```
SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR

101               JOB   FORTRAN COMPILER -- VARIABLE PHASE ONE -- 13
102               CTL   6611
103         *
104         * THE SOURCE PROGRAM IS SCANNED FOR VARIABLES.  SIMPLE
105         * VARIABLES ARE MERELY TAGGED FOR LATER PROCESSING BY
106         * VARIABLES PHASE FOUR.  SUBSCRIPTED VARIABLES WHOSE
107         * SUBSCRIPTS ARE CONSTANTS ARE REPLACED BY THE OBJECT-
108         * TIME ADDRESS OF THE ARRAY ELEMENT.  SUBSCRIPTED VARIABLES
109         * WHOSE SUBSCRIPTS ARE VARIABLE ARE REPLACED BY THE
110         * COMPUTATION REQUIRED AT OBJECT TIME TO DETERMINE THE
111         * ARRAY ELEMENT SELECTED.  NON-SUBSCRIPTED ARRAY VARIABLES
112         * APPEARING IN LISTS ARE REPLACED BY TWO MACHINE-LANGUAGE
113         * ADDRESSES REPRESENTING THE LIMITS OF THE ARRAY.  NON-
114         * SUBSCRIPTED ARRAY VARIABLES APPEARING ELSEWHERE ARE
115         * REPLACED BY THE ADDRESS OF THE FIRST ELEMENT OF THE
116         * ARRAY.
117         *
118         * ON ENTRY, 83 IS ONE BELOW THE GM BELOW THE BOTTOM OF
119         * THE ARRAY TABLE AND X1 IS AT THE TOP OF THE FIRST (IN SORTED
120         * ORDER) STATEMENT THAT'S NEITHER DIMENSION NOR EQUIVALENCE.
121         *
122         * ON EXIT THE CODE IS MOVED UP AGAINST THE ARRAY TABLE.
123         *
124         X1     EQU   89                                                0089
125         X2     EQU   94                                                0094
126         X3     EQU   99                                                0099
127         *
128         * STUFF IN THE RESIDENT AREA
129         *
130         GLOBER EQU   184  GLOBAL ERROR FLAG -- WM MEANS ERROR          0184
131         *
132               EXT00   SNAPSH, LOADNX, CDOVLY                                      MACRO
133         SNAPSH EQU   333                                               0333       GEN
134         PHASLD EQU   381                                               0381       GEN
135         SNAPEX EQU   564                                               0564       GEN
136         LOADNX EQU   700   CARD OVERLAY UNLESS NOP                     0700       GEN
137         CDOVLY EQU   700   1 IF LOADING FROM CARDS, N IF FROM TAPE     0700       GEN
138         TPREAD EQU   704   LOAD OVERLAY FROM TAPE                      0704       GEN
139         TPERR  EQU   728                                               0728       GEN
140         *
141               EXT03   START, TOP OF PHASE 3                                       MACRO
142         BEGIN3 EQU   838                                               0838       GEN
143         TOP3   EQU   2600                                              2600       GEN
144         *
145         110    DCW   @VARBL 1@                                      7  0110                 1
146         094    DCW   000                                            3  0094                 2
147         096    DC    00                                             2  0096                 2
148         099    DCW   000                                            3  0099                 2
149         100    DC    0                                              1  0100                 2
150         *
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SEQ PG LIN  LABEL   OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR

151         * LOAD THIS BLOCK AND THE NEXT ONE
152         *
153         PHAS13 LDPH  VARBL ONE,BEGN13,LOADNX,,,13.1                                          MACRO
            * PHAZ   LDPH [PHASID],LOADAD,ENTAD[,SKIPFG,SKIP],[NUMBER][,HALT]                    GEN
            *        XFR  PHASZ     PROHIBITED IN A MACRO                                        GEN
            *                                                                                    GEN
            * LOAD A BLOCK                                                                       GEN
            *                                                                                    GEN
154         )6J003 EQU   110  PHASE ID                                        0110              GEN
155         )6K003 EQU   700  LOAD NEXT PHASE                                 0700              GEN
156         )6L003 EQU   704  TAPE READ INSTRUCTION                           0704              GEN
157         )6M003 EQU   728  TAPE ERROR HANDLER                              0728              GEN
            *                                                                                    GEN
158                ORG   201                                                        0201
159         PHAS13 BSS   )8J003,G                                          5  0201  B 257 G     GEN      3   257
160                NOP     TO PATCH IN TRAPS FOR DEBUGGING                 1  0206  N           GEN      3
161         )0J003 EQU   *&1                                                  0207              GEN
162                LCA   )9J003,)6J003                                      7  0207  L 281 110   GEN      3   281     110
163                BCE   )1J003,)6K003,1    Q: LOADING FROM CARDS?          8  0214  B 250 700 1 GEN      3   250     700
164                BCE   )1J003,)6L003&4,0  Q: LOADING FROM AUTOCODER TAPE?  8  0222  B 250 708 0 GEN      3   250     708
165                RTW   1,BEGN13           READ THE BLOCK                  8  0230  L %U1 838 R GEN      3   %U1     838
166                BER   )6M003             Q: TAPE ERROR?                  5  0238  B 728 L     GEN      4   728
167                CS    LOADNX,)9R003      ENTER THE BLOCK                 7  0243  / 700 287   GEN      4   700     287
168         )1J003 CS    )6K003,)9R003      LOAD CARDS OR AUTOCODER TAPE    7  0250  / 700 287   GEN      4   700     287
169         )8J003 SW    )9R003                                           4  0257  , 287       GEN      4   287
170                MU    %T0,)8K003,W                                     8  0261  M %T0 273 W GEN      4   %T0     273
171                H     )0J003                                           4  0269  . 207       GEN      4   207
172         )8K003 EQU   *&1                                                  0273              GEN
173         )9J003 DCW   @VARBL ONE@          PHASE ID                    9  0281              GEN      5
174                DCW   #1                                               1  0282              GEN      5
175                DC    @13.1@          PHASE NUMBER                     4  0286              GEN      5
176         )9R003 DCW   @}@                                              1  0287              GEN      5
177                XFR   PHAS13                                                 B 201             5   201
178         *
179                ORG   BEGIN3                                                    0838
180    838  BEGN13 MCW   83,X2                                             7  0838  M 083 094           6   083     094
181    845         MCW   X2,TBLBOT  SAVE BOTTOM OF ARRAY TABLE            7  0845  M 094 O06           6   094    2606
182    852         SW    GM                                               4  0852  , N25               6  2525
183    856  NXTSTM BCE   DONE,0&X1,  NO MORE STATEMENTS?                  8  0856  B 700 0|0           6   700     000+1
184    864         LCA   0&X1,PREFIX                                      7  0864  L 0|0 O16           6   000+1  2616
185    871         SAR   X1          TOP OF STATEMENT                   4  0871  Q 089               6   089
