                              05 00142
000017 A         143 AOPSTK  SET      VAOPST-BASE      ADDRESS OF OP STACK                                         05 00143
000020 A         144 APBF    SET      VAPBF-BASE       ADDRESS OF PHYSICAL BUFFER                                  05 00144
000021 A         145 ASCB    SET      VASCB-BASE       SCAN BLOCK ADDRESS                                          05 00145
000022 A         146 ASFL    SET      VASFL-BASE       '*' FLAG                                                    05 00146
000023 A         147 ASYSDC  SET      VASYSD-BASE      ADDRESS OF SYSTEM DCB                                       05 00147
000030 A         148 BCHAR   SET      VBSCB-BASE+2     BUFFER CHAR                                                 05 00148
000031 A         149 BCODE   SET      VBSCB-BASE+3     BUFFER CHAR CODE                                            05 00149
000024 A         150 BEXP    SET      VBEXP-BASE       BINARY EXPONENT                                             05 00150
000026 A         151 BFPT    SET      VBSCB-BASE       BUFFER CHARACTER POINTER                                    03 00151
000025 A         152 BFWPT   SET      VBFWPT-BASE      BUFFER WORD POINTER                                         05 00152
000062 A         153 FMPT    SET      VFSCB-BASE       FORMAT STRING POINTER                                       05 00153
000032 A         154 CHB     SET      VCHB-BASE        DECIMAL DIGIT ARRAY                                         05 00154
000050 A         155 CHBPT   SET      VCHBPT-BASE      CHB ARRAY POINTER                                           05 00155
000051 A         156 CHNHDR  SET      VCHNHD-BASE      FCB CHAIN HEADER                                            05 00156
000052 A         157 COUNT   SET      VCOUN-BASE       COUNTER                                                     05 00157
000053 A         158 CVFL    SET      VCVFL-BASE       CHARACTER VALIDITY FLAGS                                    05 00158
000054 A         159 D       SET      VD-BASE          FRACTIONAL FIELD WIDTH                                      05 00159
000055 A         160 DEXP    SET      VDEXP-BASE       DECIMAL EXPONENT                                            05 00160
000056 A         161 DT      SET      VDT-BASE         WORKING FRACTIONAL FIELD WIDTH                              05 00161
000057 A         162 EDEXP   SET      VEDEXP-BASE      EXPLICIT DECIMAL EXPONENT                                   05 00162
000060 A         163 ERN     SET      VERN-BASE        ERROR NUMBER                                                05 00163
000064 A         164 FCHAR   SET      VFSCB-BASE+2     FORMAT CHARACTER                                            05 00164
000065 A         165 FCODE   SET      VFSCB-BASE+3     FORMAT CHARACTER CODE                                       05 00165
000061 A         166 FDLKEY  SET      VFDLKY-BASE      FIELD DESCRIPTOR LETTER KEY                                 05 00166
000063 A         167 FRMT    SET      VFSCB-BASE+1     ADDRESS OF FORMAT STRING(0 IF NONE)                         05 00167
000062 A         168 FRPT    SET      VFSCB-BASE       FORMAT STRING CURRENT POINTER                               05 00168
000066 A         169 GDRPC   SET      VGDRP-BASE       '(' GROUP DYNAMIC REPEAT COUNT                              05 00169
000071 A         170 GFRPT   SET      GDRPC+3          '(' GROUP FORMAT POINTER                                    05 00170
000074 A         171 GSRPC   SET      GDRPC+6          '(' GROUP STATIC REPEAT COUNT                               05 00171
000111 A         172 ICHAR   SET      VISCB-BASE+2     LIST ITEM CHARACTER                                         05 00172
000077 A         173 IDEXP   SET      VIDEXP-BASE      IMPLICIT DECIMAL EXPONENT                                   05 00173
000100 A         174 IFW     SET      VIFW-BASE        INTEGER FIELD WIDTH                                         05 00174
000101 A         175 IIBSZ   SET      VIIBSZ-BASE      INDIVIDUAL ITEM BYTE SIZE                                   05 00175
000102 A         176 IIWSZ   SET      VIIWSZ-BASE      INDIVIDUAL ITEM WORD SIZE                                   05 00176
000103 A         177 INFL    SET      VINFL-BASE       INITIALIZE FLAG                                        V2   05 00177
000104 A         178 IOCONT  SET      VIOCON-BASE      I/O CONTROL WORD                                            05 00178
000105 A         179 IOLNK   SET      VIOLNK-BASE      IOLINK CONTROL WORD                                         05 00179
000106 A         180 IOSTAT  SET      VIOSTA-BASE      I/O STATUS                                                  05 00180
000113 A         181 ITEMAD  SET      VITEMA-BASE      ADDRESS OF LIST ITEM                                        05 00181
000114 A         182 ITEMWC  SET      VITEMW-BASE      COUNT OF WORDS REMAINING IN ITEM                            05 00182
000115 A         183 ITMINC  SET      VITMIN-BASE      LIST ITEM WORD INCREMENT                                    05 00183
000116 A         184 ITMODE  SET      VITMOD-BASE      LIST ITEM MODE                                              05 00184
000117 A         185 LISTFL  SET      VLISTF-BASE      LIST DATA XFER FLAG                                         05 00185
000120 A         186 LNKCNT  SET      VLNKCN-BASE      FCB CHAIN LINK COUNT                                        03 00186
000121 A         187 LRECNO  SET      VLRECN-BASE      LOGICAL RECORD NUMBER                                       05 00187
000122 A         188 LRSZ    SET      VLRSZ-BASE       LOGICAL RECORD SIZE                                         05 00188
000123 A         189 LRWC    SET      VLRWC-BASE       LOGICAL RECORD REMAINING WORD COUNT                         05 00189
000124 A         190 MOV     SET      VMOV-BASE        MULTIPLY OVERFLOW SWITCH                                    05 00190
000125 A         191 N       SET      VN-BASE          H/T/X FIELD WIDTH                                           05 00191
000126 A         192 NFF     SET      VNFF-BASE        NUMERIC FORMAT FIELD                                        05 00192
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000000  A  193 OPSTKP  SET     VOPSTP-BASE   OP STACK POINTER                                  05 00193
000141  A  194 PARLV   SET     VPARLV-BASE   FORMAT '(' GROUP LEVEL COUNT                       05 00194
000142  A  195 PBRC    SET     VPBRC-BASE    PHYSICAL BUFFER RECORD COUNT                       05 00195
000143  A  196 PBSZ    SET     VPBSZ-BASE    PHYSICAL BUFFER SIZE                               05 00196
000144  A  197 PBWC    SET     VPBWC-BASE    PHYSICAL BUFFER REMAINING WORD COUNT               05 00197
000145  A  198 PRECNO  SET     VPRECN-BASE   PHYSICAL RECORD NUMBER                             05 00198
000146  A  199 PRLINK  SET     VPRLIN-BASE   PREVIOUS LINK OF FCB CHAIN                         05 00199
000147  A  200 PTFL    SET     VPTFL-BASE    '.' POINT FLAG                                     05 00200
000150  A  201 QFL     SET     VQFL-BASE     QUOTE FLAG                                         05 00201
000125  A  202 R       SET     N             REPEAT COUNT                                       05 00202
000151  A  203 RETURN  SET     VRETUR-BASE   RETURN ADDR/'END' ADDR/'ERR' ADDR          PD     05 00203
000154  A  204 RWFL    SET     VRWFL-BASE    READ/WRITE FLAG WORD                               05 00204
000155  A  205 S       SET     VS-BASE       SCALE FACTOR                                       05 00205
000156  A  206 SCF     SET     VSCF-BASE     SCALE FACTOR FLAG                                  05 00206
000157  A  207 SGFL    SET     VSGFL-BASE    '-' SIGN FLAG                                      05 00207
000160  A  208 SVRECN  SET     VSVREC-BASE   SAVE RECORD NO                                     05 00208
000161  A  209 SYSBSZ  SET     VSYSDC-BASE   SYSTEM BUFFER SIZE                                 05 00209
000164  A  210 TEMP    SET     VTEMP-BASE    TEMP STORE                                         05 00210
000165  A  211 TEMP1   SET     VTEMP1-BASE                                                      05 00211
000166  A  212 TERM    SET     VTERM-BASE    PRODUCT TERM                                       05 00212
000167  A  213 UNIT    SET     VUNIT-BASE    I/O UNIT NUMBER                                    05 00213
000166  A  214 UNITS   SET     TERM          SAVE UNITS DIGIT                                   05 00214
000170  A  215 W       SET     VW-BASE       FIELD WIDTH                                        05 00215
000171  A  216 WT      SET     VWT-BASE      WORKING VALUE OF W                                 05 00216
000172  A  217 XFFL    SET     VXFFL-BASE    PARAMETER XFER ENABLE FLAG                         05 00217
000173  A  218 XFL     SET     VXFL-BASE     EXPONENT FIELD NON-BLANK FLAG                      05 00218
000174  A  219 XFW     SET     VXFW-BASE     EXPONENT FIELD WIDTH                               05 00219
000175  A  220 XSG     SET     VXSG-BASE     EXPONENT SIGN FLAG                                 05 00220
000176  A  221 ZFW     SET     VZFW-BASE     LEADING ZERO FIELD WIDTH                           05 00221
000204  A  222 ZZZ     SET     VZZZ-BASE     END OF DATA BLOCK                                  05 00222
           223         EJEC                                                                     05 00223
           224 **********                                                                       05 00224
           225 * MACROS *                                                                       05 00225
           226 **********                                                                       05 00226
           227 PUSH    MAC                                                                      05 00227
           228         LDX     OPSTKP,B                                                         05 00228
           229         DXR                                                              FG      05 00229
           230         STX     OPSTKP,B                                                 FG      05 00230
           231 .       LDA     P(1)                                                             05 00231
           232 .       STA     0,X                                                              05 00232
           233         EMAC                                                                     05 00233
           234 *                                                                                05 00234
           235 POP     MAC                                                                      05 00235
           236         LDX     OPSTKP,B                                                         05 00236
           237         INR     OPSTKP,B                                                 FG      05 00237
           238         LDX     0,X                                                      FG      05 00238
           239         EMAC                                                                     05 00239
           240         EJEC                                                                     05 00240
           241 ************************************************************************       05 00241
           242 *                                                                      *       05 00242
           243 *        T E R M I N A T E   R E A D / W R I T E ( $ N D )            *       05 00243
           244 *                                                                      *       05 00244
           245 * FUNCTION: TO TERMINATE READ/WRITE STATEMENTS                        *       05 00245
           246 *                                                                      *       05 00246
           247 * ENTRY: NO SPECIAL CONDITIONS                                        *       05 00247
           248 *                                                                      *       05 00248
           249 * EXIT : DIRECT TO CAR                                                *       05 00249
           250 *        RETURN = POINTER TO RETURN ADDRESS                           *       05 00250
           251 *        CTR(TERMINATE OP) PUSHED                                     *       05 00251
           252 *                                                                      *       05 00252
           253 ************************************************************************       03 00253
000000 000000 A  255 $ND       ENTRY                                                          05 00255
000001 024700 A  256           LDB     BASP                                                   05 00256
000002 006030 A  257           LDXI    $ND           GET POINTER TO RETURN ADDRESS            05 00257
000003 000000 R
000004 076151 A  258           STX     RETURN,B      SAVE                                     05 00258
000005 016017 A  259           LDA     AOPSTK,B                                               05 00259
000006 056000 A  260           STA     OPSTKP,B      CLEAR STACK                              05 00260
           261         PUSH    CTR                   PUSH TERMINATE OP                        05 00261
000007 036000 A
000010 005344 A
000011 076000 A
000012 010465 A
000013 055000 A
000014 001000 A  262           JMP     CAR           EXIT TO V$RERR                    V2     05 00262
000015 000041 R
           263         EJEC                                                                   05 00263
           264 ************************************************************************       05 00264
           265 *                                                                      *       05 00265
           266 *          A U X I L I A R Y   I / O ( A U X )                         *       05 00266
           267 *                                                                      *       05 00267
           268 * FUNCTION: TO PROCESS THE FORTRAN AUXILIARY I/O CALLS:               *       05 00268
           269 *                                                                      *       05 00269
           270 *              $BA: BACKSPACE                                          *       05 00270
           271 *              $EN: ENDFILE                                            *       05 00271
           272 *              $RE: REWIND                                             *       05 00272
           273 *                                                                      *       05 00273
           274 * ENTRY: NO SPECIAL CONDITIONS                                        *       05 00274
           275 *                                                                      *       05 00275
           276 * CALLING SEQUENCE: JMPM  $BA(OR $EN, OR $RE)                         *       05 00276
           277 *                   DATA  ADDRESS OF UNIT NUMBER U                     *       05 00277
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                    278 *                                                                                 *  05  00278
                    279 * EXIT : DIRECT TO PSE                                                           *  05  00279
                    280 *          A = OP CODE                                                            *  05  00280
                    281 *            = CBK: BACKSPACE                                                     *  05  00281
                    282 *            = CEF: ENDFILE                                                       *  05  00282
                    283 *            = CRW: REWIND                                                        *  05  00283
                    284 *          B = CALL SEQUENCE ADDRESS                                              *  05  00284
                    285 *          X = 1(PARAMETER COUNT)                                                 *  05  00285
                    286 *                                                                                 *  05  00286
                    287 ***********************************************************************************  05  00287
                    289 ********************                                                                05  00289
                    290 * BACKSPACE ENTRY *                                                               05  00290
                    291 ********************                                                                05  00291
000016 000000 A     292 $BA     ENTR                                                                        05  00292
000017 006027 A     293         LDBE    $BA                                                                 05  00293
000020 000016 R
000021 010467 A     294         LDA     CBK                                                                 05  00294
000022 001000 A     295         JMP     AUX2                                                                05  00295
000023 000036 R
                    296 ******************                                                                  05  00296
                    297 * ENDFILE ENTRY *                                                                  05  00297
                    298 ******************                                                                  05  00298
000024 000000 A     299 $EN     ENTR                                                                        05  00299
000025 006027 A     300         LDBE    $EN                                                                 05  00300
000026 000024 R
000027 010424 A     301         LDA     CEF                                                                 05  00301
000030 001000 A     302         JMP     AUX2                                                                05  00302
000031 000036 R
                    303 ******************                                                                  05  00303
                    304 * REWIND ENTRY *                                                                  05  00304
                    305 ******************                                                                  05  00305
