```
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 EQU   *&1                                                    0201            GEN
160                LCA   )9J003,)6J003                                       7  0201  L 252 110  GEN      3   252     110
161                BCE   )6K003,)6K003,1      Q: LOADING FROM CARDS?         8  0208  B 700 700 1 GEN      3   700     700
162                BCE   )6K003,)6L003&4,0    Q: LOADING FROM AUTOCODER TAPE? 8  0216  B 700 708 0 GEN      3   700     708
163                RTW   1,BEGN13             READ THE BLOCK                 8  0224  L %U1 838 R GEN      3   %U1     838
164                BER   )6M003               Q: TAPE ERROR?                 5  0232  B 728 L     GEN      3   728
165                CS    LOADNX,)9R003        ENTER THE BLOCK                7  0237  / 700 258   GEN      4   700     258
166         )9J003 DCW   @VARBL ONE@          PHASE ID                       9  0252              GEN      4
167                DC    #1                                                1  0253              GEN      4
168                DC    @13.1@          PHASE NUMBER                      4  0257              GEN      4
169         )9R003 DCW   @}@                                               1  0258              GEN      4
170                XFR   PHAS13                                                  B 201             4   201
171         *
172                ORG   BEGIN3                                                    0838
173     838 BEGN13 MCW   83,X2                                               7  0838  M 083 094          5   083     094
174     845        MCW   X2,TBLBOT  SAVE BOTTOM OF ARRAY TABLE              7  0845  M 094 O15          5   094    2615
175     852        SW    GM                                                 4  0852  , N34              5  2534
176     856 NXTSTM BCE   DONE,0&X1,  NO MORE STATEMENTS?                    8  0856  B J38 0|0          5  2138     000+1
177     864        LCA   0&X1,PREFIX                                        7  0864  L 0|0 O25          5   000+1  2625
178     871        SAR   X1          TOP OF STATEMENT                     4  0871  Q 089              5   089
179     875        SBR   X3                                                 4  0875  H 099              6   099
180     879        LCA   PREFIX,0&X2  PUSH UP BELOW ARRAY TABLE            7  0879  L O25 0!0          6  2625     000+2
181     886        SBR   X2          AND SAVE THE NEXT AVAILABLE          4  0886  H 094              6   094
182     890        BCE   FORMAT,PREFIX-3,F  FORMAT STATEMENT?              8  0890  B M49 O22 F        6  2449    2622
183     898        SW    PREFIX-3                                           4  0898  , O22              6  2622
184     902        MCW   PREFIX-3,*&8                                       7  0902  M O22 916          6  2622     916
185     909        BCE   DATXFR,DATXFC,0  DATA TRANSFER STATEMENT?          8  0909  B J47 O32 0        7  2147    2632
186     917        CHAIN 6                                                                          MACRO
187                BCE                                                      1  0917  B                GEN      7
188                BCE                                                      1  0918  B                GEN      7
189                BCE                                                      1  0919  B                GEN      7
190                BCE                                                      1  0920  B                GEN      7
191                BCE                                                      1  0921  B                GEN      7
192                BCE                                                      1  0922  B                GEN      7
193         *
194         * NOT A DATA TRANSFER STATEMENT
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SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR

195         *
196    923          MCW   NOP,SWICH1  TURN OFF DATA TRANSFER          7  0923  M O33 956           7  2633     956
197    930          MCW   NOP,SWICH2    STATEMENT SWITCHES           7  0930  M O33 T32           7  2633    1332
198         *
199         * BACK HERE FOR EITHER DATA TRANSFER STATEMENT OR NOT
200         *
201    937  STMT    MCW   0&X1,CH    SKIP NUMERIC                    7  0937  M 0|0 O34           7   000+1  2634
202    944          SAR   X1           AND NON-ZONED PUNCTUATION     4  0944  Q 089               7   089
203    948          BWZ   STMT,CH,2      CHARACTERS                  8  0948  V 937 O34 2         8   937    2634
204    956  SWICH1  NOP   DATXF1     BRANCH IF DATA TRANSFER STATEMENT 4  0956  N J91               8  2191
205    960  SKIPP   MCW   CH,*&8       SKIP @*-&.%),                 7  0960  M O34 974           8  2634     974
206    967          BCE   STMT,PUNCT,0   PUNCTUATION                 8  0967  B 937 O42 0         8   937    2642