186    875         SBR   X3                                               4  0875  H 099               7   099
187    879         LCA   PREFIX,0&X2  PUSH UP BELOW ARRAY TABLE           7  0879  L O16 0!0           7  2616     000+2
188    886         SBR   X2          AND SAVE THE NEXT AVAILABLE        4  0886  H 094               7   094
189    890         BCE   FORMAT,PREFIX-3,F  FORMAT STATEMENT?             8  0890  B M40 O13 F         7  2440    2613
190    898         SW    PREFIX-3                                         4  0898  , O13               7  2613
191    902         MCW   PREFIX-3,*&8                                     7  0902  M O13 916           7  2613     916
192    909         BCE   DATXFR,DATXFC,0  DATA TRANSFER STATEMENT?        8  0909  B J38 O23 0         8  2138    2623
193    917         CHAIN 6                                                                          MACRO
194                BCE                                                    1  0917  B                 GEN      8
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SEQ PG LIN  LABEL  OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR

195            BCE                                                  1  0918  B           GEN      8
196            BCE                                                  1  0919  B           GEN      8
197            BCE                                                  1  0920  B           GEN      8
198            BCE                                                  1  0921  B           GEN      8
199            BCE                                                  1  0922  B           GEN      8
200       *
201       * NOT A DATA TRANSFER STATEMENT
202       *
203   923         MCW   NOP,SWICH1  TURN OFF DATA TRANSFER           7  0923  M O24 956           9  2624     956
204   930         MCW   NOP,SWICH2    STATEMENT SWITCHES             7  0930  M O24 T32           9  2624    1332
205       *
206       * BACK HERE FOR EITHER DATA TRANSFER STATEMENT OR NOT
207       *
208   937 STMT    MCW   0&X1,CH    SKIP NUMERIC                      7  0937  M 0|0 O25           9   000+1  2625
209   944         SAR   X1           AND NON-ZONED PUNCTUATION       4  0944  Q 089               9   089
210   948         BWZ   STMT,CH,2      CHARACTERS                    8  0948  V 937 O25 2         9   937    2625
211   956 SWICH1  NOP   DATXF1     BRANCH IF DATA TRANSFER STATEMENT  4  0956  N J82               9  2182
212   960 SKIPP   MCW   CH,*&8       SKIP @*-&.%),                   7  0960  M O25 974          10  2625     974
213   967         BCE   STMT,PUNCT,0   PUNCTUATION                  8  0967  B 937 O33 0        10   937    2633
214   975         CHAIN 7                                                                 MACRO
215            BCE                                                  1  0975  B           GEN     10
216            BCE                                                  1  0976  B           GEN     10
217            BCE                                                  1  0977  B           GEN     10
218            BCE                                                  1  0978  B           GEN     10
219            BCE                                                  1  0979  B           GEN     10
220            BCE                                                  1  0980  B           GEN     11
221            BCE                                                  1  0981  B           GEN     11
222   982         BCE   FLTCON,CH,E  FLOATING-POINT CONSTANT?       8  0982  B K69 O25 E         11  2269    2625
223   990         BCE   GOTVAR,CH,}  GM (BOTTOM OF STMT)?           8  0990  B /19 O25 } GMARK   11  1119    2625
224   998         MCW   2&X1,CH2                                     7  0998  M 0|2 O34           11   002+1  2634
225 1 005         MCW   CH2,*&8                                     7  1005  M O34 |19           11  2634    1019
226 1 012         BCE   GOTVAR,PUNCT2,0  #,}*@&-%)                  8  1012  B /19 M71 0         12  1119    2471
227 1 020         CHAIN 8                                                                 MACRO
228            BCE                                                  1  1020  B           GEN     12
229            BCE                                                  1  1021  B           GEN     12
230            BCE                                                  1  1022  B           GEN     12
231            BCE                                                  1  1023  B           GEN     12
232            BCE                                                  1  1024  B           GEN     12
233            BCE                                                  1  1025  B           GEN     12
234            BCE                                                  1  1026  B           GEN     13
235            BCE                                                  1  1027  B           GEN     13
236 1 028         BCE   GOTVAR,PREFIX-3,D  DO STATEMENT?            8  1028  B /19 O13 D         13  1119    2613
237 1 036 SYNTAX  CS    332                                          4  1036  / 332               13   332
238 1 040         CS                                                 1  1040  /                   13
239 1 041         SW    GLOBER      GLOBAL ERROR FLAG                4  1041  , 184               13   184
240 1 045         MN    PREFIX,240  SEQUENCE NUMBER TO PRINT LINE    7  1045  D O16 240           13  2616     240
241 1 052         MN                                                 1  1052  D                   14
242 1 053         MN                                                 1  1053  D                   14
243 1 054         MCW   ERROR9  VARIABLE SYNTAX ERROR                4  1054  M O71               14  2671
244 1 058         W                                                  1  1058  2                   14
```

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SEQ PG LIN  LABEL   OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR

245  1 059          BCV   OVFL1                                               5  1059  B |68 @             14  1068
246  1 064          B     NOVFL1                                              4  1064  B |70              14  1070
247  1 068  OVFL1   CC    1                                                   2  1068  F 1                14
248  1 070  NOVFL1  BW    CW1S6,FLAG1  GO CLEAR FLAG 1 AND SET FLAG 6         8  1070  V Z38 M72 1        15  1938    2472
249  1 078          SBR   X1,1&X1                                             7  1078  H 089 0|1          15   089     001+1
250  1 085          SW    FLAG3                                               4  1085  , M74              15  2474
251  1 089          B     SKP2P2  SKIP TO PUNCT2 PUNCTUATION                  4  1089  B /71              15  1171
252          *
253  1 093  SUBER2 LCA    K0Q0,0&X2  0?0                                      7  1093  L O74 0!0          15  2674     000+2
254  1 100          SBR   X2                                                 4  1100  H 094              15   094
255  1 104          SBR   X3,1&X1                                             7  1104  H 099 0|1          16   099     001+1
256  1 111          SBR   X1                                                 4  1111  H 089              16   089
257  1 115          B     VARFIN                                              4  1115  B U45              16  1445
258          *
259          * X1 IS AT THE GM AT THE BOTTOM OF THE STATEMENT, OR ONE BELOW
260          * THE TOP (FIRST) CHARACTER OF A VARIABLE.
261          * MOVE STUFF ABOVE AND FIRST CHARACTER UP.