000032 000000 A     306 $RE     ENTR                                                                        05  00306
000033 006027 A     307         LDBE    $RE                                                                 05  00307
000034 000032 R
000035 010470 A     308         LDA     CRW                                                                 05  00308
000036 005104 A     309 AUX2    INCR    4               PARAMETER COUNT = 1                                 05  00309
000037 001000 A     310         JMP     PSE             CALL REENTRANT BLOCK                                05  00310
000040 000305 R
                    311         EJEC                                                                        05  00311
                    312 ***********************************************************************************  05  00312
                    313 *                                                                                 *  05  00313
                    314 *          C A L L   R E E N T R A N T   B L O C K ( C A R )                       *  05  00314
                    315 *                                                                                 *  05  00315
                    316 * FUNCTION: TO PASS CONTROL TO THE REENTRANT MODULE V$RERR                        *  05  00316
                    317 *                                                                                 *  05  00317
                    318 * ENTRY: DIRECT TO CAR                                                            *  05  00318
                    319 *                                                                                 *  05  00319
                    320 * EXIT : TO REENTRANT BLOCK                                                       *  05  00320
                    321 *                                                                                 *  05  00321
                    322 *          VIA ALOC IF V$FORTIO IN BACKGROUND,V$RERR IN NUCLEUS                   *  05  00322
                    323 *          VIA 'JMP V$RER1' IF NOT                                                *  05  00323
                    324 *                                                                                 *  05  00324
                    325 ***********************************************************************************  05  00325
000041 R            327 CAR     EQU     *                                                           V2      05  00327
                    328         IFT     VORTEX-1                                                    V2      05  00328
                    329         GOTO    1                                                           V2      05  00329
000041 010301 A     330         LDA     V$CPL           VORTEX SYSTEM                               V2      05  00330
000042 001016 A     331         JANZ    V$RER1          TAKE DIRECT JUMP IF FOREGROUND TASK         V2      05  00331
000043 000000 E
                    332 1       CONT                                                                V2      05  00332
000044 014006 A     333         LDA     CARNF                                                       V2      05  00333
000045 001010 A     334         JAZ     V$RER1          TAKE DIRECT JUMP IF V$RERR NOT IN NUC       V2      05  00334
000046 000043 E
                    335         IFF     VORTEX-1                                                    V2      05  00335
000047 006505 A     336         JSR     V$EXEC,X        OTHERWISE MAKE SPECIAL ALOC CALL            V2      05  00336
000050 000000 E
                    337         IFF     VORTEX-2                                                    V2      05  00337
                    338         JSR     0406,X          OTHERWISE MAKE SPECIAL ALOC CALL            V2      05  00338
000051 001500 A     339         DATA    01500                                                               05  00339
000052 000000 E     340         DATA    V$RERR                                                              05  00340
000053 000000 E     341 CARNF   DATA    V$RERN          V$RERR NUCLEUS FLAG                         V2      05  00341
                    342         EJEC                                                                        05  00342
                    343 ***********************************************************************************  05  00343
                    344 *                                                                                 *  05  00344
                    345 *          C L O S E   B L O C K E D   F I L E ( C B F )                           *  05  00345
                    346 *                                                                                 *  05  00346
                    347 * FUNCTION: TO CLOSE AND FLUSH A BLOCKED FILE                                     *  05  00347
                    348 *                                                                                 *  05  00348
                    349 * ENTRY: NO SPECIAL CONDITIONS                                                    *  05  00349
                    350 *                                                                                 *  05  00350
                    351 * CALLING SEQUENCE: CALL V$CLSB(U,S)        WHERE                                *  05  00351
                    352 *                                                                                 *  05  00352
                    353 *          U = FORTRAN UNIT NUMBER                                                *  05  00353
                    354 *          S = MODE(UPDATE OR LEAVE) OF CLOSE                                     *  05  00354
                    355 *                                                                                 *  05  00355
                    356 * EXIT : DIRECT TO PSE                                                           *  05  00356
                    357 *          A = OP CODE                                                            *  05  00357
                    358 *          B = RETURN ADDRESS                                                     *  05  00358
                    359 *          X = 2(PARAMETER COUNT)                                                 *  05  00359
                    360 *                                                                                 *  05  00360
                    361 ***********************************************************************************  05  00361
```

```
000054 080080 A   363 V*CLSB ENTR                                                                    05 00363
000055 006027 A   364        LDBE    V*CLSB                                                          05 00364
000056 000054 R
000057 014406 A   365        LDA     CCB                                                             05 00365
000060 030422 A   366        LDX     TWO          2 PARAMETERS                                       05 00366
000061 001000 A   367        JMP     PSE          EXIT TO PSE                                        05 00367
000062 000305 R
                  368        EJEC                                                                    05 00368
                  369 ********************************************************************************05 00369
                  370 *                                                                              * 05 00370
                  371 *                I / O   S T A T U S   C H E C K ( C H K )                     * 05 00371
                  372 *                                                                              * 05 00372
                  373 * FUNCTION: TO CHECK THE STATUS OF THE LAST I/O OPERATION                      * 05 00373
                  374 *                                                                              * 05 00374
                  375 *                                                                              * 05 00375
                  376 * ENTRY: IOSTAT = -1 PREVIOUS I/O GAVE ERROR                                  * 05 00376
                  377 *                =  0 PREVIOUS I/O OK                                          * 05 00377
                  378 *                = +1 PREVIOUS I/O GAVE EOF/EOD                                * 05 00378
                  379 *                                                                              * 05 00379
                  380 * CALLING SEQUENCE: CALL IOCHK(I)                                             * 05 00380
                  381 *                                                                              * 05 00381
                  382 * EXIT : A = I = IOSTAT                                                        * 05 00382
                  383 *        IOSTAT = 0                                                            * 05 00383
                  384 *                                                                              * 05 00384
                  385 ********************************************************************************05 00385
000063 024616 A   387 CHK1   LDB     BASP         LOAD BASE REGISTER B                               05 00387
000064 034012 A   388        LDX     CHK4         POINT X AT I                                       05 00388
000065 016106 A   389        LDA     IOSTAT,B     GET STATUS                                         05 00389
000066 055000 A   390        STA     0,X          SET I = IOSTAT                                     05 00390
000067 005001 A   391        TZA                                                                     05 00391
000070 056106 A   392        STA     IOSTAT,B     CLEAR STATUS                                       05 00392
000071 015000 A   393        LDA     0,X          LOAD A WITH STATUS                                 05 00393
000072 001000 A   394        JMP     0            EXIT                                               05 00394
000073 000000 A
000073            395 IOCHK  BES     0            ENTRY                                              05 00395
000074 002000 A   396        CALL    $SE          XFER PARAMETER                                     05 00396
000075 000000 E
000076 000001 A   397        DATA    1            1 PARAMETER                                        05 00397
000077            398 CHK4   BSS     1            ADDRESS OF I                                       05 00398
000100 001000 A   399        JMP     CHK1         JUMP BACK FOR FORWARD REF                          05 00399
000101 000063 R
                  400        EJEC                                                                    05 00400
                  401 ********************************************************************************05 00401
                  402 *                                                                              * 05 00402
                  403 *                     C A L L   I O L I N K ( C I L )                          * 05 00403
                  404 *                                                                              * 05 00404
                  405 * FUNCTION: TO CONSTRUCT AND EXECUTE AN IOLINK MACRO                           * 05 00405
                  406 *                                                                              * 05 00406
                  407 * ENTRY: IOLNK = IOLINK CONTROL WORD                                           * 05 00407
                  408 *        SYSBSZ = BUFFER SIZE IN WORDS                                         * 05 00408
                  409 *                                                                              * 05 00409
                  410 * EXIT : NO SPECIAL CONDITIONS                                                 * 05 00410
                  411 *                                                                              * 05 00411
                  412 ********************************************************************************05 00412
000102 016103 A   414 CIL    LDA     IOLNK,B      GET IOLINK CONTROL WORD                            05 00414
000103 054004 A   415        STA     CILCAL+2     STORE IN V*EXEC CALL SEQUENCE                      05 00415
000104 016161 A   416        LDA     SYSBSZ,B     GET BUFFER SIZE                                    05 00416
000105 054004 A   417        STA     CILCAL+4     STORE IN CALL SEQ                                  05 00417
                  418 CILCAL IOLINK  0,$BUF,120   CALL V*EXEC IOLINK                                 05 00418
000106 006505 A
000107 000406 A
000110 001400 A
000111 000512 R
000112 000170 A
000113 001000 A   419        JMP     NPJ          EXIT                                               05 00419
000114 000253 R
                  420        EJEC                                                                    05 00420
                  421 ********************************************************************************05 00421
                  422 *                                                                              * 05 00422
                  423 *                  C L O S E   R M D   F I L E ( C L S )                       * 05 00423
                  424 *                                                                              * 05 00424
                  425 * FUNCTION: TO CLOSE A FILE                                                    * 05 00425
                  426 *                                                                              * 05 00426
                  427 * ENTRY: NO SPECIAL CONDITIONS                                                 * 05 00427
                  428 *                                                                              * 05 00428
                  429 * CALLING SEQUENCE: CALL V*CLOS(U,S)          WHERE                            * 05 00429
                  430 *                                                                              * 05 00430
                  431 *                U = FORTRAN UNIT NUMBER                                       * 05 00431
                  432 *                S = MODE(UPDATE OR LEAVE) OF CLOSE                            * 05 00432
                  433 *                                                                              * 05 00433
                  434 * EXIT : DIRECT TO PSE                                                         * 05 00434
                  435 *        A = OP CODE                                                           * 05 00435
                  436 *        B = RETURN ADDRESS                                                    * 05 00436
                  437 *        X = 2(PARAMETER COUNT)                                                * 05 00437
                  438 *                                                                              * 05 00438
                  439 ********************************************************************************05 00439
000115 000000 A   441 V*CLOS ENTR                                                                    05 00441
000116 006027 A   442        LDBE    V*CLOS                                                          05 00442
000117 000115 R
000120 014344 A   443        LDA     CCL                                                             05 00443
000121 030422 A   444        LDX     TWO          2 PARAMETERS                                       05 00444
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000122 001000 A   445          JMP     PSE             EXIT TO PSE                                          05 00445
000123 000305 R
                  446          EJEC                                                                         PD 05 00446
                  447 **********************************************************************************PD 05 00447
                  448 *                                                                                  *PD 05 00448
                  449 *                  E N C O D E / D E C O D E ( E D C )                              *PD 05 00449
                  450 *                                                                                  *PD 05 00450
                  451 * FUNCTION: TO PROCESS ENCODE AND DECODE CALLS                                      *PD 05 00451
                  452 *                                                                                  *PD 05 00452
                  453 * ENTRY: NO SPECIAL CONDITIONS                                                      *PD 05 00453
                  454 *                                                                                  *PD 05 00454
                  455 * CALLING SEQUENCE: JMPM   $DQ (OR $EQ)                                           *    05 00455
                  456 *                   DATA   ADDRESS OF COUNT                                        *PD 05 00456
                  457 *                   DATA   ADDRESS OF FORMAT STRING                                *PD 05 00457
                  458 *                   DATA   ADDRESS OF I/O BUFFER                                   *PD 05 00458
                  459 *                   DATA   ADDRESS OF CHARACTER-PROCESSED COUNTER                  *PD 05 00459
                  460 *                                     (0 IF NONE)                                  *PD 05 00460
                  461 *                                                                                  *PD 05 00461
                  462 * EXIT:  DIRECT TO PSE                                                             *PD 05 00462
                  463 *        A = OP CODE                                                               *PD 05 00463
                  464 *        B = RETURN ADDRESS                                                        *PD 05 00464
                  465 *        X = PARAMETER COUNT (4)                                                   *PD 05 00465
                  466 *                                                                                  *PD 05 00466
                  467 **********************************************************************************PD 05 00467
                  468 ****************                                                                   PD 05 00468