207    975          CHAIN 7                                                                 MACRO
208                 BCE                                             1  0975  B                GEN     8
209                 BCE                                             1  0976  B                GEN     8
210                 BCE                                             1  0977  B                GEN     8
211                 BCE                                             1  0978  B                GEN     8
212                 BCE                                             1  0979  B                GEN     8
213                 BCE                                             1  0980  B                GEN     8
214                 BCE                                             1  0981  B                GEN     8
215    982          BCE   FLTCON,CH,E  FLOATING-POINT CONSTANT?      8  0982  B K78 O34 E         9  2278    2634
216    990          BCE   GOTVAR,CH,}  GM (BOTTOM OF STMT)?          8  0990  B /19 O34 } GMARK   9  1119    2634
217    998          MCW   2&X1,CH2                                   7  0998  M 0|2 O43           9   002+1  2643
218  1 005          MCW   CH2,*&8                                    7  1005  M O43 |19           9  2643    1019
219  1 012          BCE   GOTVAR,PUNCT2,0  #,}*@&-%)                 8  1012  B /19 M80 0         9  1119    2480
220  1 020          CHAIN 8                                                                 MACRO
221                 BCE                                             1  1020  B                GEN     9
222                 BCE                                             1  1021  B                GEN    10
223                 BCE                                             1  1022  B                GEN    10
224                 BCE                                             1  1023  B                GEN    10
225                 BCE                                             1  1024  B                GEN    10
226                 BCE                                             1  1025  B                GEN    10
227                 BCE                                             1  1026  B                GEN    10
228                 BCE                                             1  1027  B                GEN    10
229  1 028          BCE   GOTVAR,PREFIX-3,D  DO STATEMENT?           8  1028  B /19 O22 D         10  1119    2622
230  1 036  SYNTAX  CS    332                                         4  1036  / 332               10   332
231  1 040          CS                                              1  1040  /                   10
232  1 041          SW    GLOBER      GLOBAL ERROR FLAG             4  1041  , 184               10   184
233  1 045          MN    PREFIX,240  SEQUENCE NUMBER TO PRINT LINE  7  1045  D O25 240           10  2625     240
234  1 052          MN                                              1  1052  D                   10
235  1 053          MN                                              1  1053  D                   10
236  1 054          MCW   ERROR9  VARIABLE SYNTAX ERROR             4  1054  M O80               10  2680
237  1 058          W                                               1  1058  2                   10
238  1 059          BCV   OVFL1                                     5  1059  B |68 @             11  1068
239  1 064          B     NOVFL1                                    4  1064  B |70               11  1070
240  1 068  OVFL1   CC    1                                         2  1068  F 1                 11
241  1 070  NOVFL1  BW    CW1S6,FLAG1  GO CLEAR FLAG 1 AND SET FLAG 6 8  1070  V Z38 M81 1         11  1938    2481
242  1 078          SBR   X1,1&X1                                   7  1078  H 089 0|1           11   089     001+1
243  1 085          SW    FLAG3                                     4  1085  , M83               11  2483
244  1 089          B     SKP2P2  SKIP TO PUNCT2 PUNCTUATION        4  1089  B /71               11  1171
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SEQ PG LIN  LABEL   OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR

245         *
246  1 093  SUBER2 LCA   K0Q0,0&X2  0?0                                      7  1093  L O83 0!0          12  2683     000+2
247  1 100         SBR   X2                                                  4  1100  H 094              12   094
248  1 104         SBR   X3,1&X1                                            7  1104  H 099 0|1          12   099     001+1
249  1 111         SBR   X1                                                 4  1111  H 089              12   089
250  1 115         B     VARFIN                                             4  1115  B U45              12  1445
251         *
252         * X1 IS AT THE GM AT THE BOTTOM OF THE STATEMENT, OR ONE BELOW
253         * THE TOP (FIRST) CHARACTER OF A VARIABLE.