262          *
263  1 119  GOTVAR SW    1&X1                                                4  1119  , 0|1              16   001+1
264  1 123          LCA   0&X3,0&X2  MOVE UP STUFF ABOVE (BEFORE) VAR         7  1123  L 0?0 0!0          16   000+3   000+2
265  1 130          SBR   X2                                                  4  1130  H 094              16   094
266  1 134          CW    1&X1                                                4  1134  ) 0|1              16   001+1
267  1 138          SBR   X3,1&X1    X3 NOW AT TOP (BEGN13ING) OF VARIABLE     7  1138  H 099 0|1          17   099     001+1
268  1 145          SBR   CHECK&6,2&X1                                        7  1145  H U74 0|2          17  1474     002+1
269  1 152          MCW   SEMIC      REPLACE CHAR ABOVE VARIABLE OR GM         4  1152  M O75              17  2675
270  1 156          BCE   ENDSTM,CH,}  END IF GM                            8  1156  B K13 O25 } GMARK  17  2213    2625
271  1 164          ZA    KP1,W2                                              7  1164  ? O76 O78          17  2676    2678
272          *
273 `        * COUNT CHARACTERS IN NAME
274          *
275  1 171  SKP2P2 MCW    0&X1,CH                                             7  1171  M 0|0 O25          18   000+1  2625
276  1 178          SAR   X1                                                  4  1178  Q 089              18   089
277  1 182          MCW   CH,*&8                                              7  1182  M O25 /96          18  2625    1196
278  1 189          BCE   GOTP2,PUNCT2,0  #,}*@&-%)                         8  1189  B S16 M71 0        18  1216    2471
279  1 197          CHAIN 8                                                                      MACRO
280                 BCE                                                     1  1197  B                  GEN     18
281                 BCE                                                     1  1198  B                  GEN     18
282                 BCE                                                     1  1199  B                  GEN     18
283                 BCE                                                     1  1200  B                  GEN     19
284                 BCE                                                     1  1201  B                  GEN     19
285                 BCE                                                     1  1202  B                  GEN     19
286                 BCE                                                     1  1203  B                  GEN     19
287                 BCE                                                     1  1204  B                  GEN     19
288  1 205          A     KP1,W2                                              7  1205  A O76 O78          19  2676    2678
289  1 212          B     SKP2P2                                              4  1212  B /71              19  1171
290          *
291  1 216  GOTP2   BW    SUBFN1,FLAG6                                        8  1216  V Z50 N70 1        20  1950    2570
292  1 224          BW    SUBER2,FLAG3                                        8  1224  V |93 M74 1        20  1093    2474
293  1 232          SW    2&X1        AT BOTTOM (LAST) CHAR OF TOKEN          4  1232  , 0|2              20   002+1
294  1 236          SAR   SX1         SAVE 1&X1 AT PUNCT BELOW NAME           4  1236  Q O81              20  2681
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SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR

295         *
296         * LOOK FOR VARIABLE IN ARRAY TABLE.  X3 IS AT TOP (FIRST)
297         * CHARACTER OF THE VARIABLE.  CH IS CHARACTER BELOW (AFTER)
298         * THE VARIABLE.
299         *
300  1 240  LOOKUP MCW   TBLBOT,X1  GET BOTTOM OF ARRAY TABLE              7  1240  M O06 089          20  2606     089
301  1 247         BCE   ASG,CH,#   GO TURN OFF SWICH2 IF ASSIGNMENT STMT  8  1247  B K24 O25 #        20  2224    2625
302  1 255  LOOK2  BCE   NOTARR,2&X1,  AT END OF ARRAY TABLE?             8  1255  B T81 0|2          21  1381     002+1
303  1 263  MORE   MCM   2&X1                                             4  1263  P 0|2              21   002+1
304  1 267         MN                                                    1  1267  D                  21
305  1 268         MN                                                    1  1268  D                  21
306  1 269         SAR   X1                                              4  1269  Q 089              21   089
307  1 273         BCE   MORE,1&X1,|                                     8  1273  B S63 0|1 |        21  1263     001+1
308  1 281         C     0&X3,0&X1                                       7  1281  C 0?0 0|0          21   000+3   000+1
309  1 288         BU    LOOK2                                           5  1288  B S55 /            22  1255
310  1 293         C     0&X1,0&X3                                       7  1293  C 0|0 0?0          22   000+1   000+3
311  1 300         BU    LOOK2                                           5  1300  B S55 /            22  1255
312  1 305         C     0&X1    GET X1 DOWN TO                          4  1305  C 0|0              22   000+1
313  1 309         CHAIN 3         OFFSET FIELD                                                     MACRO
314               C                                                     1  1309  C                  GEN     22
315               C                                                     1  1310  C                  GEN     22
316               C                                                     1  1311  C                  GEN     22
317  1 312         SAR   X1                                              4  1312  Q 089              23   089
318  1 316         BW    SUBVR2,FLAG2  WORKING ON VARIABLE SUBSCRIPT?    8  1316  V X43 M73 1        23  1743    2473
319  1 324         BCE   SUB,CH,%  SUBSCRIPTED                           8  1324  B V83 O25 %        23  1583    2625
320         *
321         * IN ARRAY TABLE, NOT SUBSCRIPTED
322         *
323  1 332  SWICH2 NOP   DATXF2  BRANCH IF DATA TRANSFER STATEMENT        4  1332  N T58              23  1358
324  1 336         LCA   9&X1,1&X2  ADDR OF LOW DIGIT OF FIRST ARRAY ELT  7  1336  L 0|9 0!1          23   009+1   001+2
325  1 343         SBR   X2                                              4  1343  H 094              23   094
326  1 347  LOOKFN MCW   SX1,X1                                          7  1347  M O81 089          24  2681     089
327  1 354         B     VARFIN                                          4  1354  B U45              24  1445
328         *
329         * WHOLE ARRAY
330         *
331  1 358  DATXF2 LCA   9&X1,1&X2  ADDR OF LOW DIGIT OF FIRST ARRAY ELT  7  1358  L 0|9 0!1          24   009+1   001+2
332  1 365         LCA   3&X1       ADDR OF LOW DIGIT OF LAST ARRAY ELT  4  1365  L 0|3              24   003+1
333  1 369         SBR   X2                                              4  1369  H 094              24   094
334  1 373         CW    4&X2       BETWEEN ADDRESSES                    4  1373  ) 0!4              24   004+2
335  1 377         B     LOOKFN                                          4  1377  B T47              24  1347
336         *
337         * NOT IN ARRAY TABLE.  X2 IS TWO BELOW THE PUNCTUATION BEFORE
338         * THE VARIABLE OR PREFIX MOVED TO BE BELOW THE ARRAY TABLE.