                  469 * DECODE ENTRY *                                                                   PD 05 00469
                  470 ****************                                                                   PD 05 00470
000124 000000 A   471 $DQ      ENTR                                                                        05 00471
000125 006027 A   472          LDBE    $DQ                                                                 05 00472
000126 000124 R
000127 010425 A   473          LDA     CDC                                                                 PD 05 00473
000130 001000 A   474          JMP     EDC1                                                                PD 05 00474
000131 000136 R
                  475 ****************                                                                   PD 05 00475
                  476 * ENCODE ENTRY *                                                                   PD 05 00476
                  477 ****************                                                                   PD 05 00477
000132 000000 A   478 $EQ      ENTR                                                                        05 00478
000133 006027 A   479          LDBE    $EQ                                                                 05 00479
000134 000132 R
000135 014332 A   480          LDA     CEN                                                                 PD 05 00480
000136 030423 A   481 EDC1     LDX     FOUR                                                                PD 05 00481
000137 001000 A   482          JMP     PSE                                                                 PD 05 00482
000140 000305 R
                  483          EJEC                                                                        05 00483
                  484 **********************************************************************************  05 00484
                  485 *                                                                                *  05 00485
                  486 *                   E R R O R   P R O C E S S O R ( E R R )                      *  05 00486
                  487 *                                                                                *  05 00487
                  488 * FUNCTION: TO PROCESS RUNTIME ERRORS                                            *  05 00488
                  489 *                                                                                *  05 00489
                  490 * ENTRY:  E1 FORMAT                                                              *  05 00490
                  491 *         E2 MODE                                                                *  05 00491
                  492 *         E3 DATA                                                                *  05 00492
                  493 *         E4 I/O                                                                 *  05 00493
                  494 *                                                                                *  05 00494
                  495 * EXIT :  TO $EE WITH B=1, SO $EE ABORTS JOB                                     *  05 00495
                  496 *         A = ERROR KEY                                                          *  05 00496
                  497 *                                                                                *  05 00497
                  498 **********************************************************************************  05 00498
000141 046060 A   500 E4       INR     ERN,B           I/O ERROR                                           05 00500
000142 046060 A   501 E3       INR     ERN,B           DATA ERROR                                          05 00501
000143 046060 A   502 E2       INR     ERN,B           MODE ERROR                                          05 00502
000144 016153 A   503 E1       LDA     RETURN+2,B      FORMAT ERROR                                        PD 05 00503
000145 001016 A   504          JANZ    IORETR                                                              PD 05 00504
000146 000247 R
000147 016060 A   505          LDA     ERN,B                                                               PD 05 00505
000150 120464 A   506          ADD     THREE           ADD BIAS                                            05 00506
000151 005102 A   507          INCR    2               SET B TO ABORT JOB                                  05 00507
000152 002000 A   508          CALL    $EE             EXIT                                                05 00508
000153 000000 E
                  509          EJEC                                                                        05 00509
                  510 **********************************************************************************  05 00510
                  511 *                                                                                *  05 00511
                  512 *                        I O C   C A L L ( I O C )                               *  05 00512
                  513 *                                                                                *  05 00513
                  514 * FUNCTION: TO PROCESS CALLS TO V$IOC                                            *  05 00514
                  515 *                                                                                *  05 00515
                  516 * ENTRY:  IOCONT = CONTROL WORD                                                  *  05 00516
                  517 *         ADFCB = ADDRESS OF DCB/FCB                                             *  05 00517
                  518 *         IOSTAT = -1 PREVIOUS I/O GAVE ERROR                                    *  05 00518
                  519 *                =  0 PREVIOUS I/O OK                                            *  05 00519
                  520 *                = +1 PREVIOUS I/O GAVE EOF/EOD                                  *  05 00520
                  521 *         RWFL(BIT BF) = 1 FILL BUFFER ON READ SHORT NON-LOG RECORD              *  05 00521
                  522 *                      = 0 PASS IOC COUNT ON READ SHORT NON-LOG RECORD            *  05 00522
                  523 *         RWFL(BIT WR) = 0 READ                                                  V2 05 00523
                  524 *                      = 1 WRITE                                                 *  05 00524
                  525 *                                                                                *  05 00525
                  526 * EXIT :  DIRECT TO NPJ                                                          *  05 00526
                  527 *         IOSTAT = -1 IF ERROR RETURN FROM IOC                                   *  05 00527
                  528 *                = +1 IF ILLEGAL EOF/BCD RETURN FROM IOC                         *  05 00528
                  529 *         PBWC = FCB(0) ON WRITE                                                 *  05 00529
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                                530 *                = FCB(0) IF RWFL(BF) = 1                                          * 05 00530
                                531 *                = IOC WORD COUNT XFERRED OTHERWISE                                * 05 00531
                                532 *                                                                                  * 05 00532
                                533 ****************************************************************************** 05 00533
000154 036010 A                 535 IOC     LDX     ADFCB,B         POINT X AT DCB/FCB                                05 00535
000155 074014 A                 536         STX     IOCDF           STORE DCB/FCB ADDRESS IN IOC CALL                 05 00536
000156 015000 A                 537         LDA     0,X             GET RECORD SIZE IN WORDS                          05 00537
000157 056144 A                 538         STA     PBWC,B          INITIALIZE PBWC TO FCB(0)                         05 00538
000160 016106 A                 539         LDA     IOSTAT,B        GET STATUS OF PREVIOUS I/O                        05 00539
000161 005311 A                 540         DAR                                                                       05 00540
000162 001002 A                 541         JAP     NPJ             SKIP I/O IF EOF/EOD FLAGGED ON LAST I/O           05 00541
000163 000253 R
000164 016104 A                 542         LDA     IOCONT,B                                                          05 00542
000165 054003 A                 543         STA     IOCCW           LOAD CONTROL WORD INTO CALL SEQUENCE              05 00543
                                544 IOCIO   READ    *,0,0,0         CALL V$IOC                                        05 00544
000166 006505 A
000167 000404 A
000170 100000 A
000171 000000 A
000172 000166 R
000173 000000 A
000174 000000 A
       000171 R                 545 IOCCW   EQU     IOCIO+3         IOC CONTROL WORD                                  05 00545
       000172 R                 546 IOCDF   EQU     IOCIO+4         DCB/FCB ADDRESS                                   05 00546
000175 024504 A                 547         LDB     BASP            RESTORE BASE REGISTER                             05 00547
000176 016154 A                 548         LDA     RWFL,B                                                            05 00548
000177 006411 A                 549         BT      ASET+WR,IOCST       READ ?                                    V2  05 00549
000200 000206 R
000201 006410 A                 550         BT      ASET+BF,IOCST       YES. IS FILL FLAG SET ?                   V2  05 00550
000202 000206 R
000203 006017 A                 551         LDAE    IOCIO+5         NO. GET WORD COUNT FROM IOC CALL                  05 00551
000204 000173 R
000205 056144 A                 552         STA     PBWC,B          STORE                                             05 00552
                                553 IOCST   STAT    IOCIO,IOCERR,IOCEOF,IOCEOD,E4                                     05 00553
000206 006505 A
000207 000373 A
000210 000166 R
000211 000237 R
000212 000220 R
000213 000230 R
000214 000141 R
000215 024464 A                 554         LDB     BASP                                                              05 00554
000216 001000 A                 555         JMP     NPJ             EXIT                                              05 00555
000217 000253 R
                                556 ****************                                                                  05 00556
                                557 * EOF/EOD EXIT *                                                                 05 00557
                                558 ****************                                                                  05 00558
000220 024461 A                 559 IOCEOF  LDB     BASP                                                              05 00559
000221 016104 A                 560         LDA     IOCONT,B                                                          05 00560
000222 154027 A                 561         ANA     IOCMSK          GET OP CODE FROM V$IOC CALL                       05 00561
000223 001010 A                 562         JAZ     IOCEOD          SET STATUS FLAG ON READ                           05 00562
000224 000230 R
000225 130431 A                 563         ERA     BSB                                                               05 00563
000226 001016 A                 564         JANZ    NPJ             SET STATUS FLAG ON WRITE                          05 00564
000227 000253 R
                                565 ************                                                                      05 00565
                                566 * EOD EXIT *                                                                     05 00566
                                567 ************                                                                      05 00567
000230 024451 A                 568 IOCEOD  LDB     BASP                                                          PD  05 00568
000231 016152 A                 569         LDA     RETURN+1,B                                                    PD  05 00569
000232 001016 A                 570         JANZ    IORETR          'END' ADDRESS PRESENT                         PD  05 00570
000233 000247 R
000234 005111 A                 571         IAR                     END STATUS = +1                               PD  05 00571
000235 001000 A                 572         JMP     IOCER1                                                        PD  05 00572
000236 000244 R
                                573 ***************                                                                   05 00573
                                574 * ERROR EXIT *                                                                  05 00574
                                575 ***************                                                                   05 00575
000237 024442 A                 576 IOCERR  LDB     BASP                                                          PD  05 00576
000240 016153 A                 577         LDA     RETURN+2,B                                                    PD  05 00577
000241 001016 A                 578         JANZ    IORETR          'ERR' ADDRESS PRESENT                         PD  05 00578
000242 000247 R
000243 005311 A                 579         DAR                     ERR STATUS = -1                               PD  05 00579
000244 056106 A                 580 IOCER1  STA     IOSTAT,B        SET I/I STATUS                                PD  05 00580
000245 001000 A                 581         JMP     NPJ             EXIT                                              05 00581
000246 000253 R
000247 005014 A                 582 IORETR  TAX                                                                   PD  05 00582
000250 006705 A                 583         IJMP    0,X                                                           PD  05 00583
000251 000000 A
000252 007400 A                 584 IOCMSK  DATA    07400           OP CODE MASK                                      05 00584
                                585         EJEC                                                                      05 00585
                                586 ****************************************************************************** 05 00586
                                587 *                                                                                * 05 00587
                                588 *          N O N - R E E N T R A N T   P O P / J U M P ( N P J )                 * 05 00588
                                589 *                                                                                * 05 00589
                                590 * FUNCTION: TO EXECUTE POP/JUMP IN V$FORTIO                                      * 05 00590
                                591 *                                                                                * 05 00591
                                592 * ENTRY: OPSTKP = ADDRESS OF CURRENT OP                                         * 05 00592
                                593 *                                                                                * 05 00593
                                594 * EXIT : DIRECT TO ROUTINE SPECIFIED BY OP                                      * 05 00594
                                595 *          STACK POINTER OPSTKP DECREMENTED                                      * 05 00595
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                    596 *                                                                                 * 05 00596
                    597 ************************************************************************************* 05 00597
                    599 NPJ     TOPX                        POINT X AT OP                                     05 00599
000253 036000 A
000254 046000 A
000255 035000 A
000256 006035 A     600         LDXE    NPOPJT,X            GET EXECUTION ADDRESS                             05 00600
000257 000262 R
000260 006705 A     601         TJMP    0,X                 EXECUTE OP                                        05 00601
000261 000000 A
                    602 ******************************                                                        05 00602
                    603 * EXECUTION ADDRESS TABLE *                                                          05 00603
                    604 ******************************                                                        05 00604
000262 000102 R     605 NPOPJT  PZE     CIL                 OP=0 CALL EXEC FOR IOLINK                         05 00605
000263 000144 R     606         PZE     E1                  OP=1 ERROR                                        05 00606
000264 000460 R     607         PZE     XIT                 OP=2 EXIT                                         05 00607
000265 000153 R     608         PZE     IOC                 OP=3 I/O CALL                                     05 00608
000266 000041 R     609         PZE     CAR                 OP=4 CALL REENTRANT BLOCK                         05 00609
                    610         EJEC                                                                          05 00610
                    611 ************************************************************************************* 05 00611
                    612 *                                                                                     * 05 00612
                    613 *                O P E N   B L O C K E D   F I L E ( O P B )                           * 05 00613
                    614 *                                                                                     * 05 00614
                    615 * ENTRY: NO SPECIAL CONDITIONS                                                       * 05 00615
                    616 *                                                                                     * 05 00616
                    617 * CALLING SEQUENCE: CALL V$OPNB(U,L,F,M,S,B,R) WHERE                                 * 05 00617