254         * MOVE STUFF ABOVE AND FIRST CHARACTER UP.
255         *
256  1 119  GOTVAR SW    1&X1                                               4  1119  , 0|1              12   001+1
257  1 123         LCA   0&X3,0&X2  MOVE UP STUFF ABOVE (BEFORE) VAR        7  1123  L 0?0 0!0          12   000+3   000+2
258  1 130         SBR   X2                                                 4  1130  H 094              13   094
259  1 134         CW    1&X1                                               4  1134  ) 0|1              13   001+1
260  1 138         SBR   X3,1&X1    X3 NOW AT TOP (BEGN13ING) OF VARIABLE   7  1138  H 099 0|1          13   099     001+1
261  1 145         SBR   CHECK&6,2&X1                                       7  1145  H U74 0|2          13  1474     002+1
262  1 152         MCW   SEMIC      REPLACE CHAR ABOVE VARIABLE OR GM        4  1152  M O84              13  2684
263  1 156         BCE   ENDSTM,CH,}  END IF GM                            8  1156  B K22 O34 } GMARK  13  2222    2634
264  1 164         ZA    KP1,W2                                             7  1164  ? O85 O87          14  2685    2687
265         *
266 `       * COUNT CHARACTERS IN NAME
267         *
268  1 171  SKP2P2 MCW   0&X1,CH                                            7  1171  M 0|0 O34          14   000+1  2634
269  1 178         SAR   X1                                                 4  1178  Q 089              14   089
270  1 182         MCW   CH,*&8                                             7  1182  M O34 /96          14  2634    1196
271  1 189         BCE   GOTP2,PUNCT2,0  #,}*@&-%)                        8  1189  B S16 M80 0        14  1216    2480
272  1 197         CHAIN 8                                                                 MACRO
273               BCE                                                      1  1197  B                  GEN     14
274               BCE                                                      1  1198  B                  GEN     14
275               BCE                                                      1  1199  B                  GEN     14
276               BCE                                                      1  1200  B                  GEN     14
277               BCE                                                      1  1201  B                  GEN     14
278               BCE                                                      1  1202  B                  GEN     14
279               BCE                                                      1  1203  B                  GEN     15
280               BCE                                                      1  1204  B                  GEN     15
281  1 205         A     KP1,W2                                             7  1205  A O85 O87          15  2685    2687
282  1 212         B     SKP2P2                                             4  1212  B /71              15  1171
283         *
284  1 216  GOTP2  BW    SUBFN1,FLAG6                                       8  1216  V Z50 N79 1        15  1950    2579
285  1 224         BW    SUBER2,FLAG3                                       8  1224  V |93 M83 1        15  1093    2483
286  1 232         SW    2&X1       AT BOTTOM (LAST) CHAR OF TOKEN          4  1232  , 0|2              15   002+1
287  1 236         SAR   SX1        SAVE 1&X1 AT PUNCT BELOW NAME           4  1236  Q O90              15  2690
288         *
289         * LOOK FOR VARIABLE IN ARRAY TABLE.  X3 IS AT TOP (FIRST)
290         * CHARACTER OF THE VARIABLE.  CH IS CHARACTER BELOW (AFTER)
291         * THE VARIABLE.