339         *
340  1 381  NOTARR MCW   SX1,X1                                          7  1381  M O81 089          25  2681     089
341  1 388         BW    SUBVR3,FLAG2  WORKING ON VARIABLE SUBSCRIPT?    8  1388  V X67 M73 1        25  1767    2473
342  1 396         BCE   SUBNOT,CH,%                                     8  1396  B U87 O25 %        25  1487    2625
343  1 404         LCA   KBUNDR,1&X2  BLANK, UNDERSCORE                  7  1404  L O83 0!1          25  2683     001+2
344  1 411         SBR   X2                                              4  1411  H 094              25   094
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SEQ PG LIN  LABEL   OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR

345  1 415  NOTAR2 LCA   0&X3,1&X2    MOVE VARIABLE UP                    7  1415  L 0?0 0!1           26   000+3   001+2
346  1 422         SBR   X2                                               4  1422  H 094               26   094
347  1 426         CW    1&X2                                             4  1426  ) 0!1               26   001+2
348  1 430         S     KP2,W2                                           7  1430  S O84 O78           26  2684    2678
349  1 437         BM    SHORT,W2     VARIABLE NAME IS SHORT              8  1437  V K50 O78 K         26  2250    2678
350  1 445  VARFIN CW    1&X1                                             4  1445  ) 0|1               26   001+1
351  1 449         SAR   X3                                               4  1449  Q 099               26   099
352  1 453  VARFN2 CW    1&X2                                             4  1453  ) 0!1               27   001+2
353  1 457         CW    FLAG4,FLAG3                                      7  1457  ) N68 M74           27  2568    2474
354  1 464         CW    FLAG5                                            4  1464  ) N69               27  2569
355  1 468  CHECK  BCE   STMT,0,;     SEMICOLON?                          8  1468  B 937 000 ;         27   937     000
356  1 476         MCW   DOLLAR,X1                                       7  1476  M O85 089           27  2685     089
357  1 483         B     DONE                                             4  1483  B 700               27   700
358         *
359         * NOT IN ARRAY TABLE, BUT APPEARS TO BE SUBSCRIPTED
360         *
361  1 487  SUBNOT BCE   NOTAR2,1&X1,F  LAST CHAR OF VAR SAYS FUNCTION?   8  1487  B U15 0|1 F         28  1415     001+1
362  1 495         CS    332                                              4  1495  / 332               28   332
363  1 499         CS                                                     1  1499  /                   28
364  1 500         SW    GLOBER                                           4  1500  , 184               28   184
365  1 504         MN    PREFIX,240                                       7  1504  D O16 240           28  2616     240
366  1 511         MN                                                     1  1511  D                   28
367  1 512         MN                                                     1  1512  D                   28
368  1 513         MCW   ERROR6                                          4  1513  M P22               29  2722
369  1 517         W                                                      1  1517  2                   29
370  1 518         BCV   OVFL2                                           5  1518  B V27 @             29  1527
371  1 523         B     NOVFL2                                           4  1523  B V29               29  1529
372  1 527  OVFL2  CC    1                                                2  1527  F 1                 29
373  1 529  NOVFL2 LCA   KPCT3Z,1&X2    %000                             7  1529  L P26 0!1           29  2726     001+2
374  1 536         SBR   X2                                               4  1536  H 094               29   094
375  1 540         MZ    SAVZON,3&X2                                      7  1540  Y P38 0!3           30  2738     003+2
376  1 547  GETEND BCE   ENDSUB,0&X1,)  END OF SUBSCRIPT?                 8  1547  B V71 0|0 )         30  1571     000+1
377  1 555         BCE   ENDST2,0&X1,}  END OF STATEMENT?                 8  1555  B K05 0|0 } GMARK   30  2205     000+1
378  1 563         SBR   X1                                               4  1563  H 089               30   089
379  1 567         B     GETEND                                           4  1567  B V47               30  1547
380  1 571  ENDSUB MN    0&X1  X1 NOW BELOW SUBSCRIPT                     4  1571  D 0|0               30   000+1
381  1 575         SAR   X1                                               4  1575  Q 089               30   089
382  1 579         B     VARFN2                                           4  1579  B U53               31  1453
383         *
384         * IN ARRAY TABLE AND SUBSCRIPTED
385         *
386  1 583  SUB    ZA    0&X1,W6  HIGH DIGIT OF FIRST ARRAY ELEMENT       7  1583  ? 0|0 P32           31   000+1  2732
387  1 590         SAR   X3       X3 NOW AT FIRST DIMENSION               4  1590  Q 099               31   099
388  1 594         SW    FLAG7    IN ARRAY TABLE AND SUBSCRIPTED          4  1594  , P49               31  2749
389  1 598         ZA    0&X3,W5  FIRST DIMENSION TO W5                   7  1598  ? 0?0 P37           31   000+3  2737
390  1 605         ZA    5&X1,PROD-7  ELEMENT SIZE                       7  1605  ? 0|5 N57           31   005+1  2557
391  1 612         S     KP1,W6                                           7  1612  S O76 P32           32  2676    2732
392  1 619         MZ    8&X1,SAVZON  TYPE TAG OF ARRAY                  7  1619  Y 0|8 P38           32   008+1  2738
393  1 626         MCW   SX1,X1   X1 BACK TO STATEMENT                    7  1626  M O81 089           32  2681     089
394  1 633         LCA   KBDOLR,1&X2  BLANK, $ INDICATES SUBSCRIPT       7  1633  L P40 0!1           32  2740     001+2
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SEQ PG LIN  LABEL   OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR

395  1 640          SBR   X2                                                   4  1640  H 094              32   094
396  1 644          MN    0&X1                                                 4  1644  D 0|0              32   000+1
397  1 648          SAR   X1                                                   4  1648  Q 089              33   089
398  1 652          SBR   X3                                                   4  1652  H 099              33   099
399  1 656  TSTCON  BWZ   SUBMOR,0&X1,2  CONSTANT SUBSCRIPT?                   8  1656  V Y51 0|0 2        33  1851     000+1
400  1 664          SBR   X1,2&X1                                              7  1664  H 089 0|2          33   089     002+1
401  1 671          LCA   KSTAR1,0&X1  STAR, 1 (1 IS PREV DIM WIDTH)          7  1671  L P42 0|0          33  2742     000+1
402  1 678          B     SUBMOR                                               4  1678  B Y51              33  1851
403          *
404          * CONTINUE VARIABLE SUBSCRIPT PROCESSING
405          *
406  1 682  SUBVAR  LCA   KBUNDR,1&X2  BLANK, UNDERSCORE INDICATES VARIABLE    7  1682  L O83 0!1          34  2683     001+2
407  1 689          SBR   X2                                                   4  1689  H 094              34   094
408          *
409          * GET DOWN TO THE BOTTOM OF THE VARIABLE
410          *
411  1 693  SKP2P3  MCW   0&X1,CH                                              7  1693  M 0|0 O25          34   000+1  2625
412  1 700          SAR   X1                                                   4  1700  Q 089              34   089
413  1 704          MCW   CH,*&8                                               7  1704  M O25 X18          34  2625    1718
414  1 711          BCE   GOTP3,PUNCT3,0   -&),                              8  1711  B X26 P46 0        34  1726    2746
415  1 719          CHAIN 3                                                                 MACRO
416                 BCE                                                      1  1719  B          GEN     34
417                 BCE                                                      1  1720  B          GEN     35
418                 BCE                                                      1  1721  B          GEN     35
419  1 722          B     SKP2P3                                             4  1722  B W93              35  1693
420  1 726  GOTP3   SW    2&X1                                               4  1726  , 0|2              35   002+1
421  1 730          SW                                                       1  1730  ,                  35
422  1 731          SAR   SX1                                                4  1731  Q O81              35  2681
423  1 735          SW    FLAG2  WORKING ON VARIABLE SUBSCRIPT                4  1735  , M73              35  2473
424  1 739          B     LOOKUP                                             4  1739  B S40              36  1240