                    618 *                                                                                     * 05 00618
                    619 *                    U = FORTRAN UNIT NUMBER                                          * 05 00619
                    620 *                    L = LOGICAL UNIT NUMBER                                          * 05 00620
                    621 *                    F = FCB ARRAY NAME                                               * 05 00621
                    622 *                    M = MODE(REWIND OR LEAVE) OF OPEN                                * 05 00622
                    623 *                    S = SIZE IN WORDS OF LOGICAL RECORD                              * 05 00623
                    624 *                    B = ADDRESS OF I/O BUFFER ARRAY                                  * 05 00624
                    625 *                    R = READ BEFORE WRITE FLAG                                       * 05 00625
                    626 *                                                                                     * 05 00626
                    627 * EXIT : DIRECT TO PSE                                                               * 05 00627
                    628 *                                                                                     * 05 00628
                    629 ************************************************************************************* 05 00629
000267 000000 A     631 V$OPNB  ENTR                                                                          05 00631
000270 006027 A     632         LDBE    V$OPNB                                                                05 00632
000271 000267 R
000272 010472 A     633         LDA     COB                                                                   05 00633
000273 030467 A     634         LDX     SEVEN               7 PARAMETERS                                      05 00634
000274 001000 A     635         JMP     PSE                 EXIT TO PSE                                   05 00635
000275 000005 R
                    636         EJEC                                                                          05 00636
                    637 ************************************************************************************* 05 00637
                    638 *                                                                                     * 05 00638
                    639 *                   O P E N   R M O   F I L E ( O P N )                               * 05 00639
                    640 *                                                                                     * 05 00640
                    641 * ENTRY: NO SPECIAL CONDITIONS                                                       * 05 00641
                    642 *                                                                                     * 05 00642
                    643 * CALLING SEQUENCE: CALL V$OPEN(U,L,F,M)     WHERE                                   * 05 00643
                    644 *                                                                                     * 05 00644
                    645 *                    U = FORTRAN UNIT NUMBER                                          * 05 00645
                    646 *                    L = LOGICAL UNIT NUMBER                                          * 05 00646
                    647 *                    F = FCB ARRAY NAME                                               * 05 00647
                    648 *                    M = MODE(REWIND OR LEAVE) OF OPEN                                * 05 00648
                    649 *                                                                                     * 05 00649
                    650 * EXIT : DIRECT TO PSE                                                               * 05 00650
                    651 *                                                                                     * 05 00651
                    652 ************************************************************************************* 05 00652
000276 000000 A     654 V$OPEN  ENTR                                                                          05 00654
000277 006027 A     655         LDBE    V$OPEN                                                                05 00655
000300 000276 R
000301 014165 A     656         LDA     COP                                                                   05 00656
000302 030423 A     657         LDX     FOUR                4 PARAMETERS                                      05 00657
000303 001000 A     658         JMP     PSE                 EXIT TO PSE                                   05 00658
000304 000005 R
                    659         EJEC                                                                          05 00659
                    660 ************************************************************************************* 05 00660
                    661 *                                                                                     * 05 00661
                    662 *                   P S E U D O - E N T R Y ( P S E )                                 * 05 00662
                    663 *                                                                                     * 05 00663
                    664 * FUNCTION: TO PROVIDE A COMMON PSEUDO-ENTRY FOR ALL ENTRY CALLS                     * 05 00664
                    665 *                                                                                     * 05 00665
                    666 * ENTRY:  A = OP CODE                                                                 * 05 00666
                    667 *          E = RETURN ADDRESS                                                         * 05 00667
                    668 *          X = PARAMETER COUNT                                                        * 05 00668
                    669 *          OPSTKP = ADDRESS(IN STACK) OF LAST OP PUSHED                               * 05 00669
                    670 *                                                                                     * 05 00670
                    671 *          DIRECT TO PSE1 FOR PARAMETER XFER                                          * 05 00671
                    672 *          DIRECT TO PSE OTHERWISE                                                    * 05 00672
                    673 *                                                                                     * 05 00673
                    674 * EXIT :  DIRECT TO CAR                                                              * 05 00674
                    675 *          OPSTKP = OPSTKP-1 FOR PARAMETER XFER                                       * 05 00675
                    676 *                 = ADDRESS OF START OF STACK, OTHERWISE                              * 05 00676
                    677 *                                                                                     * 05 00677
                    678 * ERRORS: ER4 IF IOSTAT NOT CLEARED(EXCEPT ON PARAMETER XFER)                        * 05 00678
                    679 *                                                                                     * 05 00679
                    680 ************************************************************************************* 05 00680
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000305 007401 A   682 PSE     SOF                 TEST I/O STATUS                                          05 00682
000306 001006 A   683         DATA    01006       SKIP                                                     05 00683
000307 007400 A   684 PSE1    ROF                 IGNORE I/O STATUS                                        05 00684
000310 064034 A   685         STB     PSENTR      STORE ENTRY ADDRESS                                      05 00685
000311 074036 A   686         STX     PSECNT      STORE PARAMETER COUNT                                    05 00686
000312 024367 A   687         LDB     BASE        LOAD BASE REGISTER B                                     05 00687
000313 036017 A   688         LDX     ADPSTK,B    LOAD X TO INITIALIZE STACK                               05 00688
000314 001001 A   689         JOF     PSE4                                                                 05 00689
000315 000320 R
000316 036000 A   690         LDX     OPSTKP,B    DONT INITIALIZE STACK ON PARAMETER XFER                  05 00690
000317 007401 A   691         SOF                 SWAP OVFL FLAG                                           05 00691
000320 005344 A   692 PSE4    DXR                 DROP STACK POINTER                                 FG    05 00692
000321 076000 A   693         STX     OPSTKP,B    UPDATE STACK POINTER                                     05 00693
000322 055000 A   694         STA     0,X         STORE OP IN STACK                                        05 00694
000323 001001 A   695         JOF     PSE8        IGNORE I/O STATUS ON PARAMETER XFER                      05 00695
000324 000332 R
000325 005101 A   696         INCR    1                                                              V2    05 00696
000326 056103 A   697         STA     INFL,B      SET INITIAL ENTRY FLAG                             V2    05 00697
000327 016106 A   698         LDA     IOSTAT,B                                                             05 00698
000330 001016 A   699         JANZ    E4          ERROR 4/ I/O STATUS BAD /                                05 00699
000331 000143 R
000332 014027 A   700 PSE8    LDA     PSEAPL      GET CALL SEQUENCE ADDRESS                                05 00700
000333 056151 A   701         STA     RETURN,B    SAVE IN DATA BLOCK                                       05 00701
000334 014026 A   702         LDA     PSENOP                                                               05 00702
000335 054014 A   703         STA     PSECAL+1    NO-OP CALL SEQUENCE                                      05 00703
000336 054014 A   704         STA     PSECAL+2                                                             05 00704
000337 054014 A   705         STA     PSECAL+3                                                             05 00705
000340 054014 A   706         STA     PSECAL+4                                                             05 00706
000341 054014 A   707         STA     PSECAL+5                                                             05 00707
000342 054014 A   708         STA     PSECAL+6                                                             05 00708
000343 001000 A   709         JMP     PSENTR+1    XFER PARAMETERS                                          05 00709
000344 000346 R
000345 000000 A   710 PSENTR  ENTR                PSEUDO-ENTRY                                             05 00710
000346 002000 A   711         CALL    PSE         XFER PARAMETERS                                          05 00711
000347 000073 E
000350            712 PSECNT  BSS     1           PARAMETER COUNT                                          05 00712
000351            713 PSECAL  BSS     7           PARAMETERS                                               05 00713
000360 001000 A   714         JMP     CAR         EXIT TO V$RERR                                     V2    05 00714
000361 000041 R
000362 000345 R   715 PSEAPL  PZE     PSENTR      ADDRESS OF PSEUDO-ENTRY                                  05 00715
000363 005000 A   716 PSENOP  NOP                 NO-OP                                                    05 00716
                  717         EJEC                                                                       05 00717
                  718 ********************************************************************************** 05 00718
                  719 *                                                                                *  05 00719
                  720 *                        R E A D / W R I T E ( R W T )                           *  05 00720
                  721 *                                                                                *  05 00721
                  722 * FUNCTION: TO PROCESS READ AND WRITE CALLS                                      *  05 00722
                  723 *                                                                                *  05 00723
                  724 * ENTRY: NO SPECIAL CONDITIONS                                                   *  05 00724
                  725 *                                                                                *  05 00725
                  726 * CALLING SEQUENCE: JMPM  $RD(OR $WR)                                            *  05 00726
                  727 *                   DATA  ADDRESS OF UNIT NUMBER                                 *  05 00727
                  728 *                   DATA  ADDRESS OF FORMAT STRING(0 IF NONE)                    *  05 00728
                  729 *                   DATA  ADDRESS OF 'END' RETURN(0 IF NONE)                PD   05 00729
                  730 *                   DATA  ADDRESS OF 'ERR' RETURN(0 IF NONE)                PD   05 00730
                  731 *                                                                                *  05 00731
                  732 * EXIT : DIRECT TO PSE                                                           *  05 00732
                  733 *          A = OP CODE                                                           *  05 00733
                  734 *          B = RETURN ADDRESS                                                    *  05 00734
                  735 *          X = PARAMETER COUNT                                                   *  05 00735
                  736 *                                                                                *  05 00736
                  737 ********************************************************************************** 05 00737
                  739 ***************                                                                    05 00739
                  740 * READ ENTRY *                                                                    05 00740
                  741 ***************                                                                    05 00741
000364 000000 A   742 $RD     ENTR                                                                       05 00742
000365 006027 A   743         LDBE    $RD                                                                05 00743
000366 000364 R
000367 010471 A   744         LDD     =PD                                                                05 00744
000370 001000 A   745         JMP     $WT1                                                               05 00745
000371 000376 R
                  746 ***************                                                                    05 00746
                  747 * WRITE ENTRY *                                                                   05 00747
                  748 ***************                                                                    05 00748
000372 000000 A   749 $WR     ENTR                                                                       05 00749
000373 006027 A   750         LDBE    $WR                                                                05 00750
000374 000372 R
000375 014063 A   751         LDD     =WR                                                                05 00751
000376 005024 A   752 RWT1    TBX                 POINT X AT CALLING SEQUENCE                            05 00752
000377 035002 A   753         LDX     2,X         GET FORTRAN 'G' FLAG                                   05 00753
000400 001040 A   754         JXZ     RWT2        WAS PROGRAM COMPILED BY 'G' COMPILER ?                 05 00754
000401 000405 R
000402 030422 A   755         LDX     =TWO        NO. TWO PARAMETERS                                     05 00755
000403 001000 A   756         JMP     PSE         EXIT TO PSE                                            05 00756
000404 000305 R
000405 030465 A   757 RWT2    LDX     =FIVE       'G' COMPILER OUTPUTS 5 PARAMETERS                      05 00757
000406 001000 A   758         JMP     PSE         EXIT TO PSE                                            05 00758
000407 000305 R
                  759         EJEC                                                                       05 00759
                  760 ********************************************************************************** 05 00760
                  761 *                                                                                *  05 00761
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                    762 *           T R A N S F E R   P A R A M E T E R S ( X F R )                    * 05 00762
                    763 *                                                                             * 05 00763
                    764 * FUNCTION: TO TRANSFER PARAMETERS FROM AN I/O LIST                           * 05 00764
                    765 *                                                                             * 05 00765
                    766 * ENTRY: NO SPECIAL CONDITIONS                                                * 05 00766
                    767 *                                                                             * 05 00767
                    768 * CALLING SEQUENCE: JMPM  $IX(X=1-5)                                          * 05 00768
                    769 *                    DATA  COUNT OF WORDS IN LIST ITEM                        * 05 00769
                    770 *                                                                             * 05 00770
                    771 *               $I1: 1-WORD INTEGER/LOGICAL LIST ITEM                         * 05 00771
                    772 *               $I2: 2-WORD INTEGER/LOGICAL LIST ITEM                         * 05 00772
                    773 *               $I3: REAL LIST ITEM                                           * 05 00773
                    774 *               $I4: DOUBLE PRECISION LIST ITEM                               * 05 00774
                    775 *               $I5: COMPLEX LIST ITEM                                        * 05 00775