292         *
293  1 240  LOOKUP MCW   TBLBOT,X1  GET BOTTOM OF ARRAY TABLE                7  1240  M O15 089          16  2615     089
294  1 247         BCE   ASG,CH,#   GO TURN OFF SWICH2 IF ASSIGNMENT STMT    8  1247  B K33 O34 #        16  2233    2634
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SEQ PG LIN  LABEL   OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR

295  1 255  LOOK2   BCE   NOTARR,2&X1,  AT END OF ARRAY TABLE?                8  1255  B T81 0|2          16  1381     002+1
296  1 263  MORE    MCM   2&X1                                               4  1263  P 0|2              16   002+1
297  1 267         MN                                                        1  1267  D                  16
298  1 268         MN                                                        1  1268  D                  16
299  1 269         SAR   X1                                                  4  1269  Q 089              16   089
300  1 273         BCE   MORE,1&X1,|                                        8  1273  B S63 0|1 |        17  1263     001+1
301  1 281         C     0&X3,0&X1                                           7  1281  C 0?0 0|0          17   000+3   000+1
302  1 288         BU    LOOK2                                               5  1288  B S55 /            17  1255
303  1 293         C     0&X1,0&X3                                           7  1293  C 0|0 0?0          17   000+1   000+3
304  1 300         BU    LOOK2                                               5  1300  B S55 /            17  1255
305  1 305         C     0&X1    GET X1 DOWN TO                              4  1305  C 0|0              17   000+1
306  1 309         CHAIN 3         OFFSET FIELD                                                  MACRO
307               C                                                         1  1309  C           GEN    17
308               C                                                         1  1310  C           GEN    17
309               C                                                         1  1311  C           GEN    17
310  1 312         SAR   X1                                                  4  1312  Q 089              18   089
311  1 316         BW    SUBVR2,FLAG2  WORKING ON VARIABLE SUBSCRIPT?        8  1316  V X43 M82 1        18  1743    2482
312  1 324         BCE   SUB,CH,%  SUBSCRIPTED                             8  1324  B V83 O34 %        18  1583    2634
313         *
314         * IN ARRAY TABLE, NOT SUBSCRIPTED
315         *
316  1 332  SWICH2 NOP   DATXF2  BRANCH IF DATA TRANSFER STATEMENT           4  1332  N T58              18  1358
317  1 336         LCA   9&X1,1&X2  ADDR OF LOW DIGIT OF FIRST ARRAY ELT     7  1336  L 0|9 0!1          18   009+1   001+2
318  1 343         SBR   X2                                                  4  1343  H 094              18   094
319  1 347  LOOKFN MCW   SX1,X1                                             7  1347  M O90 089          19  2690     089
320  1 354         B     VARFIN                                              4  1354  B U45              19  1445
321         *
322         * WHOLE ARRAY
323         *
324  1 358  DATXF2 LCA   9&X1,1&X2  ADDR OF LOW DIGIT OF FIRST ARRAY ELT     7  1358  L 0|9 0!1          19   009+1   001+2
325  1 365         LCA   3&X1       ADDR OF LOW DIGIT OF LAST ARRAY ELT     4  1365  L 0|3              19   003+1
326  1 369         SBR   X2                                                  4  1369  H 094              19   094
327  1 373         CW    4&X2       BETWEEN ADDRESSES                       4  1373  ) 0!4              19   004+2
328  1 377         B     LOOKFN                                              4  1377  B T47              19  1347
329         *
330         * NOT IN ARRAY TABLE.  X2 IS TWO BELOW THE PUNCTUATION BEFORE
331         * THE VARIABLE OR PREFIX MOVED TO BE BELOW THE ARRAY TABLE.
332         *
333  1 381  NOTARR MCW   SX1,X1                                             7  1381  M O90 089          20  2690     089
334  1 388         BW    SUBVR3,FLAG2  WORKING ON VARIABLE SUBSCRIPT?        8  1388  V X67 M82 1        20  1767    2482
335  1 396         BCE   SUBNOT,CH,%                                       8  1396  B U87 O34 %        20  1487    2634
336  1 404         LCA   KBUNDR,1&X2  BLANK, UNDERSCORE                     7  1404  L O92 0!1          20  2692     001+2
337  1 411         SBR   X2                                                  4  1411  H 094              20   094
338  1 415  NOTAR2 LCA   0&X3,1&X2    MOVE VARIABLE UP                        7  1415  L 0?0 0!1          21   000+3   001+2
339  1 422         SBR   X2                                                  4  1422  H 094              21   094
340  1 426         CW    1&X2                                                4  1426  ) 0!1              21   001+2