425          *
426  1 743  SUBVR2  LCA   9&X1,2&X2                                           7  1743  L 0|9 0!2          36   009+1   002+2
427  1 750          SBR   X2                                                   4  1750  H 094              36   094
428  1 754          CW    1&X2                                               4  1754  ) 0!1              36   001+2
429  1 758          MN                                                       1  1758  D                  36
430  1 759          SAR   X2                                                 4  1759  Q 094              36   094
431  1 763          B     SUBVR4                                             4  1763  B X83              36  1783
432          *
433          * MOVE SUBSCRIPT UP
434          *
435  1 767  SUBVR3  LCA   0&X3,1&X2                                           7  1767  L 0?0 0!1          37   000+3   001+2
436  1 774          LCA                                                      1  1774  L                  37
437  1 775          SBR   X2                                                 4  1775  H 094              37   094
438  1 779          CW    2&X2                                               4  1779  ) 0!2              37   002+2
439  1 783  SUBVR4  MCW   SX1,X1                                             7  1783  M O81 089          37  2681     089
440  1 790          CW    2&X1                                               4  1790  ) 0|2              37   002+1
441  1 794          BCE   SHORT2,3&X2,_                                      8  1794  B K35 0!3 _        37  2235     003+2
442  1 802          LCA   KBCOMM,1&X2  BLANK, COMMA                          7  1802  L P48 0!1          38  2748     001+2
443  1 809          SBR   X2                                                 4  1809  H 094              38   094
444  1 813          CW    FLAG2  DONE WORKING ON VARIABLE SUBSCRIPT           4  1813  ) M73              38  2473
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SEQ PG LIN  LABEL  OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR

445  1 817         BCE   MORSUB,CH,,                                   8  1817  B M08 O25 ,         38  2408    2625
446  1 825         BCE   SUBFIN,CH,)                                   8  1825  B Z54 O25 )         38  1954    2625
447  1 833         MZ    CH,PROD-7                                     7  1833  Y O25 N57           38  2625    2557
448  1 840  SUBVR5 MCW   X1,X3                                         7  1840  M 089 099           39   089     099
449  1 847         B     TSTCON                                        4  1847  B W56               39  1656
450         *
451         * CONTINUE SUBSCRIPT PROCESSING
452         *
453  1 851  SUBMOR SBR   X3,BIGWRK-2                                  7  1851  H 099 M73           39   099    2473
454  1 858  SUBM2  MCW   0&X1,CH   MOVE SUBSCRIPT                     7  1858  M 0|0 O25           39   000+1  2625
455  1 865         SAR   X1          TO BIGWRK PUTTING               4  1865  Q 089               39   089
456  1 869         MCW   CH,2&X3       ITS CHARACTERS                7  1869  M O25 0?2           39  2625     002+3
457  1 876         SBR   X3              INTO FORWARD ORDER           4  1876  H 099               40   099
458  1 880         BWZ   SUBM2,0&X1,2  CONSTANT SUBSCRIPT?            8  1880  V Y58 0|0 2         40  1858     000+1
459  1 888         SBR   X1                                            4  1888  H 089               40   089
460  1 892         M     PROD-7,7&X3                                   7  1892  @ N57 0?7           40  2557     007+3
461  1 899         BCE   SUBV1,1&X1,*   FIRST VARIABLE SUBSCRIPT?     8  1899  B Z92 0|1 *         40  1992     001+1
462  1 907         A     7&X3,W6        ADD TO OFFSET FROM ARRAY BASE  7  1907  A 0?7 P32           40   007+3  2732
463  1 914         BCE   SUBFIN,1&X1,)  DONE WITH SUBSCRIPTS?          8  1914  B Z54 0|1 )         41  1954     001+1
464  1 922         BCE   MORSUB,1&X1,,  SECOND SUBSCRIPT?             8  1922  B M08 0|1 ,         41  2408     001+1
465  1 930         SW    FLAG1                                         4  1930  , M72               41  2472
466  1 934         B     SYNTAX                                        4  1934  B |36               41  1036
467         *
468  1 938  CW1S6  CW    FLAG1                                         4  1938  ) M72               41  2472
469  1 942         SW    FLAG6                                         4  1942  , N70               41  2570
470  1 946         B     SKP2P2                                        4  1946  B /71               41  1171
471         *
472  1 950  SUBFN1 CW    FLAG6                                         4  1950  ) N70               42  2570
473  1 954  SUBFIN NOP   W6-7                                         4  1954  N P25               42  2725
474  1 958         SAR   X3                                            4  1958  Q 099               42   099
475  1 962         SW    FLAG4        MOVING VARIABLE SUBSCRIPT        4  1962  , N68               42  2568
476  1 966         B     NORMLZ                                        4  1966  B !29               42  2029
477  1 970  SUBFN2 LCA   DOLLAR,0&X2  MARK END OF SUBSCRIPT           7  1970  L O85 0!0           42  2685     000+2
478  1 977         SBR   X2                                            4  1977  H 094               42   094
479  1 981         MZ    SAVZON,3&X2                                   7  1981  Y P38 0!3           43  2738     003+2
480  1 988         B     VARFIN                                        4  1988  B U45               43  1445
481         *
482         * FIRST VARIABLE SUBSCRIPT
483         *
484  1 992  SUBV1  CW    1&X1,FLAG7                                    7  1992  ) 0|1 P49           43   001+1  2749
485  1 999         B     NORMLZ                                        4  1999  B !29               43  2029
486  2 003         LCA   KBSTAR,0&X2                                   7  2003  L P51 0!0           43  2751     000+2
487  2 010         SBR   X2                                            4  2010  H 094               43   094
488  2 014         CW    1&X2                                          4  2014  ) 0!1               43   001+2
489  2 018         MCW   X1,X3                                         7  2018  M 089 099           44   089     099
490  2 025         B     SUBVAR                                        4  2025  B W82               44  1682
491         *
492         * NORMALIZE OFFSET BETWEEN 0 AND 15999, STORE IT
493         * INTO CODE AT TOP OF CORE.
494         *
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SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR

495  2 029  NORMLZ SBR   NORMLX&3                                             4  2029  H J37              44  2137
496  2 033  NORMLP S     KP16K,7&X3     SUBTRACT 16000                       7  2033  S P56 0?7          44  2756     007+3
497  2 040         BWZ   NORMLP,7&X3,B    UNTIL NEGATIVE                     8  2040  V !33 0?7 B        44  2033     007+3
498  2 048  NORMLN A     KP16K,7&X3     ADD 16000                            7  2048  A P56 0?7          44  2756     007+3
499  2 055         BM    NORMLN,7&X3      UNTIL POSITIVE                     8  2055  V !48 0?7 K        45  2048     007+3
500  2 063         BW    CVTADR,FLAG4   MOVING VARIABLE SUBSCRIPT?           8  2063  V L05 N68 1        45  2305    2568
501  2 071  NORTRM SBR   X3,1&X3        TRIM LEADING                         7  2071  H 099 0?1          45   099     001+3
502  2 078         BCE   NORTRM,2&X3,0    ZEROES                           8  2078  B !71 0?2 0        45  2071     002+3
503  2 086         SBR   X2,1&X2                                            7  2086  H 094 0!1          45   094     001+2
504  2 093         LCA   KB6                                                4  2093  L P62              46  2762
505  2 097  NORREV MCW   2&X3,CH   MOVE NORMALIZED                          7  2097  M 0?2 O25          46   002+3  2625
506  2 104         SAR   X3          OFFSET UP                            4  2104  Q 099              46   099
507  2 108         MCW   CH,0&X2       WHILE REVERSING                    7  2108  M O25 0!0          46  2625     000+2
508  2 115         SBR   X2            THE DIGITS                         4  2115  H 094              46   094
509  2 119         BWZ   NORREV,1&X3,2                                     8  2119  V !97 0?1 2        46  2097     001+3
510  2 127         MZ    KB1,1&X2  CLOBBER LAST DIGIT ZONE                  7  2127  Y P57 0!1          47  2757     001+2
511  2 134  NORMLX B     0-0                                                4  2134  B 000              47   000
512         *
513         * DONE
514         *
515  2 138  DONE   EQU   LOADNX                                                0700
516         *
517         * TAPE BLOCK IS TOO BIG FOR CHM TAU EMULATOR.