                    776 *               $I6: DOUBLE PRECISION INTEGER                                 * 05 00776
                    777 *                                                                             * 05 00777
                    778 * EXIT : DIRECT TO PSE                                                         * 05 00778
                    779 *        ITMODE = 0 1-WORD INTEGER/LOGICAL                                    * 05 00779
                    780 *               = 1 2-WORD INTEGER/LOGICAL                                    * 05 00780
                    781 *               = 2 REAL                                                      * 05 00781
                    782 *               = 3 DOUBLE PRECISION                                          * 05 00782
                    783 *               = 4 COMPLEX                                                   * 05 00783
                    784 *               = 5 DOUBLE PRECISION INTEGER                                  * 05 00784
                    785 *                                                                             * 05 00785
                    786 ********************************************************************************* 05 00786
000410  000000  A 788 $I1     ENTR                        1-WORD INTEGER/LOGICAL                       05 00788
000411  006027  A 789         LDBE    $I1                                                              05 00789
000412  000410  R
000413  005001  A 790         TZA                         MODE = 0                                     05 00790
000414  001000  A 791         JMP     XFR4                                                             05 00791
000415  000452  R
000416  000000  A 792 $I2     ENTR                        2-WORD INTEGER/LOGICAL                       05 00792
000417  006027  A 793         LDBE    $I2                                                              05 00793
000420  000416  R
000421  005101  A 794         INCR    1                   MODE = 1                                     05 00794
000422  001000  A 795         JMP     XFR4                                                             05 00795
000423  000452  R
000424  000000  A 796 $I3     ENTR                        REAL                                         05 00796
000425  006027  A 797         LDBE    $I3                                                              05 00797
000426  000424  R
000427  010422  A 798         LDA     TWO                 MODE = 2                                     05 00798
000430  001000  A 799         JMP     XFR4                                                             05 00799
000431  000452  R
000432  000000  A 800 $I4     ENTR                        DOUBLE PRECISION                             05 00800
000433  006027  A 801         LDBE    $I4                                                              05 00801
000434  000432  R
000435  010464  A 802         LDA     THREE               MODE = 3                                     05 00802
000436  001000  A 803         JMP     XFR4                                                             05 00803
000437  000452  R
000440  000000  A 804 $I5     ENTR                        COMPLEX                                      05 00804
000441  006027  A 805         LDBE    $I5                                                              05 00805
000442  000446  R
000443  010423  A 806         LDA     FOUR                MODE = 4                                     05 00806
000444  001000  A 807         JMP     XFR4                                                             05 00807
000445  000452  R
000446  000000  A 808 $I6     ENTR                        DOUBLE PRECISION INTEGER                     05 00808
000447  006027  A 809         LDBE    $I6                                                              05 00809
000450  000446  R
000451  010465  A 810         LDA     FIVE                                                             05 00810
000452  034227  A 812 XFR4    LDX     BASP                                                             05 00812
000453  055116  A 813         STA     ITMODE,X            STORE ITEM MODE IN DATA BLOCK                05 00813
000454  010466  A 814         LDA     CXF                                                              05 00814
000455  030422  A 815         LDX     TWO                 2 PARAMETERS                                 05 00815
000456  001000  A 816         JMP     PSE1                PROCESS PSEUDO-ENTRY                         05 00816
000457  000307  R
                    817         EJEC                                                                 05 00817
                    818 ********************************************************************************* 05 00818
                    819 *                                                                             * 05 00819
                    820 *     R E T U R N   T O   C A L L I N G   P R O G R A M ( X I T )             * 05 00820
                    821 *                                                                             * 05 00821
                    822 * FUNCTION: TO RETURN FROM RUNTIME TO CALLING PROGRAM                          * 05 00822
                    823 *                                                                             * 05 00823
                    824 * ENTRY: RETURN = RETURN ADDRESS                                               * 05 00824
                    825 *                                                                             * 05 00825
                    826 * EXIT : TO CALLING PROGRAM THRU RETURN                                        * 05 00826
                    827 *                                                                             * 05 00827
                    828 ********************************************************************************* 05 00828
000460  036151  A 830 XIT     LDX     RETURN,B            POINT X AT CALL SEQUENCE                     05 00830
000461  035000  A 831         LDX     0,X                 GET RETURN ADDRESS IN X                      05 00831
000462  006705  A 832         IJMP    0,X                 EXIT                                         05 00832
000463  000000  A
                    833         EJEC                                                                 05 00833
                    834 ********************************************************************************* 05 00834
                    835 *                                                                             * 05 00835
                    836 *           C O N S T A N T S   A N D   B U F F E R S                         * 05 00836
                    837 *                                                                             * 05 00837
                    838 ********************************************************************************* 05 00838
000464  000013  A 840 KD11    DATA    11                                                               05 00840
000465  000014  A 841 KD12    DATA    12                                                               05 00841
000466  000015  A 842 KD13    DATA    13                                                               05 00842
000467  000016  A 843 KD14    DATA    14                                                               05 00843
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000470 000021 A   844 KD17    DATA    17                                                    V2  05 00844
000471 000022 A   845 KD18    DATA    18                                                        05 00845
000472 000023 A   846 KD19    DATA    19                                                        05 00846
                  847         EJEC                                                          05 00847
                  848 ********************************************************************* 05 00848
                  849 *                                                                   * 05 00849
                  850 *     D I R E C T   A C C E S S   R E A D / W R I T E               * 05 00850
                  851 *                                                                   * 05 00851
                  852 * FUNCTION: TO PROCESS DIRECT ACCESS READ AND WRITE CALLS           * 05 00852
                  853 *                                                                   * 05 00853
                  854 * CALLING SEQUENCE: CALL R$X (OR W$X)                              * 05 00854
                  855 *                    DATA  UNIT-NUMBER-ADDRESS                      * 05 00855
                  856 *                    DATA  FORMAT ADDRESS (0 IF NONE)               * 05 00856
                  857 *                    DATA  0                                        * 05 00857
                  858 *                    DATA  'END'-ADDRESS (0 IF NONE)                * 05 00858
                  859 *                    DATA  'ERR'-ADDRESS (0 IF NONE)                * 05 00859
                  860 *                    DATA  FCB-ADDRESS                              * 05 00860
                  861 *                                                                   * 05 00861
                  862 * EXIT: DIRECT TO PSE                                               * 05 00862
                  863 *       (A) = OP-CODE                                               * 05 00863
                  864 *       (B( = RETURN ADDRESS                                        * 05 00864
                  865 *       (X) = PARAMETER COUNT                                       * 05 00865
                  866 *                                                                   * 05 00866
                  867 ********************************************************************* 05 00867
000473 000000 A   869 R$X     ENTR                  READ ENTRY                                05 00869
000474 006027 A   870         LDBE    R$X                                                     05 00870
000475 000473 R
000476 006017 A   871         LDAE    CRA                                                     05 00871
000477 000471 R
000500 001000 A   872         JMP     RWX1                                                    05 00872
000501 000507 R
000502 000000 A   874 W$X     ENTR                  WRITE ENTRY                               05 00874
000503 006027 A   875         LDBE    W$X                                                     05 00875
000504 000502 R
000505 006017 A   876         LDAE    CWA                                                     05 00876
000506 000472 R
000507 030466 A   877 RWX1    LDX     SIX                                                     05 00877
000510 001000 A   878         JMP     PSE                                                     05 00878
000511 000305 R
000512            879 $BUF    BSS     120           I/O BUFFER                                05 00879
                  880         EJEC                                                          05 00880
                  881 ********************************************************************* 05 00881
                  882 *                                                                   * 05 00882
                  883 *     D A T A   B L O C K - F L A G S , V A R I A B L E S , E T C .   * 05 00883
                  884 *                                                                   * 05 00884
                  885 ********************************************************************* 05 00885
000702 000703 R   887 BASP    PZE     BASE          POINTER TO BASE OF DATA BLOCK             05 00887
       000703 R   888 BASE    EQU     *             BASE ADDRESS OF DATA BLOCK                05 00888
000703            889 VDPSTP  BSS     1             DP STACK POINTER                      FG  05 00889
000704 000706 R   890 VAACC   PZE     VACC          ADDRESS OF ACCUMULATOR ACC                05 00890
000705 000731 R   891 VABSCB  PZE     VBSCB         ADDRESS OF BUFFER SCB                     05 00891
000706            892 VACC    BSS     4             4-WORD ACCUMULATOR                        05 00892
000712 000735 R   893 VACHB   PZE     VCHB          ADDRESS OF DECIMAL DIGIT ARRAY            05 00893
000713            894 VADFCB  BSS     1             DCB/FCB ADDRESS                           05 00894
000714 000765 R   895 VAFSCB  PZE     VFSCB         ADDRESS OF FORMAT SCB                     05 00895
000715 000770 R   896 VAGPAR  PZE     VGDRP-1       ADDRESS OF '(' GROUP BLOCK                05 00896
000716 001012 R   897 VAISCB  PZE     VISCB         ADDRESS OF LIST ITEM SCB                  05 00897
000717            898 VALOC   BSS     1             ALOC ENTRY FLAG                       V2  05 00898
000720 000253 R   899 VANPOJ  PZE     NPJ           ADDRESS OF V$FORTID POP/JUMP              05 00899
000721 000703 R   900 VANRB   PZE     BASE          ADDRESS OF V$FORTID DATA BLOCK        V2  05 00900
000722 001044 R   901 VAOPST  PZE     VOPSTK+STKSZ  ADDRESS OF OP STACK                   FG  05 00901
000723            902 VAPBF   BSS     1             ADDRESS OF PHYSICAL BUFFER                05 00902
000724            903 VASCB   BSS     1             SCAN BLOCK ADDRESS                        05 00903
000725            904 VASFL   BSS     1             '*' FLAG                                  05 00904
000726 001064 R   905 VASYSD  PZE     VSYSDC        ADDRESS OF SYSTEM DCB                     05 00905
000727            906 VBEXP   BSS     1             BINARY EXPONENT                           05 00906
000730            907 VBFWPT  BSS     1             BUFFER WORD POINTER                       05 00907
000731            908 VBSCB   BSS     4             BUFFER SCB                                05 00908
000735            909 VCHB    BSS     14            DECIMAL DIGIT ARRAY                       05 00909
000753            910 VCHBPT  BSS     1             CHB ARRAY POINTER                         05 00910
000754            911 VCHNHD  BSS     1             FCB CHAIN HEADER                          05 00911
000755            912 VCOUN   BSS     1             COUNTER                                   05 00912
000756            913 VCVFL   BSS     1             CHARACTER VALIDITY FLAGS                  05 00913
000757            914 VD      BSS     1             FRACTIONAL FIELD WIDTH                    05 00914
000760            915 VDEXP   BSS     1             DECIMAL EXPONENT                          05 00915
000761            916 VDT     BSS     1             WORKING FRACTIONAL FIELD WIDTH            05 00916
000762            917 VEDEXP  BSS     1             EXPLICIT DECIMAL EXPONENT                 05 00917
000763 000000 A   918 VERN    DATA    0             ERROR NUMBER                              05 00918
000764            919 VFDLKY  BSS     1             FIELD DESCRIPTOR LETTER KEY               05 00919
000765            920 VFSCB   BSS     4             FORMAT STRING SCB                         05 00920
000771            921 VGDRP   BSS     9             '(' GROUP DYNAMIC REPEAT COUNT            05 00921
001002            922 VIDEXP  BSS     1             IMPLICIT DECIMAL EXPONENT                 05 00922
001003            923 VIFW    BSS     1             INTEGER FIELD WIDTH                       05 00923
001004            924 VIIBSZ  BSS     1             INDIVIDUAL ITEM BYTE SIZE                 05 00924
001005 000001 A   925 VIIWSZ  DATA    1             INDIVIDUAL ITEM WORD SIZE                 05 00925
001006            926 VINFL   BSS     1             INITIALIZE FLAG                       V2  05 00926
001007            927 VIOCON  BSS     1             I/O CONTROL WORD                          05 00927
001010            928 VIOLNK  BSS     1             IOLINK CONTROL WORD                       05 00928
001011 000000 A   929 VIOSTA  DATA    0             I/O STATUS                                05 00929
001012            930 VISCB   BSS     4             LIST ITEM SCB                             05 00930
001016            931 VITEMA  BSS     1             ADDRESS OF LIST ITEM                      05 00931
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001017             932 VITEMW  BSS     1          COUNT OF WORDS REMAINING IN ITEM                05 00932
001020             933 VITMIN  BSS     1          LIST ITEM WORD INCREMENT                        05 00933
001021             934 VITMOD  BSS     1          LIST ITEM MODE                                  05 00934
001022             935 VLISTF  BSS     1          LIST DATA XFER FLAG                             05 00935
001023 000000 A    936 VLNKCN  DATA    0          FCB CHAIN LINK COUNT                            05 00936
001024             937 VLRECN  BSS     1          LOGICAL RECORD NUMBER                           05 00937
001025             938 VLRSZ   BSS     1          LOGICAL RECORD SIZE                             05 00938
001026             939 VLRWC   BSS     1          LOGICAL RECORD REMAINING WORD COUNT             05 00939
001027             940 VMOV    BSS     1          MULTIPLY OVERFLOW SWITCH                        05 00940
001030             941 VN      BSS     1          H/T/X FIELD WIDTH                               05 00941
001031             942 VNFF    BSS     1          NUMERIC FORMAT FIELD                            05 00942
001032             943 VOPSTK  BSS     STKSZ      OP STACK                                        05 00943
001044             944 VPARLV  BSS     1          FORMAT '(' GROUP LEVEL COUNT                    05 00944
001045             945 VPBRC   BSS     1          PHYSICAL BUFFER RECORD COUNT                    05 00945
001046             946 VPBSZ   BSS     1          PHYSICAL BUFFER SIZE                            05 00946
001047             947 VPBWC   BSS     1          PHYSICAL BUFFER REMAINING WORD COUNT            05 00947
001050             948 VPRECN  BSS     1          PHYSICAL RECORD NUMBER                          05 00948
001051             949 VPRLIN  BSS     1          PREVIOUS LINK OF FCB CHAIN                      05 00949
001052             950 VPTFL   BSS     1          '.' POINT FLAG                                  05 00950
001053             951 VQFL    BSS     1          QUOTE FLAG                                      05 00951