341  1 430         S     KP2,W2                                              7  1430  S O93 O87          21  2693    2687
342  1 437         BM    SHORT,W2     VARIABLE NAME IS SHORT                 8  1437  V K59 O87 K        21  2259    2687
343  1 445  VARFIN CW    1&X1                                                4  1445  ) 0|1              21   001+1
344  1 449         SAR   X3                                                  4  1449  Q 099              21   099
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SEQ PG LIN  LABEL   OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR

345  1 453  VARFN2 CW    1&X2                                                 4  1453  ) 0!1              22   001+2
346  1 457         CW    FLAG4,FLAG3                                          7  1457  ) N77 M83          22  2577    2483
347  1 464         CW    FLAG5                                                4  1464  ) N78              22  2578
348  1 468  CHECK  BCE   STMT,0,;     SEMICOLON?                             8  1468  B 937 000 ;        22   937     000
349  1 476         MCW   DOLLAR,X1                                           7  1476  M O94 089          22  2694     089
350  1 483         B     DONE                                                 4  1483  B J38              22  2138
351         *
352         * NOT IN ARRAY TABLE, BUT APPEARS TO BE SUBSCRIPTED
353         *
354  1 487  SUBNOT BCE   NOTAR2,1&X1,F  LAST CHAR OF VAR SAYS FUNCTION?      8  1487  B U15 0|1 F        23  1415     001+1
355  1 495         CS    332                                                  4  1495  / 332              23   332
356  1 499         CS                                                         1  1499  /                  23
357  1 500         SW    GLOBER                                               4  1500  , 184              23   184
358  1 504         MN    PREFIX,240                                           7  1504  D O25 240          23  2625     240
359  1 511         MN                                                         1  1511  D                  23
360  1 512         MN                                                         1  1512  D                  23
361  1 513         MCW   ERROR6                                              4  1513  M P31              23  2731
362  1 517         W                                                          1  1517  2                  23
363  1 518         BCV   OVFL2                                                5  1518  B V27 @            23  1527
364  1 523         B     NOVFL2                                               4  1523  B V29              24  1529
365  1 527  OVFL2  CC    1                                                    2  1527  F 1                24
366  1 529  NOVFL2 LCA   KPCT3Z,1&X2    %000                                 7  1529  L P35 0!1          24  2735     001+2
367  1 536         SBR   X2                                                   4  1536  H 094              24   094
368  1 540         MZ    SAVZON,3&X2                                          7  1540  Y P47 0!3          24  2747     003+2
369  1 547  GETEND BCE   ENDSUB,0&X1,)  END OF SUBSCRIPT?                    8  1547  B V71 0|0 )        24  1571     000+1
370  1 555         BCE   ENDST2,0&X1,}  END OF STATEMENT?                    8  1555  B K14 0|0 } GMARK  25  2214     000+1
371  1 563         SBR   X1                                                   4  1563  H 089              25   089
372  1 567         B     GETEND                                               4  1567  B V47              25  1547
373  1 571  ENDSUB MN    0&X1  X1 NOW BELOW SUBSCRIPT                         4  1571  D 0|0              25   000+1
374  1 575         SAR   X1                                                   4  1575  Q 089              25   089
375  1 579         B     VARFN2                                               4  1579  B U53              25  1453
376         *
377         * IN ARRAY TABLE AND SUBSCRIPTED
378         *
379  1 583  SUB    ZA    0&X1,W6  HIGH DIGIT OF FIRST ARRAY ELEMENT           7  1583  ? 0|0 P41          25   000+1  2741
380  1 590         SAR   X3       X3 NOW AT FIRST DIMENSION                   4  1590  Q 099              25   099
381  1 594         SW    FLAG7    IN ARRAY TABLE AND SUBSCRIPTED              4  1594  , P58              26  2758
382  1 598         ZA    0&X3,W5  FIRST DIMENSION TO W5                      7  1598  ? 0?0 P46          26   000+3  2746
383  1 605         ZA    5&X1,PROD-7  ELEMENT SIZE                           7  1605  ? 0|5 N66          26   005+1  2566
384  1 612         S     KP1,W6                                               7  1612  S O85 P41          26  2685    2741
385  1 619         MZ    8&X1,SAVZON  TYPE TAG OF ARRAY                       7  1619  Y 0|8 P47          26   008+1  2747
386  1 626         MCW   SX1,X1   X1 BACK TO STATEMENT                       7  1626  M O90 089          26  2690     089