518         * LOAD PART2 AND START IN PART 1
519         *
520         END1   DCW   @}@                                                  1  2138              GMARK   47
521                XFR   LOADNX        LOAD THIS                                   B 700                47   700
522         PART2  LDPH  ,DATXFR,BEGN13,,,13.2                                                     MACRO
            * PHAZ   LDPH [PHASID],LOADAD,ENTAD[,SKIPFG,SKIP],[NUMBER][,HALT]                       GEN
            *        XFR  PHASZ     PROHIBITED IN A MACRO                                          GEN
            *                                                                                      GEN
            * LOAD A BLOCK                                                                         GEN
            *                                                                                      GEN
523         )6K004 EQU   700  LOAD NEXT PHASE                                        0700          GEN
524         )6L004 EQU   704  TAPE READ INSTRUCTION                                  0704          GEN
525         )6M004 EQU   728  TAPE ERROR HANDLER                                     0728          GEN
            *                                                                                      GEN
526                ORG   201                                                             0201
527         PART2  BSS   )8J004,G                                                  5  0201  B 250 G     GEN     48   250
528                NOP     TO PATCH IN TRAPS FOR DEBUGGING                        1  0206  N           GEN     48
529         )0J004 EQU   *&1                                                          0207              GEN
530                BCE   )1J004,)6K004,1    Q: LOADING FROM CARDS?               8  0207  B 243 700 1 GEN     48   243     700
531                BCE   )1J004,)6L004&4,0  Q: LOADING FROM AUTOCODER TAPE?       8  0215  B 243 708 0 GEN     48   243     708
532                RTW   1,DATXFR           READ THE BLOCK                       8  0223  L %U1 J38 R GEN     48   %U1    2138
533                BER   )6M004             Q: TAPE ERROR?                       5  0231  B 728 L     GEN     48   728
534                CS    BEGN13,)9R004      ENTER THE BLOCK                      7  0236  / 838 271   GEN     49   838     271
535         )1J004 CS    )6K004,)9R004      LOAD CARDS OR AUTOCODER TAPE         7  0243  / 700 271   GEN     49   700     271
536         )8J004 SW    )9R004                                                  4  0250  , 271       GEN     49   271
537                MU    %T0,)8K004,W                                         8  0254  M %T0 266 W GEN     49   %T0     266
538                H     )0J004                                               4  0262  . 207       GEN     49   207
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SEQ PG LIN  LABEL   OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR

539         )8K004 EQU   *&1                                                   0266            GEN
540                DCW   #1                                                 1  0266            GEN     49
541                DC    @13.2@          PHASE NUMBER                       4  0270            GEN     49
542         )9R004 DCW   @}@                                                1  0271            GEN     49
543                XFR   PART2                                                    B 201             49   201
544                ORG   END1                                                      2138
545         *
546         * DATA TRANSFER INPUT/OUTPUT STATEMENT
547         *
548  2 168  DATXFR MCW   BRANCH,SWICH1  TURN ON DATA TRANSFER                7  2138  M P63 956         50  2763     956
549  2 175         MCW   BRANCH,SWICH2    STATEMENT SWITCHES                 7  2145  M P63 T32         50  2763    1332
550  2 182         MCW   PREFIX-3,*&8                                       7  2152  M O13 J66         50  2613    2166
551  2 189         BCE   RWT,RWTC,0  READ/WRITE (INPUT/OUTPUT) TAPE?        8  2159  B J74 P67 0       50  2174    2767
552  2 197         CHAIN 3                                                                 MACRO
553                BCE                                                    1  2167  B           GEN     50
554                BCE                                                    1  2168  B           GEN     50
555                BCE                                                    1  2169  B           GEN     50
556  2 200         B     STMT  READ, PRINT OR PUNCH                       4  2170  B 937             51   937
557  2 204  RWT    SW    FLAG5                                            4  2174  , N69             51  2569
558  2 208         B     STMT                                             4  2178  B 937             51   937
559  2 212  DATXF1 BCE   DATXRP,CH,)                                      8  2182  B J94 O25 )       51  2194    2625
560  2 220         B     SKIPP  GO SKIP PUNCTUATION                       4  2190  B 960             51   960
561  2 224  DATXRP MCW   BRANCH,SWICH2                                    7  2194  M P63 T32         51  2763    1332
562  2 231         B     SKIPP  GO SKIP PUNCTUATION                       4  2201  B 960             51   960
563         *
564         * BOTTOM (END) OF STATEMENT
565         *
566  2 235  ENDST2 MN    0&X2                                             4  2205  D 0!0             52   000+2
567  2 239         SAR   X2                                               4  2209  Q 094             52   094
568  2 243  ENDSTM LCA   GM,1&X2                                          7  2213  L N25 0!1         52  2525     001+2
569  2 250         B     NXTSTM                                           4  2220  B 856             52   856
570         *
571         * SAW ASSIGNMENT OPERATOR (#)
572         *
573  2 254  ASG    MCW   NOP,SWICH2                                       7  2224  M O24 T32         52  2624    1332
574  2 261         B     LOOK2                                            4  2231  B S55             52  1255
575         *
576         * MAKE SURE AT LEAST 3 CHARACTERS
577         *
578  2 265  SHORT2 LCA   KB2,1&X2                                         7  2235  L P58 0!1         52  2758     001+2
579  2 272         SBR   X2                                               4  2242  H 094             53   094
580  2 276         B     SUBVR4                                           4  2246  B X83             53  1783
581         *
582         * VARIABLE NAME IS SHORT -- WE NEED AT LEAST THREE SPACES
583         *
584  2 280  SHORT  LCA   KB1,0&X2                                         7  2250  L P57 0!0         53  2757     000+2
585  2 287         SBR   X2                                               4  2257  H 094             53   094
586  2 291         CW    1&X2                                             4  2261  ) 0!1             53   001+2
587  2 295         B     VARFIN                                           4  2265  B U45             53  1445
588         *
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SEQ PG LIN  LABEL   OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR

589         * LOOKS LIKE A FLOATING-POINT CONSTANT
590         *
591  2 299  FLTCON BCE   GOTVAR,2&X1,#                                  8  2269  B /19 0|2 #         53  1119     002+1
592  2 307         BCE   GOTVAR,2&X1,@                                  8  2277  B /19 0|2 @         54  1119     002+1
593  2 315         BWZ   STMT,2&X1,2                                    8  2285  V 937 0|2 2         54   937     002+1