001054             952 VRETUR  BSS     3          RETURN ADDR/'END' ADDR/'ERR' ADDR         PD    05 00952
001057             953 VRWFL   BSS     1          FLAG WORD                                 V2    05 00953
001060             954 VS      BSS     1          SCALE FACTOR                                    05 00954
001061             955 VSCF    BSS     1          SCALE FACTOR FLAG                               05 00955
001062             956 VSGFL   BSS     1          '-' SIGN FLAG                                   05 00956
001063             957 VSVREC  BSS     1          SAVE RECORD NO                                  05 00957
001064 000000 A    958 VSYSDC  DATA    0,$BUF,0   SYSTEM DCB                                      05 00958
001065 000512 R
001066 000000 A
001067             959 VTEMP   BSS     1          TEMP STORE                                      05 00959
001070             960 VTEMP1  BSS     1          TEMP STORE                                      05 00960
001071             961 VTERM   BSS     1          PRODUCT TERM                                    05 00961
001072             962 VUNIT   BSS     1          I/O UNIT NUMBER                                 05 00962
001073             963 VW      BSS     1          FIELD WIDTH                                     05 00963
001074             964 VWT     BSS     1          WORKING VALUE OF W                              05 00964
001075 000000 A    965 VXFFL   DATA    0          PARAMETER XFER ENABLE FLAG                      05 00965
001076             966 VXFL    BSS     1          EXPONENT FIELD NON-BLANK FLAG                   05 00966
001077             967 VXFW    BSS     1          EXPONENT FIELD WIDTH                            05 00967
001100             968 VXSG    BSS     1          EXPONENT SIGN FLAG                              05 00968
001101             969 VZFW    BSS     1          LEADING ZERO FIELD WIDTH                        05 00969
001102 000260 A    970         DATA    0260       ASCII ZERO                                V2    05 00970
001103 000016 A    971         DATA    14         DECIMAL 14                                V2    05 00971
001104 000170 A    972         DATA    120        DECIMAL 120                               V2    05 00972
001105 000240 A    973         DATA    0240       ASCII BLANK CHARACTER                     V2    05 00973
001106 120240 A    974         DATA    '  '       ASCII BLANK WORD                          V2    05 00974
       001107 R    975 VZZZ    EQU     *          END OF DATA BLOCK                               05 00975
                   976         END                                                                05 00976
ENTRY NAMES
000016 R $BA     000124 R $DQ     000024 R $EN     000132 R $EQ
000410 R $I1     000416 R $I2     000424 R $I3     000432 R $I4
000440 R $I5     000446 R $I6     000000 R $ND     000364 R $RD
000032 R $RE     000372 R $WR     000073 R IOCHK   000473 R R$X
000115 R V$CLOS  000054 R V$CLCB  000276 R V$OPEN  000267 R V$OPNB
000502 R W$X
EXTERNAL NAMES
000153 E $EE     000347 E $SE     000000 E POFCB   000000 E V$DSTB
000050 E V$EXEC  000000 E V$IOC   000000 E V$IOST  000046 E V$RER1
000053 E V$RERM  000052 E V$RERR
SYMBOLS
000016 R $BA     000512 R $BUF    000124 R $DQ     000153 E $EE
000024 R $EN     000132 R $EQ     000410 R $I1     000416 R $I2
000424 R $I3     000432 R $I4     000440 R $I5     000446 R $I6
000000 R $ND     000364 R $RD     000032 R $RE     000347 E $SE
000372 R $WR     000001 A AACC    000002 A ABSCB   000003 A ACC
000007 A ACHB    000010 A ADFCB   000011 A AFSCB   000012 A AGPPR
000110 A AIBUF   000013 A AISCB   000027 A ALBF    000014 A ALOC
000015 A ANPOJ   000016 A PNRB    000017 A AOPSTK  000020 A APBF
000021 A ASCB    000000 A ASET    000022 A ASFL    000023 A ASYSDC
000036 R AUX2    000002 A B       000703 R BASE    000702 R BASP
000030 A BCHAR   000031 A BCODE   000024 A BEXP    000010 A BF
000026 A BFPT    000025 A BFWPT   000472 A BM17    000422 A BS1
000433 A BS10    000425 A BS4     000431 A BS8     000402 A BS9
000041 R CAR     000053 R CARNF   000437 A CBK     000466 R CCB
000465 R CCL     000425 A CDC     000424 A CEF     000470 R CEN
000421 A CER     000422 A CEX     000032 A CHB     000050 A CHBPT
000063 R CHK1    000077 R CHK4    000051 A CHNHDR  000102 R CIL
000106 R CILCAL  000464 A CIO     000472 A COB     000467 R CDP
000052 A COUNT   000471 R CRA     000423 A CRB     000471 A CRD
000470 A CRW     000465 A CTR     000053 A CVFL    000472 R CWA
000464 R CWR     000420 A CXC     000466 A CXF     000054 A D
000055 A DEXP    000056 A DT      000144 R E1      000143 R E2
000142 R E3      000141 R E4      000136 R EDC1    000057 A EDEXP
000424 A EIGHT   000060 A ERN     000064 A FCHAR   000065 A FCODE
000061 A FDLKEY  000465 A FIVE    000062 A FMPT    000423 A FOUR
000063 A FRMT    000062 R FRPT    000066 A GDRPC   000071 A GFRPT
000074 A GSRPC   000111 A ICHAR   000077 A IDEXP   000100 A IFW
000101 A IIBSZ   000102 A IIWSZ   000103 A INFL    000154 R IOC
000171 R IOCCW   000172 R IOCDF   000230 R IOCEDD  000220 R IOCEOF
000244 R IOCER1  000237 R IOCERR  000073 R IOCHK   000166 R IOCIO
000252 R IOCMSK  000104 A IOCONT  000206 R IOCST   000105 A IOLNK
000247 R IORETR  000106 A IOSTAT  000113 A ITEMAD  000114 A ITEMWC
```

```
000115 A ITMINC 000116 A ITMODE 000464 R KD11   000465 R KD12
000466 R KD13   000467 R KD14   000472 A KD15   000425 A KD16
000470 R KD17   000471 R KD18   000472 R KD19   000300 A LC
000000 A LF     000117 A LISTFL 000120 A LNKCNT 000121 A LRECND
000122 A LRSZ   000123 A LRWC   000124 A MOV    000420 A MT
000125 A N      000126 A NFF    000470 A NINE   000253 R NPJ
000262 R NPOPJT 000421 A ONE    000000 A OPSTKP 000141 A PARLV
000142 A PBRC   000143 A PBSZ   000144 A PBWC   000000 E POFCB
000145 A PRECND 000146 A PRLINK 000305 R PSE    000307 R PSE1
000320 R PSE4   000332 R PSE5   000362 R PSEAPL 000351 R PSECAL
000350 R PSECNT 000363 R PSENOP 000345 R PSENTR 000147 A PTFL
000150 A QFL    000125 A R      000473 R R$X    000151 A RETURN
000154 A RWFL   000376 R RWT1   000405 R RWT2   000507 R RWX1
000155 A S      000156 A SCF    000467 A SEVEN  000157 A SGFL
000466 A SIX    000012 A STKSZ  000160 A SVRECN 000161 A SYSBSZ
000164 A TEMP   000165 A TEMP1  000471 A TEN    000166 A TERM
000464 A THREE  000422 A TWO    000167 A UNIT   000166 A UNITS
000414 A V$BVN  000115 R V$CLOS 000054 R V$CLSB 000301 A V$CPL
000000 E V$DSTB 000050 E V$EXEC 000000 E V$IOC  000000 E V$IOST
000276 R V$OPEN 000267 R V$OPNB 000046 E V$RER1 000053 E V$RERN
000052 E V$RERR 000704 R VAACC  000705 R VABSCB 000706 R VACC
000712 R VACHB  000713 R VADFCB 000714 R VAFSCB 000715 R VAGPAR
000716 R VAISCB 000717 R VALOC  000720 R VANPOJ 000721 R VANRB
000722 R VAOPST 000723 R VAPBF  000724 R VASCB  000725 R VASFL
000726 R VASYSD 000727 R VBEXP  000730 R VBFWPT 000731 R VBSCB
000735 R VCHB   000753 R VCHBPT 000754 R VCHNHD 000755 R VCOUN
000756 R VCVFL  000757 R VD     000760 R VDEXP  000761 R VDT
000762 R VEDEXP 000763 R VERN   000764 R VFDLKY 000765 R VFSCB
000771 R VGDRP  001002 R VIDEXP 001003 R VIFW   001004 R VIIBSZ
001005 R VIIWSZ 001006 R VINFL  001007 R VIOCON 001010 R VIOLNK
001011 R VIOSTA 001012 R VISCB  001016 R VITEMA 001017 R VITEMW
001020 R VITMIN 001021 R VITMOD 001022 R VLISTF 001023 R VLNKCN
001024 R VLRECN 001025 R VLRSZ  001026 R VLRWC  001027 R VMOV
001030 R VN     001031 R VNFF   001032 R VOPSTK 000703 R VOPSTP
000001 A VORTEX 001044 R VPARLV 001045 R VPBRC  001046 R VPBSZ
001047 R VPBWC  001050 R VPRECN 001051 R VPRLIN 001052 R VPTFL
001053 R VQFL   001054 R VRETUR 001057 R VRWFL  001060 R VS
001061 R VSCF   001062 R VSGFL  001063 R VSVREC 001064 R VSYSDC
001067 R VTEMP  001070 R VTEMP1 001071 R VTERM  001072 R VUNIT
001073 R VW     001074 R VWT    001075 R VXFFL  001076 R VXFL
001077 R VXFW   001100 R VXSG   001101 R VZFW   001107 R VZZZ
000170 A W      000502 R W$X    000011 A WR     000171 A WT
000001 A X      000172 A XFFL   000173 A XFL    000452 R XFR4
000174 A XFW    000460 R XIT    000175 A XSG    000420 A ZERO
000176 A ZFW    000204 A ZZZ
  0 ERRORS ASSEMBLY COMPLETE
```

```
292   $BA       25   293
879   $BUF     418   958
471   $DQ       39   472
  0   $EE       54   508
299   $EN       26   300
478   $EQ       40   479
788   $I1       29   789
792   $I2       30   793
796   $I3       31   797
800   $I4       32   801
804   $I5       33   805
808   $I6       34   809
255   $ND       38   257
742   $RD       36   743
306   $RE       27   307
  0   $SE       55   396   711
749   $WR       37   750
134   ADFCB    535
143   AOPSTK   259   638
 68   ASET     549   550
309   AUX2     295   302
 69   B        228   230   236   237   258   259   260   389   392
               414   416   500   501   502   503   505   535   538
               539   542   548   552   560   569   577   580   688
               690   693   697   698   701   830
888   BASE     130   131   132   133   134   135   136   137   138
               139   140   141   142   143   144   145   146   147
               148   149   150   151   152   153   154   155   156
               157   158   159   160   161   162   163   164   165
               166   167   168   169   172   173   174   175   176
               177   178   179   180   181   182   183   184   185
               186   187   188   189   190   191   192   193   194
               195   196   197   198   199   200   201   203   204
               205   206   207   208   209   210   211   212   213
               215   216   217   218   219   220   221   222   887
               900
887   BASP     256   387   547   554   559   568   576   687   812
 70   BF       550
 73   BM17      82
 75   BS4       83
 76   BS8      563
327   CAR      262   609   714
341   CARNF    333
```

109	CBK	294								
115	CCB	365								
114	CCL	443								
118	CDC	473								
110	CEF	301								
119	CEN	480								
387	CHK1	399								
398	CHK4	388								
414	CIL	605								
418	CILCAL	415	417							
117	CDB	633								
116	CDP	656								
120	CRA	871								
112	CRD	744								
111	CRW	308								
107	CTR	261								
121	CWA	876								
113	CWR	751								
108	CXF	814								
503	E1	606								
500	E4	553	699							
481	EDC1	474								
79	EIGHT	110								
163	ERN	500	501	502	505					
80	FIVE	107	757	810						
81	FOUR	106	481	657	806					
169	GDRPC	170	171							
177	INFL	697								
535	IOC	608								
545	IOCCW	543								
546	IOCDF	536								
568	IOCEOD	553	562							
559	IOCEOF	553								
580	IOCERI	572								
576	IOCERR	553								
395	IOCHK	49								
544	IOCIO	545	546	551	553					
584	IOCMSK	561								
178	IOCONT	542	560							
553	IOCST	549	550							
179	IQLNK	414								
582	IORETR	504	570	578						
180	IOSTAT	389	392	539	580	698				
184	ITMODE	813								
840	KD11	113								
841	KD12	114								
842	KD13	115								
843	KD14	116								
82	KD15	117								
83	KD16	118								
844	KD17	119								
845	KD18	120								
846	KD19	121								
71	LC	92	94							
72	MT	73	74	75	76	77	78	79	80	81
		85	86	87	88	89	90	91	92	
191	N	202								
85	NINE	111								
599	NPJ	419	541	555	564	581	899			
605	NPOPJT	600								
86	ONE	103								
193	OPSTKP	228	230	236	237	260	690	693		
0	P	231								
197	PBWC	538	552							
0	PDFCB	62								
682	PSE	310	367	445	482	635	658	756	758	878
684	PSE1	816								
692	PSE4	689								
700	PSES	695								
715	PSEAPL	700								
713	PSECAL	703	704	705	706	707	708			
712	PSECNT	686								
716	PSENOP	702								
710	PSENTR	685	709	715						
869	R$X	41	870							
203	RETURN	258	503	569	577	701	830			
204	RWFL	548								
752	RWT1	745								
757	RWT2	754								
877	RWX1	872								
87	SEVEN	109	634							
88	SIX	108	877							
101	STKSZ	901	943							
209	SYSBSZ	416								
89	TEN	112								
212	TERM	214								
90	THREE	105	506	802						
91	TWO	104	366	444	755	798	815			
441	V$CLOS	44	442							
363	V$CLSB	45	364							
94	V$CPL	330								

0	VSDSTB	63					
0	VSEXEC	56	336				
0	VSFORT	11					
0	VSIOC	57					
0	VSIOST	58					
654	VSOPEN	46	655				
631	VSOPNB	47	632				
0	VSRER1	60	331	334			
0	VSRERN	61	341				
0	VSRERR	59	340				
890	VAACC	130					
891	VABSCB	131					
892	VACC	132	890				
893	VACHB	133					
894	VADFCB	134					
895	VAFSCB	135					
896	VAGPAR	136					
897	VAISCB	138					
898	VALOC	140					
899	VANPOJ	141					
900	VANRB	142					
901	VAOPST	143					
902	VAPBF	144					
903	VASCB	145					
904	VASFL	146					
905	VASYSD	147					
906	VBEXP	150					
907	VBFWPT	152					
908	VBSCB	139	148	149	151	891	
909	VCHB	154	893				
910	VCHBPT	155					
911	VCHNHD	156					
912	VCOUN	157					
913	VCVFL	158					
914	VD	159					
915	VDEXP	160					
916	VDT	161					
917	VEDEXP	162					
918	VERN	163					
919	VFDLKY	166					
920	VFSCB	153	164	165	167	168	895
921	VGDRP	169	896				
922	VIDEXP	173					
923	VIFW	174					
924	VIIBSZ	175					
925	VIIWSZ	176					
926	VINFL	177					
927	VIOCON	178					
928	VIOLNK	179					
929	VIOSTA	180					
930	VISCB	137	172	897			
931	VITEMA	181					
932	VITEMW	182					
933	VITMIN	183					
934	VITMOD	184					
935	VLISTF	185					
936	VLNKCN	186					
937	VLRECN	187					
938	VLRSZ	188					
939	VLRWC	189					
940	VMOV	190					
941	VN	191					
942	VNFF	192					
943	VOPSTK	901					
889	VOPSTP	193					
1	VORTEX	328	335	337			
944	VPARLV	194					
945	VPBRC	195					
946	VPBSZ	196					
947	VPBWC	197					
948	VPRECN	198					
949	VPRLIN	199					
950	VPTFL	200					
951	VQFL	201					
952	VRETUR	203					
953	VRWFL	204					
954	VS	205					
955	VSCF	206					
956	VSGFL	207					
957	VSVREC	208					
958	VSYSDC	209	905				
959	VTEMP	210					
960	VTEMP1	211					
961	VTERM	212					
962	VUNIT	213					
963	VW	215					
964	VWT	216					
965	VXFFL	217					
966	VXFL	218					
967	VXFW	219					
968	VXSG	220					

969	VZFW	221								
975	VZZZ	222								
874	W$X	42	875							
95	WR	549								
96	X	232	238	336	338	390	393	537	583	600
		601	694	753	813	831	832			
812	XFR4	791	795	799	803	807				
830	XIT	607								
92	ZERO	102								

```
000001 A     1 VORTEX SET     1                PUT LAST FOR VORTEX                    V2  03 00001
             2 * THIS IS A COPYRIGHTED PROGRAM. COPYRIGHT 1972 BY VARIAN DATA MACHIV2  03 00002
             3 *                                                                        03 00003
             4 *     V.D.M.   PART  NO.        92L0505-001B                             03 00004
             5 *                                                                        03 00005
             6 *                                          MODIFIED  5/25/75         * 03 00006
             7 *                                                                        03 00007
             8 *                STOPAUS                                                 03 00008
             9 *                                                                        03 00009
            10 *                                                                        03 00010
            11          TITLE   STOPAUS                                                 03 00011
            12 ************************************************************************ 03 00012
            13 *                                                                      * 03 00013
            14 *          S T O P / P A U S E   P R O C E S S O R ( S T P )           * 03 00014
            15 *                                                                      * 03 00015
            16 * FUNCTION: TO PROCESS THE FORTRAN SOURCE STATEMENTS:                  * 03 00016
            17 *                                                                      * 03 00017
            18 *                STOP N                                                * 03 00018
            19 *                PAUSE N                                               * 03 00019
            20 *                                                                      * 03 00020
            21 *                       (WHERE N IS A CHARACTER/DIGIT STRING)          * 03 00021
            22 *                       (OR N IS ABSENT)                               * 03 00022
            23 *                                                                      * 03 00023
            24 * ENTRY:  $ST STOP                                                     * 03 00024
            25 *         $PA PAUSE                                                    * 03 00025
            26 *                                                                      * 03 00026
            27 * CALLING SEQUENCE   STANDARD FORTRAN                                 * 03 00027
            28 *                    JMPM   $ST (OR $PA)                              * 03 00028
            29 *                    DATA   DIGIT-1(13-8), DIGIT-2(7-2), DIGIT-3(1-0) * 03 00029
            30 *                    DATA   DIGIT-3(15-12),DIGIT-4(11-6),DIGIT-5(5-0) * 03 00030
            31 *                                                                     * 03 00031
            32 * CALLING SEQUENCE   LEVEL-G FORTRAN                                  * 03 00032
            33 *                    JMPM   $ST (OR $PA)                              * 03 00033
            34 *                    DATA   -1                                        * 03 00034
            35 *                    DATA   2-CHARACTERS       MAY BE ABSENT          * 03 00035
            36 *                     .                          .                    * 03 00036
            37 *                     .                          .                    * 03 00037
            38 *                     .                          .                    * 03 00038
            39 *                    DATA   0                   REQUIRED              * 03 00039
            40 *                                                                     * 03 00040
            41 * EXIT : MESSAGE OUTPUT TO SO: 'TASK NAME  STOP(OR PAUSE)  N '       * 03 00041
            42 *        STOP : STP EXITS TO RTE VIA 'EXIT' MACRO                     * 03 00042
            43 *        PAUSE: STP EXITS TO RTE VIA 'SUSPEND' MACRO                  * 03 00043
            44 *                                                                     * 03 00044
            45 ************************************************************************ 03 00045
            47 ***********                                                             03 00047