387  1 633         LCA   KBDOLR,1&X2  BLANK, $ INDICATES SUBSCRIPT           7  1633  L P49 0!1          27  2749     001+2
388  1 640         SBR   X2                                                   4  1640  H 094              27   094
389  1 644         MN    0&X1                                                 4  1644  D 0|0              27   000+1
390  1 648         SAR   X1                                                   4  1648  Q 089              27   089
391  1 652         SBR   X3                                                   4  1652  H 099              27   099
392  1 656  TSTCON BWZ   SUBMOR,0&X1,2  CONSTANT SUBSCRIPT?                   8  1656  V Y51 0|0 2        27  1851     000+1
393  1 664         SBR   X1,2&X1                                              7  1664  H 089 0|2          27   089     002+1
394  1 671         LCA   KSTAR1,0&X1  STAR, 1 (1 IS PREV DIM WIDTH)          7  1671  L P51 0|0          28  2751     000+1
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SEQ PG LIN  LABEL   OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR

395  1 678         B     SUBMOR                                              4  1678  B Y51              28  1851
396         *
397         * CONTINUE VARIABLE SUBSCRIPT PROCESSING
398         *
399  1 682  SUBVAR LCA   KBUNDR,1&X2  BLANK, UNDERSCORE INDICATES VARIABLE    7  1682  L O92 0!1          28  2692     001+2
400  1 689         SBR   X2                                                  4  1689  H 094              28   094
401         *
402         * GET DOWN TO THE BOTTOM OF THE VARIABLE
403         *
404  1 693  SKP2P3 MCW   0&X1,CH                                             7  1693  M 0|0 O34          28   000+1  2634
405  1 700         SAR   X1                                                  4  1700  Q 089              28   089
406  1 704         MCW   CH,*&8                                              7  1704  M O34 X18          29  2634    1718
407  1 711         BCE   GOTP3,PUNCT3,0   -&),                             8  1711  B X26 P55 0        29  1726    2755
408  1 719         CHAIN 3                                                                 MACRO
409               BCE                                                       1  1719  B          GEN     29
410               BCE                                                       1  1720  B          GEN     29
411               BCE                                                       1  1721  B          GEN     29
412  1 722         B     SKP2P3                                              4  1722  B W93              29  1693
413  1 726  GOTP3  SW    2&X1                                                4  1726  , 0|2              29   002+1
414  1 730         SW                                                        1  1730  ,                  29
415  1 731         SAR   SX1                                                 4  1731  Q O90              29  2690
416  1 735         SW    FLAG2  WORKING ON VARIABLE SUBSCRIPT                4  1735  , M82              29  2482
417  1 739         B     LOOKUP                                              4  1739  B S40              29  1240
418         *
419  1 743  SUBVR2 LCA   9&X1,2&X2                                           7  1743  L 0|9 0!2          30   009+1   002+2
420  1 750         SBR   X2                                                  4  1750  H 094              30   094
421  1 754         CW    1&X2                                                4  1754  ) 0!1              30   001+2
422  1 758         MN                                                        1  1758  D                  30
423  1 759         SAR   X2                                                  4  1759  Q 094              30   094
424  1 763         B     SUBVR4                                              4  1763  B X83              30  1783
425         *
426         * MOVE SUBSCRIPT UP
427         *
428  1 767  SUBVR3 LCA   0&X3,1&X2                                           7  1767  L 0?0 0!1          30   000+3   001+2
429  1 774         LCA                                                       1  1774  L                  30
430  1 775         SBR   X2                                                  4  1775  H 094              30   094
431  1 779         CW    2&X2                                                4  1779  ) 0!2              31   002+2
432  1 783  SUBVR4 MCW   SX1,X1                                             7  1783  M O90 089          31  2690     089
433  1 790         CW    2&X1                                                4  1790  ) 0|2              31   002+1
434  1 794         BCE   SHORT2,3&X2,_                                      8  1794  B K44 0!3 _        31  2244     003+2
435  1 802         LCA   KBCOMM,1&X2  BLANK, COMMA                          7  1802  L P57 0!1          31  2757     001+2