594  2 323         BCE   STMT,2&X1,.                                    8  2293  B 937 0|2 .         54   937     002+1
595  2 331         B     GOTVAR                                         4  2301  B /19               54  1119
596         *
597         * CONVERT BIGWRK TO MACHINE ADDRESS
598         *
599  2 335  CVTADR MCW   7&X3,W5B                                       7  2305  M 0?7 P72           54   007+3  2772
600  2 342         MN    W5B,SUBADR                                     7  2312  D P72 N67           55  2772    2567
601  2 349         MN                                                   1  2319  D                   55
602  2 350         MN                                                   1  2320  D                   55
603  2 351         SAR   *&4                                            4  2321  Q L28               55  2328
604  2 355         MCW   0-0,X3  THOUSANDS                             7  2325  M 000 099           55   000     099
605  2 362         MCW   K0        AND A ZERO TO X3                   4  2332  M P73               55  2773
606  2 366         A     X3      DOUBLE X3                            4  2336  A 099               55   099
607  2 370         MZ    ZONES&1&X3,SUBADR                            7  2340  Y NG3 N67           56  2573+3  2567
608  2 377         CW                                                   1  2347  )                   56
609  2 378         SBR   *&7                                            4  2348  H L58               56  2358
610  2 382         MZ    ZONES&X3,0-0                                   7  2352  Y NG2 000           56  2572+3   000
611  2 389         BCE   CVTAD2,2&X2,,                                 8  2359  B L74 0!2 ,         56  2374     002+2
612  2 397         SBR   X2,1&X2                                       7  2367  H 094 0!1           56   094     001+2
613  2 404  CVTAD2 LCA   SUBADR,1&X2                                   7  2374  L N67 0!1           57  2567     001+2
614  2 411         SBR   X2                                           4  2381  H 094               57   094
615  2 415         CW    1&X2                                         4  2385  ) 0!1               57   001+2
616  2 419         MZ    SAVZON,2&X2                                  7  2389  Y P38 0!2           57  2738     002+2
617  2 426         BW    VARFIN,FLAG7  IN ARRAY TABLE AND SUBSCRIPTED?  8  2396  V U45 P49 1         57  1445    2749
618  2 434         B     SUBFN2                                         4  2404  B Z70               57  1970
619         *
620         * SAW A COMMA, HERE COMES ANOTHER SUBSCRIPT
621         *
622  2 438  MORSUB MZ    *-4,PROD-7                                     7  2408  Y M10 N57           58  2410    2557
623  2 445         M     W5,PROD-1                                      7  2415  @ P37 N63           58  2737    2563
624  2 452         MCM   PROD-5,PROD-11                                 7  2422  P N59 N53           58  2559    2553
625  2 459         S     PROD-7,W6                                      7  2429  S N57 P32           58  2557    2732
626  2 466         B     SUBVR5                                         4  2436  B Y40               58  1840
627         *
628         * FORMAT STATEMENT -- JUST COPY IT
629         *
630  2 470  FORMAT LCA   0&X1,0&X2  COPY STMT BELOW ARRAY TABLE         7  2440  L 0|0 0!0           58   000+1   000+2
631  2 477         SBR   X2         SAVE NEXT 'TO' ADDRESS              4  2447  H 094               59   094
632  2 481         C     0&X1       GET TO BOTTOM OF STATEMENT          4  2451  C 0|0               59   000+1
633  2 485         SAR   X1         SAVE TOP OF NEXT STATEMENT          4  2455  Q 089               59   089
634  2 489         B     NXTSTM                                         4  2459  B 856               59   856
635         *
636         * DATA
637         *
638  2 501  PUNCT2 DCW   @#,}*@&-%)@                                    9  2471                      59
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SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR
639  2 502  FLAG1  DC    #1  SYNTAX ERROR AFTER FIRST SUBSCRIPT               1  2472                      59
640  2 503  FLAG2  DC    #1                                                  1  2473                      59
641  2 504  FLAG3  DC    #1                                                  1  2474                      59
642  2 505  BIGWRK DCW   #1                                                  1  2475                      59
643  2 554         DC    #49                                                49  2524                      61
644  2 555  GM     DC    @}@                                                 1  2525             GMARK    61
645  2 561         DCW   @ERROR @                                            6  2531                      61
646  2 582         DCW   @ VARIABLE, STATEMENT @                            21  2552                      61
647  2 594  PROD   DCW   @           |@                                     12  2564                      62
648  2 597  SUBADR DCW   #3  SUBSCRIPT VARIABLE ADDRESS                      3  2567                      62
649  2 598  FLAG4  DC    #1  MOVING VARIABLE SUBSCRIPT                       1  2568                      62
650  2 599  FLAG5  DC    #1                                                  1  2569                      62
651  2 600  FLAG6  DC    #1                                                  1  2570                      62
652  2 602  ZONES  DCW   @ 9@                                               2  2572                      62
653  2 633         DCW   @9Z9R9I99ZZZRZIZ9RZRRRIR9IZIRIII@                  31  2603                      63
654  2 636  TBLBOT DCW   #3  BOTTOM OF THE ARRAY TABLE                       3  2606                      63
655  2 646  PREFIX DCW   #10                                                10  2616                      64
656  2 653  DATXFC DCW   @3L5UP61@  CODES FOR DATA TRANSFER STATEMENTS       7  2623                      64
657  2 654  NOP    NOP                                                       1  2624  N                   64
658  2 655  CH     DCW   #1                                                  1  2625                      64
659  2 663  PUNCT  DCW   @@*-&.%),@  PUNCTUATION CHARACTERS                  8  2633                      64
660  2 664  CH2    DCW   #1                                                  1  2634                      64
661  2 701  ERROR9 DCW   @ERROR 9 - VARIABLE SYNTAX, STATEMENT @            37  2671                      65
662  2 704  K0Q0   DSA   0&X3                                               3  2674  0?0                 66   000
663  2 705  SEMIC  DCW   @;@  SEMICOLON                                     1  2675                      66
664  2 706  KP1    DCW   &1                                                  1  2676                      66
665  2 708  W2     DCW   #2                                                  2  2678                      66
666  2 711  SX1    DCW   #3                                                  3  2681                      66
667  2 713  KBUNDR DCW   @ _@  BLANK, UNDERSCORE                            2  2683                      66
668  2 714  KP2    DCW   &2                                                  1  2684                      66
669  2 715  DOLLAR DCW   @$@                                                1  2685                      67
670  2 752  ERROR6 DCW   @ERROR 6 - UNDEFINED ARRAY, STATEMENT @            37  2722                      67
671  2 756  KPCT3Z DCW   @%000@                                             4  2726                      68