            48 * ENTRIES *                                                            03 00048
            49 ***********                                                             03 00049
            50         NAME    $ER             DUMMY ERROR ENTRY                    03 00050
            51         NAME    $PA             PAUSE ENTRY                          03 00051
            52         NAME    $ST             STOP ENTRY                           03 00052
            54 ************                                                            03 00054
            55 * EXTERNALS *                                                         03 00055
            56 ************                                                            03 00056
            57         EXT     V$EXEC          VORTEX RTE SERVICE ENTRY             03 00057
            58         EXT     V$IOC           VORTEX IOC ENTRY                     03 00058
            59         EXT     V$IOST          VORTEX IOC STATUS ENTRY              03 00059
            61 ************                                                            03 00061
            62 * SET BLOCK *                                                         03 00062
            63 ************                                                            03 00063
000300 A    64 LC      EQU     0300                                                 03 00064
000300 A    65 V$CTL   EQU     LC              ADDRESS OF TIDB                      03 00065
000420 A    66 MT      SET     0420                                                 03 00066
000470 A    67 NINE    EQU     MT+40           9                                    03 00067
000472 A    68 BM17    EQU     MT+42           017                                  03 00069
000002 A    69 B       SET     2                                                    03 00069
000001 A    70 X       SET     1               X-REGISTER                           03 00070
            72 ***************                                                       03 00072
            73 * ERROR ENTRY *                                                      03 00073
            74 ***************                                                       03 00074
000000 000000 A 75 $ER     ENTR                                                     03 00075
000001 001000 A 76         JMP*    $ER                                              03 00076
000002 100000 R
            77 ***************                                                       03 00077
            78 * PAUSE ENTRY *                                                     03 00078
            79 ***************                                                       03 00079
000003 000000 A 80 $PA     ENTR                                                     03 00080
000004 005001 A 81         TZA             SET A=0 TO FLAG PAUSE ENTRY              03 00081
000005 001000 A 82         JMP     *+4                                              03 00082
000006 000011 R
            83 ***************                                                       03 00083
            84 * STOP ENTRY *                                                      03 00084
            85 ***************                                                       03 00085
000007 000000 A 86 $ST     ENTR                                                     03 00086
000010 005301 A 87         DECR    1               SET A=-1 TO FLAG STOP ENTRY      03 00087
000011 054165 A 88         STA     STPFL           SAVE ENTRY FLAG                  03 00088
            89 ********************                                                03 00089
            90 * LOAD TASK NAME *                                                   03 00090
            91 ********************                                                03 00091
            92         IFF     VORTEX-2                                         V2  03 00092
            93         GOTO    1                                                V2  03 00093
```

```
000012 030300 A    94          LDX     V$CTL       POINT X AT TIDB                    03 00094
000013 015022 A    95          LDA     18,X                                           03 00095
000014 054173 A    96          STA     $BUF+1                                         03 00096
000015 015023 A    97          LDA     19,X                                           03 00097
000016 054172 A    98          STA     $BUF+2                                         03 00098
000017 015024 A    99          LDA     20,X                                           03 00099
000020 054171 A   100          STA     $BUF+3                                         03 00100
                  101 1        CONT                                                V2 03 00101
                  102          IFF     VORTEX-1                                    V2 03 00102
                  103          GOTO    1                                           V2 03 00103
                  104          LDA     V$CTL       GET TIDB ADDRESS                V2 03 00104
                  105          ADDI    18          GET TASK NAME ADDRESS           V2 03 00105
                  106          STA     STP2        STORE IN PASS CALL              V2 03 00106
                  107          PASS    3,0,$BUF+1  MOVE TASK NAME FROM TIDB        V2 03 00107
                  108 STP2     EQU     *-2                                         V2 03 00108
                  109 1        CONT                                                V2 03 00109
                  110 **********************                                          03 00110
                  111 * LOAD 'STOP/PAUSE' *                                         03 00111
                  112 **********************                                          03 00112
000021 014156 A   113          LDA     STPMSG                                         03 00113
000022 124154 A   114          ADD     STPFL                                          03 00114
000023 005014 A   115          TAX                 POINT X AT STRING                  03 00115
000024 015000 A   116          LDA     0,X                                            03 00116
000025 054166 A   117          STA     $BUF+5                                         03 00117
000026 015002 A   118          LDA     2,X                                            03 00118
000027 054165 A   119          STA     $BUF+6                                         03 00119
000030 015004 A   120          LDA     4,X                                            03 00120
000031 054164 A   121          STA     $BUF+7                                         03 00121
                  122 **********************                                          03 00122
                  123 * TRANSFER MESSAGE  *                                         03 00123
                  124 **********************                                          03 00124
000032 005001 A   125          TZA                                                    03 00125
000033 144143 A   126          SUB     STPFL                                          03 00126
000034 004242 A   127          LRLA    2                                              03 00127
000035 006120 A   128          ADDI    $PA                                            03 00128
000036 000003 R
000037 005014 A   129          TAX                                                    03 00129
000040 035000 A   130          LDX     0,X         POINT X AT CALL SEQ                03 00130
000041 024027 A   131          LDB     STP6+1                                         03 00131
000042 015000 A   132          LDA     0,X                                            03 00132
000043 005111 A   133          IAR                                                    03 00133
000044 001016 A   134          JANZ    STP7        STANDARD FORTRAN                   03 00134
000045 000125 R
000046 005144 A   135          IXR                 G-LEVEL FORTRAN                    03 00135
000047 015000 A   136 STP3     LDA     0,X         TRANSFER MESSAGE DATA              03 00136
000050 005144 A   137          IXR                                                    03 00137
000051 001010 A   138          JAZ     STP5                                           03 00138
000052 000066 R
000053 056000 A   139          STA     0,B                                            03 00139
000054 005122 A   140          IBR                                                    03 00140
000055 005021 A   141          TBA                                                    03 00141
000056 006140 A   142          SUBI    STPDTX      .                                  03 00142
000057 000253 R
000060 001016 A   143          JANZ    STP3        MORE ROOM IN BUFFER                03 00143
000061 000047 R
000062 015000 A   144 STP4     LDA     0,X         PASS CHARACTERS OVER 63            03 00144
000063 005144 A   145          IXR                                                    03 00145
000064 001016 A   146          JANZ    STP4                                           03 00146
000065 000062 R
000066 074035 A   147 STP5     STX     STPPX+1     EXIT ADDRESS                       03 00147
000067 005021 A   148          TBA                                                    03 00148
000070 006140 A   149 STP6     SUBI    STPDT                                          03 00149
000071 000220 R
000072 120470 A   150          ADD     MINE                                           03 00150
000073 054100 A   151          STA     STPDCB      WORDS TO OUTPUT                    03 00151
                  152 STPW     WRITE   STPDCB,3,0,1 WRITE/SO/WAIT/ASCII               03 00152
000074 006505 A
000075 000404 A
000076 100000 A
000077 010403 A
000100 000174 R
000101 000000 A
000102 000000 A
                  153          STAT    STPW,STPX,STPX,STPX,STPX                       03 00153
000103 006505 A
000104 000373 A
000105 000074 R
000106 000115 R
000107 000115 R
000110 000115 R
000111 000115 R
000112 014064 A   154          LDA     STPFL                                          03 00154
000113 001010 A   155          JAZ     STPP                                           03 00155
000114 000120 R
                  156 STPX     EXIT                EXIT ON STOP                       03 00156
000115 006505 A
000116 000406 A
000117 000200 A
                  157 STPP     SUSPND  0           SUSPEND ON PAUSE                   03 00157
000120 006505 A
000121 000406 A
```

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000122 000300 A
000123 001000 A   158 STPPX   JMP     **              RETURN TO CALLING PROGRAM          03 00158
000124 100123 R
000125 015000 A   159 STP7    LDA     0,X                                                03 00159
000126 002000 A   160         CALL    STP8                                               03 00160
000127 000152 R
000130 054067 A   161         STA     STPDT           DIGITS 1,2                         03 00161
000131 015000 A   162         LDA     0,X                                                03 00162
000132 025001 A   163         LDB     1,X                                                03 00163
000133 004452 A   164         LLRL    10                                                 03 00164
000134 002000 A   165         CALL    STP8                                               03 00165
000135 000152 R
000136 054062 A   166         STA     STPDT+1         DIGITS 3,4                         03 00166
000137 015001 A   167         LDA     1,X                                                03 00167
000140 004206 A   168         ASLA    6                                                  03 00168
000141 002000 A   169         CALL    STP8                                               03 00169
000142 000152 R
000143 054056 A   170         STA     STPDT+2         DIGIT 5                            03 00170
000144 005144 A   171         IXR                                                        03 00171
000145 005144 A   172         IXR                                                        03 00172
000146 006020 A   173         LDBI    STPDT+3                                            03 00173
000147 000223 R
000150 001000 A   174         JMP     STP5                                               03 00174
000151 000066 R
000152 000000 A   175 STP8    ENTR                    MAKE DIGIT CODE                    03 00175
000153 004546 A   176         LLSR    6                                                  03 00176
000154 006150 A   177         ANAI    077                                                03 00177
000155 000077 A
000156 003010 A   178         XAZ     STP9            -17 TO MAKE SPACE                  03 00178
000157 000172 R
000160 124012 A   179         ADD     STP9+1          '0'-1                              03 00179
000161 004152 A   180         LSRB    10                                                 03 00180
000162 004460 A   181         LLRL    16              (A)::(B)                           03 00181
000163 003010 A   182         XAZ     STP9                                               03 00182
000164 000172 R
000165 124005 A   183         ADD     STP9+1          '0'-1                              03 00183
000166 004250 A   184         LRLA    8                                                  03 00184
000167 004470 A   185         LLRL    24                                                 03 00185
000170 001000 A   186         JMP*    STP8            EXIT  (A)=2-ASCII DIGITS           03 00186
000171 100152 R
000172 140472 A   187 STP9    SUB     BM17                                               03 00187
000173 000257 A   188         DATA    0257            '0'-1                              03 00188
                  189 ********************************                                   03 00189
                  190 * CONSTANTS/VARIABLES/BUFFERS *                                   03 00190
                  191 ********************************                                   03 00191
000174 000044 A   192 STPDCB  DATA    36              D.C.B                              03 00192
000175 000207 R   193         PZE     $BUF                                               03 00193
000176 000005 A   194         DATA    5                                                  03 00194
000177            195 STPFL   BSS     1               STOP/PAUSE FLAG                    03 00195
000200 000202 R   196 STPMSG  PZE     *+2                                                03 00196
000201 151724 A   197         DATA    'STPAUPUS  E '                                     03 00197
000202 150301 A
000203 147720 A
000204 152723 A
000205 120240 A
000206 142640 A
000207 120240 A   198 $BUF    DATA    '  '                                               03 00198
000210            199         BSS     3               TASK NAME                          03 00199
000213 120240 A   200         DATA    '  '                                               03 00200
000214            201         BSS     3               STOP/PAUSE STRING                  03 00201
000217 120240 A   202         DATA    '  '                                               03 00202
000220            203 STPDT   BSS     36+$BUF-*       MESSAGE STRING                     03 00203
          000253 R  204 STPDTX  EQU     *                                                  03 00204
                    205         END                                                      03 00205
ENTRY NAMES
000000 R $ER     000003 R $PA     000007 R $ST
EXTERNAL NAMES
000000 E V$EXEC  000000 E V$IOC   000000 E V$IOST
SYMBOLS
000207 R $BUF    000000 R $ER     000003 R $PA     000007 R $ST
000002 A B       000472 A BM17    000300 A LC      000420 A MT
000470 A NINE    000047 R STP3    000062 R STP4    000066 R STP5
000070 R STP6    000125 R STP7    000152 R STP8    000172 R STP9
000174 R STPDCB  000220 R STPDT   000253 R STPDTX  000177 R STPFL
000200 R STPMSG  000120 R STPP    000123 R STPPX   000074 R STPW
000115 R STPX    000300 A V$CTL   000000 E V$EXEC  000000 E V$IOC
000000 E V$IOST  000001 A VORTEX  000001 A X
  0 ERRORS ASSEMBLY COMPLETE

  198  $BUF      96    98   100   107   117   119   121   193   203
   75  $ER       50    76
   80  $PA       51   128
   86  $ST       52
   69  B        139
   68  BM17     187
   64  LC        65
   66  MT        67    68
   67  NINE     150
    0  STOPAU    11
  108  STP2     106
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 136   STP3        143
 144   STP4        146
 147   STP5        133   174
 [illegible]  STP6  131
 159   STP7        134
 175   STP8        169   165   169   186
 187   STP9        178   179   182   183
 192   STPBCB      151   152
 203   STPDT       119   161   166   170   173
 204   STPDTA      148
 195   STPFL       89    114   126   154
 196   STPMOD      110
 157   STPX        [illegible]
 158   STPPX       [illegible]
 152   STPXU       153
 156   STPY        [illegible]   153   150   153
  65   [illegible]  94   194
   9   [illegible]  57
   [illegible]  [illegible]  62
   [illegible]  [illegible]  34
   1   [illegible]  92   102
  70   [illegible]  [illegible]  97   99   116   118   120   130   132   136
       144   159   162   163   167
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000170 006030 A  158          LDXI    $FX                                                    01 00158
000171 000162 R
000172 002000 A  159          CALL    ENT                                                    01 00159
000173 000313 R
000174 001000 A  160          JMP*    $FX          FIND DOES NOTHING                         01 00160
000175 100162 R
                 161          EJEC                                                           01 00161
                 162 ************************************************************************ 01 00162
                 163 *                                                                      * 01 00163
                 164 *      R E A D   E N T R Y   ( $ R X )                                 * 01 00164
                 165 *                                                                      * 01 00165
                 166 *      CALL    $RX          CALLING STRUCTURE                          * 01 00166
                 167 *      PZE     ADDRESS OF RECORD-SET-NUMBER                            * 01 00167