436  1 809         SBR   X2                                                  4  1809  H 094              31   094
437  1 813         CW    FLAG2  DONE WORKING ON VARIABLE SUBSCRIPT           4  1813  ) M82              31  2482
438  1 817         BCE   MORSUB,CH,,                                         8  1817  B M17 O34 ,        32  2417    2634
439  1 825         BCE   SUBFIN,CH,)                                         8  1825  B Z54 O34 )        32  1954    2634
440  1 833         MZ    CH,PROD-7                                           7  1833  Y O34 N66          32  2634    2566
441  1 840  SUBVR5 MCW   X1,X3                                              7  1840  M 089 099          32   089     099
442  1 847         B     TSTCON                                              4  1847  B W56              32  1656
443         *
444         * CONTINUE SUBSCRIPT PROCESSING
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SEQ PG LIN  LABEL  OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR

445         *
446  1 851  SUBMOR SBR   X3,BIGWRK-2                                 7  1851  H 099 M82           33   099    2482
447  1 858  SUBM2  MCW   0&X1,CH   MOVE SUBSCRIPT                    7  1858  M 0|0 O34           33   000+1  2634
448  1 865         SAR   X1          TO BIGWRK PUTTING               4  1865  Q 089               33   089
449  1 869         MCW   CH,2&X3       ITS CHARACTERS               7  1869  M O34 0?2           33  2634     002+3
450  1 876         SBR   X3              INTO FORWARD ORDER          4  1876  H 099               33   099
451  1 880         BWZ   SUBM2,0&X1,2  CONSTANT SUBSCRIPT?           8  1880  V Y58 0|0 2         33  1858     000+1
452  1 888         SBR   X1                                          4  1888  H 089               34   089
453  1 892         M     PROD-7,7&X3                                 7  1892  @ N66 0?7           34  2566     007+3
454  1 899         BCE   SUBV1,1&X1,*   FIRST VARIABLE SUBSCRIPT?    8  1899  B Z92 0|1 *         34  1992     001+1
455  1 907         A     7&X3,W6        ADD TO OFFSET FROM ARRAY BASE 7  1907  A 0?7 P41           34   007+3  2741
456  1 914         BCE   SUBFIN,1&X1,)  DONE WITH SUBSCRIPTS?        8  1914  B Z54 0|1 )         34  1954     001+1
457  1 922         BCE   MORSUB,1&X1,,  SECOND SUBSCRIPT?           8  1922  B M17 0|1 ,         35  2417     001+1
458  1 930         SW    FLAG1                                       4  1930  , M81               35  2481
459  1 934         B     SYNTAX                                      4  1934  B |36               35  1036
460         *
461  1 938  CW1S6  CW    FLAG1                                       4  1938  ) M81               35  2481
462  1 942         SW    FLAG6                                       4  1942  , N79               35  2579
463  1 946         B     SKP2P2                                      4  1946  B /71               35  1171
464         *
465  1 950  SUBFN1 CW    FLAG6                                       4  1950  ) N79               35  2579
466  1 954  SUBFIN NOP   W6-7                                       4  1954  N P34               35  2734
467  1 958         SAR   X3                                          4  1958  Q 099               36   099
468  1 962         SW    FLAG4        MOVING VARIABLE SUBSCRIPT      4  1962  , N77               36  2577
469  1 966         B     NORMLZ                                      4  1966  B !29               36  2029
470  1 970  SUBFN2 LCA   DOLLAR,0&X2  MARK END OF SUBSCRIPT          7  1970  L O94 0!0           36  2694     000+2
471  1 977         SBR   X2                                          4  1977  H 094               36   094
472  1 981         MZ    SAVZON,3&X2                                 7  1981  Y P47 0!3           36  2747     003+2
473  1 988         B     VARFIN                                      4  1988  B U45               36  1445
474         *
475         * FIRST VARIABLE SUBSCRIPT
476         *
477  1 992  SUBV1  CW    1&X1,FLAG7                                  7  1992  ) 0|1 P58           37   001+1  2758
478  1 999         B     NORMLZ                                      4  1999  B !29               37  2029
479  2 003         LCA   KBSTAR,0&X2                                 7  2003  L P60 0!0           37  2760     000+2
480  2 010         SBR   X2                                          4  2010  H 094               37   094
481  2 014         CW    1&X2                                        4  2014  ) 0!1               37   001+2
482  2 018         MCW   X1,X3                                       7  2018  M 089 099           37   089     099
483  2 025         B     SUBVAR                                      4  2025  B W82               37  1682
484         *
485         * NORMALIZE OFFSET BETWEEN 0 AND 15999, STORE IT
486         * INTO CODE AT TOP OF CORE.