672  2 762  W6     DCW   #6                                                  6  2732                      68
673  2 767  W5     DCW   #5                                                  5  2737                      68
674  2 768  SAVZON DCW   #1                                                  1  2738                      68
675  2 770  KBDOLR DCW   @ $@                                               2  2740                      68
676  2 772  KSTAR1 DCW   @*1@                                               2  2742                      68
677  2 776  PUNCT3 DCW   @-&),@                                             4  2746                      68
678  2 778  KBCOMM DCW   @ ,@                                               2  2748                      69
679  2 779  FLAG7  DCW   #1  WM MEANS IN ARRAY TABLE AND SUBSCRIPTED         1  2749                      69
680  2 781  KBSTAR DCW   @ *@                                               2  2751                      69
681  2 786  KP16K  DCW   @1600?@                                            5  2756                      69
682  2 787  KB1    DCW   #1                                                  1  2757                      69
683  2 788  KB2    DC    #1                                                  1  2758                      69
684  2 792  KB6    DC    #4                                                  4  2762                      69
685  2 802  BRANCH B                                                        1  2763  B                   69
686  2 806  RWTC   DCW   @1356@  READ/WRITE (INPUT/OUTPUT) TAPE CODES       4  2767                      69
687  2 811  W5B    DCW   #5                                                  5  2772                      70
688  2 812  K0     DCW   0                                                   1  2773                      70
```

```
SEQ PG LIN  LABEL   OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR
689  2 813  GMWM    DCW   @}@                                           1  2774          GMARK   70
690 *       ORGVB   EQU   *&1  MOKOTOFF V3M0.LST LINE 2959              2775
691                 XFR   BEGN13                                              B 838         70   838
692         CLRME   CLRA  BEGN13,GMWM,E                                          MACRO
            *       CLRA  CLRBOT,CLRTOP[,SS,HERE,GWMAD]                         GEN
            *                                                                   GEN
            * CLEAR CORE AFTER A PHASE USING THE CLRTOP ADDRESS                 GEN
            *                                                                   GEN
693                 ORG   201                                                  0201
            *                                                                   GEN
            * CLEAR DOWN TO CLRBOT & X00 THE EASY WAY                           GEN
            *                                                                   GEN
694         CLRME   EQU   *&1                                           0201    GEN
695                 BSS   SNAPSH,E                                        5 0201  B 333 E     GEN   71   333
696         )0J005  CS    GMWM         CLEAR FROM CLRTOP                4 0206  / P74       GEN   71  2774
697                 SBR   )0J005&3                                      4 0210  H 209       GEN   71   209
698                 SBR   )0L005&6                                      4 0214  H 255       GEN   71   255
699                 C     )0J005&3,)0M005   DOWN TO CLRBOT & X00?       7 0218  C 209 266   GEN   71   209     266
700                 BU    )0J005                                        5 0225  B 206 /     GEN   71   206
            *                                                                   GEN
            * NOW CLEAR DOWN TO CLRBOT THE HARD WAY                            GEN
            *                                                                   GEN
701         )0K005  C     )0L005&6,)0N005                                7 0230  C 255 269   GEN   71   255     269
702                 BU    )0L005                                        5 0237  B 249 /     GEN   72   249
703                 CS    LOADNX,)0Q005  LOAD THE NEXT BLOCK AT 1       7 0242  / 700 276   GEN   72   700     276
704         )0L005  LCA   )0P005,0-0     CLEAR WITH BLANK AND WORD MARK 7 0249  L 270 000   GEN   72   270     000
705                 SBR   )0L005&6                                      4 0256  H 255       GEN   72   255
706                 B     )0K005                                        4 0260  B 230       GEN   72   230
707         )0M005  DSA   )0R005         CLRBOT & X00 - 1              3 0266  899         GEN   72   899
708         )0N005  DSA   BEGN13         CLRBOT                        3 0269  838         GEN   72   838
709         )0P005  DCW   #1                                            1 0270              GEN   73
710                 DC    @CLRA @     IDENTIFY IN A DECK, TAPE, OR DUMP 5 0275              GEN   73
711         )0Q005  DCW   @}@                                           1 0276              GEN   73
712                 ORG   BEGN13&X00                                           0900
713         )0R005  EQU   *           CLRBOT & X00 - 1                      0899            GEN
714                 XFR   CLRME                                               B 201               73   201
```

SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS
)0J003	0207: 0	)0J004	0207: 0	)0J005	0206: 0	)0K005	0230: 0	)0L005	0249: 0	)0M005	0266: 0
)0N005	0269: 0	)0P005	0270: 0	)0Q005	0276: 0	)0R005	0899: 0	)1J003	0250: 0	)1J004	0243: 0
)6J003	0110: 0	)6K003	0700: 0	)6K004	0700: 0	)6L003	0704: 0	)6L004	0704: 0	)6M003	0728: 0
)6M004	0728: 0	)8J003	0257: 0	)8J004	0250: 0	)8K003	0273: 0	)8K004	0266: 0	)9J003	0281: 0
)9R003	0287: 0	)9R004	0271: 0	ASG	2224: 0	BEGIN3	0838: 0	BEGN13	0838: 0	BIGWRK	2475: 0
BRANCH	2763: 0	CDOVLY	0700: 0	CH	2625: 0	CH2	2634: 0	CHECK	1468: 0	CLRME	0201: 0
CVTAD2	2374: 0	CVTADR	2305: 0	CW1S6	1938: 0	DATXF1	2182: 0	DATXF2	1358: 0	DATXFC	2623: 0
DATXFR	2138: 0	DATXRP	2194: 0	DOLLAR	2685: 0	DONE	0700: 0	END1	2138: 0	ENDST2	2205: 0
ENDSTM	2213: 0	ENDSUB	1571: 0	ERROR6	2722: 0	ERROR9	2671: 0	FLAG1	2472: 0	FLAG2	2473: 0
FLAG3	2474: 0	FLAG4	2568: 0	FLAG5	2569: 0	FLAG6	2570: 0	FLAG7	2749: 0	FLTCON	2269: 0
FORMAT	2440: 0	GETEND	1547: 0	GLOBER	0184: 0	GM	2525: 0	GMWM	2774: 0	GOTP2	1216: 0
GOTP3	1726: 0	GOTVAR	1119: 0	K0	2773: 0	K0Q0	2674: 0	KB1	2757: 0	KB2	2758: 0
KB6	2762: 0	KBCOMM	2748: 0	KBDOLR	2740: 0	KBSTAR	2751: 0	KBUNDR	2683: 0	KP1	2676: 0
KP16K	2756: 0	KP2	2684: 0	KPCT3Z	2726: 0	KSTAR1	2742: 0	LOADNX	0700: 0	LOOK2	1255: 0
LOOKFN	1347: 0	LOOKUP	1240: 0	MORE	1263: 0	MORSUB	2408: 0	NOP	2624: 0	NORMLN	2048: 0
NORMLP	2033: 0	NORMLX	2134: 0	NORMLZ	2029: 0	NORREV	2097: 0	NORTRM	2071: 0	NOTAR2	1415: 0
NOTARR	1381: 0	NOVFL1	1070: 0	NOVFL2	1529: 0	NXTSTM	0856: 0	ORGVB	2775: 0	OVFL1	1068: 0
OVFL2	1527: 0	PART2	0201: 0	PHAS13	0201: 0	PHASLD	0381: 0	PREFIX	2616: 0	PROD	2564: 0
PUNCT	2633: 0	PUNCT2	2471: 0	PUNCT3	2746: 0	RWT	2174: 0	RWTC	2767: 0	SAVZON	2738: 0
SEMIC	2675: 0	SHORT	2250: 0	SHORT2	2235: 0	SKIPP	0960: 0	SKP2P2	1171: 0	SKP2P3	1693: 0
SNAPEX	0564: 0	SNAPSH	0333: 0	STMT	0937: 0	SUB	1583: 0	SUBADR	2567: 0	SUBER2	1093: 0
SUBFIN	1954: 0	SUBFN1	1950: 0	SUBFN2	1970: 0	SUBM2	1858: 0	SUBMOR	1851: 0	SUBNOT	1487: 0
SUBV1	1992: 0	SUBVAR	1682: 0	SUBVR2	1743: 0	SUBVR3	1767: 0	SUBVR4	1783: 0	SUBVR5	1840: 0
SWICH1	0956: 0	SWICH2	1332: 0	SX1	2681: 0	SYNTAX	1036: 0	TBLBOT	2606: 0	TOP3	2600: 0
TPERR	0728: 0	TPREAD	0704: 0	TSTCON	1656: 0	VARFIN	1445: 0	VARFN2	1453: 0	W2	2678: 0
W5	2737: 0	W5B	2772: 0	W6	2732: 0	X1	0089: 0	X2	0094: 0	X3	0099: 0
ZONES	2572: 0										

UNREFERENCED SYMBOLS

CDOVLY ORGVB PHASLD SNAPEX TOP3 TPERR TPREAD