                 168 *      PZE     ADDRESS OF RECORD POSITION                              * 01 00168
                 169 *      PZE     ADDRESS OF FORMAT (0 IF NONE)                           * 01 00169
                 170 *      PZE     0 IF END/ERR ADDRESSES PRESENT                          * 01 00170
                 171 *      PZE     ADDRESS OF END RETURN (0 IF NONE)                       * 01 00171
                 172 *      PZE     ADDRESS OF ERROR RETURN (0 IF NONE)                     * 01 00172
                 173 *                                                                      * 01 00173
                 174 ************************************************************************ 01 00174
000176 000000 A  176 $RX      ENTR                                                           01 00176
000177 006037 A  177          LDXE    $RX                                                    01 00177
000200 000176 R
000201 005002 A  178          TZB                                                            01 00178
000202 001000 A  179          JMP     WX1                                                    01 00179
000203 000210 R
                 180          EJEC                                                           01 00180
                 181 ************************************************************************ 01 00181
                 182 *                                                                      * 01 00182
                 183 *      W R I T E   E N T R Y   ( $ W X )                               * 01 00183
                 184 *                                                                      * 01 00184
                 185 *      CALL    $WX          CALLING STRUCTURE                          * 01 00185
                 186 *      PZE     ADDRESS OF RECORD-SET-NUMBER                            * 01 00186
                 187 *      PZE     ADDRESS OF RECORD POSITION                              * 01 00187
                 188 *      PZE     ADDRESS OF FORMAT (0 IF NONE)                           * 01 00188
                 189 *      PZE     0 IF END/ERR ADDRESSES PRESENT                          * 01 00189
                 190 *      PZE     ADDRESS OF END RETURN (0 IF NONE)                       * 01 00190
                 191 *      PZE     ADDRESS OF ERROR RETURN (0 IF NONE)                     * 01 00191
                 192 *                                                                      * 01 00192
                 193 ************************************************************************ 01 00193
000204 000000 A  195 $WX      ENTR                                                           01 00195
000205 006037 A  196          LDXE    $WX                                                    01 00196
000206 000204 R
000207 020421 A  197          LDB     ONE                                                    01 00197
000210 006016 A  198 WX1      LDAE    WX3-2,B                                                01 00198
000211 000231 R
000212 054055 A  199          STA     WX6          READ/WRITE CALL                           01 00199
000213 020466 A  200          LDB     SIX                                                    01 00200
000214 015003 A  201          LDA     3,X                                                    01 00201
000215 001010 A  202          JAZ     WX2          END/ERR BRANCHES PRESENT                  01 00202
000216 000224 R
000217 014010 A  203          LDA     WX3-3                                                  01 00203
000220 054021 A  204          STA     WX4+4        SET NOP'S                                 01 00204
000221 054021 A  205          STA     WX4+5                                                  01 00205
000222 054021 A  206          STA     WX4+6                                                  01 00206
000223 020464 A  207          LDB     THREE                                                  01 00207
000224 074006 A  208 WX2      STX     WX3                                                    01 00208
000225 064010 A  209          STB     WX4                                                    01 00209
000226 001000 A  210          JMP     WX3+1                                                  01 00210
000227 000234 R
000230 005000 A  211          NOP                                                            01 00211
000231 000000 E  212          DATA    R$X                                                    01 00212
000232 000000 E  213          DATA    W$X                                                    01 00213
000233 000000 A  214 WX3      ENTR                                                           01 00214
000234 002000 A  215          CALL    $SE          TRANSFER PARAMETERS                       01 00215
000235 000164 E
000236 100236 R  216 WX4      DATA    **           NO.-OF-PARAMETERS                         01 00216
000237           217          BSS     6                                                      01 00217
000245 006030 A  218          LDXI    WX3                                                    01 00218
000246 000233 R
000247 015003 A  219          LDA     3,X                                                    01 00219
000250 140464 A  220          SUB     THREE                                                  01 00220
000251 001016 A  221          JANZ    WX5          6-PARAMETERS                              01 00221
000252 000256 R
000253 055007 A  222          STA     7,X          CLEAR END/ERR EXITS                       01 00222
000254 055010 A  223          STA     8,X                                                    01 00223
000255 055011 A  224          STA     9,X                                                    01 00224
000256 002000 A  225 WX5      CALL    ENT                                                    01 00225
000257 000313 R
000260 005021 A  226          TBA                                                            01 00226
000261 006120 A  227          ADDI    16                                                     01 00227
000262 000020 A
000263 054005 A  228          STA     WX6+1        LOGICAL UNIT NUMBER                       01 00228
000264 005021 A  229          TBA                                                            01 00229
000265 120423 A  230          ADD     FOUR                                                   01 00230
000266 054007 A  231          STA     WX6+6        FCB ADDRESS                               01 00231
000267 002000 A  232          CALL    **           CALL R$X OR W$X                           01 00232
000270 100267 R
         000270 R 233 WX6     EQU     *-1                                                    01 00233
000271 100271 R  234          DATA    **           LOGICAL UNIT NUMBER ADDRESS               01 00234
000272 100241 R  235          MZE     WX4+3        FORMAT ADDRESS                            01 00235
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000273 000000 A   236          DATA    0                                                          01 00236
000274 100243 R   237          MZE     WX4+5          END ADDRESS                                 01 00237
000275 100244 R   238          MZE     WX4+6          ERR ADDRESS                                 01 00238
000276 100276 R   239          DATA    **             FCB ADDRESS                                 01 00239
000277 001000 A   240          JMP*    WX3                                                        01 00240
000300 100233 R
                  241          EJEC                                                               01 00241
                  242 ********************************************************************       01 00242
                  243 *                                                                  *       01 00243
                  244 *      C O N V E R T   B I N A R Y   T O   A S C I I   ( C B A )   *       01 00244
                  245 *                                                                  *       01 00245
                  246 ********************************************************************       01 00246
000301 000000 A   248 CBA      ENTR                                                               01 00248
000302 005012 A   249          TAB                                                                01 00249
000303 005001 A   250          TZA                                                                01 00250
000304 170471 A   251          DIV     TEN                                                        01 00251
000305 004250 A   252          LRLA    8                                                          01 00252
000306 004470 A   253          LLRL    24                                                         01 00253
000307 006120 A   254          ADDI    '00'                                                       01 00254
000310 130260 A
000311 001000 A   255          JMP*    CBA                                                        01 00255
000312 100301 R
                  256          EJEC                                                               01 00256
                  257 ********************************************************************       01 00257
                  258 *                                                                  *       01 00258
                  259 *      P E R F O R M   E N T R A N C E   ( E N T )                 *       01 00259
                  260 *                                                                  *       01 00260
                  261 ********************************************************************       01 00261
000313 000000 A   263 ENT      ENTR                                                               01 00263
000314 025004 A   264          LDB     4,X                                                        01 00264
000315 016000 A   265          LDA     0,B                                                        01 00265
000316 054025 A   266          STA     T1             ACTUAL DATA SET NUMBER                      01 00266
000317 006020 A   267          LDBI    BUF                                                        01 00267
000320 000354 R
000321 016000 A   268 ENT1     LDA     0,B            CHECK FOR DATA SET                          01 00268
000322 001004 A   269          JAN     ER2            NOT IN DATA SET                             01 00269
000323 000350 R
000324 144017 A   270          SUB     T1                                                         01 00270
000325 001010 A   271          JAZ     ENT2           FOUND CORRECT SET                           01 00271
000326 000335 R
000327 005021 A   272          TBA                                                                01 00272
000330 006120 A   273          ADDI    17                                                         01 00273
000331 000021 A
000332 005012 A   274          TAB                                                                01 00274
000333 001000 A   275          JMP     ENT1           LOOP                                        01 00275
000334 000321 R
000335 006015 A   276 ENT2     LDAE*   5,X            RECORD POSITION                             01 00276
000336 100005 A
000337 056007 A   277          STA     7,B                                                        01 00277
000340 036003 A   278          LDX     3,B                                                        01 00278
000341 055000 A   279          STA     0,X            SET ASSOCIATED VARIABLE                     01 00279
000342 001000 A   280          JMP*    ENT                                                        01 00280
000343 100313 R
000344 000000 A   281 T1       DATA    0              TEMP CELL                                   01 00281
                  282          EJEC                                                               01 00282
                  283 ********************************************************************       01 00283
                  284 *                                                                  *       01 00284
                  285 *      E R R O R   P R O C E S S O R   ( E R N )                   *       01 00285
                  286 *                                                                  *       01 00286
                  287 ********************************************************************       01 00287
000345 010465 A   289 ER1      LDA     FIVE           RECORD SET NUMBER TO LARGE                  01 00289
000346 001000 A   290          JMP     ERR                                                        01 00290
000347 000351 R
000350 010466 A   291 ER2      LDA     SIX                                                        01 00291
000351 020421 A   293 ERR      LDB     ONE            (B)=1 TO ABORT                              01 00293
000352 002000 A   294          CALL    $EE                                                        01 00294
000353 000000 E
                  295          EJEC                                                               01 00295
                  296 ********************************************************************       01 00296
                  297 *                                                                  *       01 00297
                  298 *      I / O   C O N T R O L   B U F F E R                         *       01 00298
                  299 *                                                                  *       01 00299
                  300 *  SIZE:  10 ENTRIES OF 17 WORDS                                   *       01 00300
                  301 *                                                                  *       01 00301
                  302 *      WORD- 0 DATA SET REFERENCE NUMBER                           *       01 00302
                  303 *            1 NUMBER OF RECORDS                                   *       01 00303
                  304 *            2 TYPE (0=OPTIONAL, 1=FORMATTED, 2=UNFORMATTED)       *       01 00304
                  305 *            3 ASSOCIATED VARIABLE ADDRESS                         *       01 00305
                  306 *            4 F.C.B          RECORD LENGTH (WORDS)                *       01 00306
                  307 *            5                DATA AREA (IOBF)                     *       01 00307
                  308 *            6                ACCESS=0, PROTECT=P                  *       01 00308
                  309 *            7                CURRENT RECORD NUMBER                *       01 00309
                  310 *            8                CURRENT POSITION OF FILE             *       01 00310
                  311 *            9                FILE START ADDRESS                   *       01 00311
                  312 *           10                FILE END ADDRESS                     *       01 00312
                  313 *        11-13                FILE NAME (FILENM)                   *       01 00313
                  314 *           14                0                                    *       01 00314
                  315 *        15-16                LOGICAL UNIT NUMBER                  *       01 00315
                  316 *                                                                  *       01 00316
                  317 ********************************************************************       01 00317
000354 177777 A   319 BUF      DATA    -1             END OF BUFFER FLAG                          01 00319
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000355              320          BSS     171                                  01 00320
      000627 R      321 BUFX     EQU     *-1                                  01 00321
000630              323 IOBF     BSS     160          I/O BUFFER AREA         01 00323
                    324          END                                          01 00324
ENTRY NAMES
000000 R $DX     000162 R $FX     000176 R $RX     000204 R $WX
EXTERNAL NAMES
000353 E $EE     000235 E $SE     000231 E R$X     000000 E V$IOC
000232 E W$X
SYMBOLS
000000 R $DX     000353 E $EE     000162 R $FX     000176 R $RX
000235 E $SE     000204 R $WX     000002 A B       000460 A BR15
000354 R BUF     000627 R BUFX    000301 R CBA     000016 R DE1
000032 R DE2     000063 R DE3     000071 R DE4     000100 R DE5
000140 R DE6     000147 R DE7     000313 R ENT     000321 R ENT1
000335 R ENT2    000345 R ER1     000350 R ER2     000351 R ERR
000465 A FIVE    000423 A FOUR    000630 R IOBF    000420 A MT
000461 A NEG     000421 A ONE     000231 E R$X     000463 A RHW
000467 A SEVEN   000466 A SIX     000344 R T1      000471 A TEN
000464 A THREE   000422 A TWO     000000 E V$IOC   000232 E W$X
000210 R WX1     000224 R WX2     000233 R WX3     000236 R WX4
000256 R WX5     000270 R WX6     000001 A X
  0 ERRORS ASSEMBLY COMPLETE
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```
 60  $DX       13   61   64   72   79  139  142
  0  $EE       19  294
154  $FX       14  158  160
176  $RX       15  177
  0  $SE       21  155  215
195  $WX       16  196
 28  B         69   81   83   85   93   97   98  101  107
              110  113  198  265  268  277  278
 31  BR15     104
319  BUF       68  134  267
321  BUFX      78
248  CBA      126  255
 69  DE1       76
 77  DE2       70
 96  DE3       88   90   95
102  DE4      106
107  DE5      103
134  DE6      118  133
135  DE7      131
263  ENT      159  225  280
268  ENT1     275
276  ENT2     271
289  ER1       67
291  ER2      269
293  ERR      290
 38  FIVE      63  289
 37  FOUR     132  230
323  IOBF     128
 29  MT        31   32   33   34   35   36   37   38   39
              40   41
 32  NEG       94  119
 34  ONE       96  197  293
  0  R$X       20  212
 33  RHW      114
 39  SIX       89  200  291
281  T1       266  270
 41  TEN      251
 36  THREE    207  220
  0  V$FORT    10
  0  W$X       22  213
198  WX1      179
208  WX2      202
214  WX3      198  203  208  210  218  240
216  WX4      204  205  206  209  235  237  238
225  WX5      221
233  WX6      199  228  231
 27  X         65   71   80   82   84   86   91  102  112
              115  116  120  122  124  125  127  129  136
              137  138  140  141  201  219  222  223  224
              264  276  279
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