487         *
488  2 029  NORMLZ SBR   NORMLX&3                                    4  2029  H J37               38  2137
489  2 033  NORMLP S     KP16K,7&X3     SUBTRACT 16000               7  2033  S P65 0?7           38  2765     007+3
490  2 040         BWZ   NORMLP,7&X3,B    UNTIL NEGATIVE            8  2040  V !33 0?7 B         38  2033     007+3
491  2 048  NORMLN A     KP16K,7&X3     ADD 16000                    7  2048  A P65 0?7           38  2765     007+3
492  2 055         BM    NORMLN,7&X3      UNTIL POSITIVE             8  2055  V !48 0?7 K         38  2048     007+3
493  2 063         BW    CVTADR,FLAG4   MOVING VARIABLE SUBSCRIPT?   8  2063  V L14 N77 1         39  2314    2577
494  2 071  NORTRM SBR   X3,1&X3        TRIM LEADING                 7  2071  H 099 0?1           39   099     001+3
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SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR

495  2 078         BCE   NORTRM,2&X3,0    ZEROES                            8  2078  B !71 0?2 0         39  2071     002+3
496  2 086         SBR   X2,1&X2                                            7  2086  H 094 0!1           39   094     001+2
497  2 093         LCA   KB6                                               4  2093  L P71               39  2771
498  2 097  NORREV MCW   2&X3,CH   MOVE NORMALIZED                         7  2097  M 0?2 O34           40   002+3  2634
499  2 104         SAR   X3          OFFSET UP                            4  2104  Q 099               40   099
500  2 108         MCW   CH,0&X2       WHILE REVERSING                   7  2108  M O34 0!0           40  2634     000+2
501  2 115         SBR   X2              THE DIGITS                        4  2115  H 094               40   094
502  2 119         BWZ   NORREV,1&X3,2                                     8  2119  V !97 0?1 2         40  2097     001+3
503  2 127         MZ    KB1,1&X2  CLOBBER LAST DIGIT ZONE                 7  2127  Y P66 0!1           40  2766     001+2
504  2 134  NORMLX B     0-0                                               4  2134  B 000               41   000
505         *
506         * TAPE BLOCK IS TOO BIG FOR CHM TAU EMULATOR
507         *
508         END1   DCW   @}@                                               1  2138                GMARK   41
509                XFR   LOADNX        LOAD THIS                                   B 700                 43   700
510         PART2  LDPH  ,DONE,BEGN13,,,13.2  LOAD PART2 AND START IN PART 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
511         )6K004 EQU   700  LOAD NEXT PHASE                                 0700              GEN
512         )6L004 EQU   704  TAPE READ INSTRUCTION                           0704              GEN
513         )6M004 EQU   728  TAPE ERROR HANDLER                              0728              GEN
            *                                                                                   GEN
514                ORG   201                                                        0201
515         PART2  EQU   *&1                                                  0201              GEN
516                BCE   )6K004,)6K004,1      Q: LOADING FROM CARDS?         8  0201  B 700 700 1 GEN     44   700      700
517                BCE   )6K004,)6L004&4,0    Q: LOADING FROM AUTOCODER TAPE? 8  0209  B 700 708 0 GEN     44   700      708
518                RTW   1,DONE             READ THE BLOCK                   8  0217  L %U1 J38 R GEN     44   %U1     2138
519                BER   )6M004               Q: TAPE ERROR?                 5  0225  B 728 L     GEN     44   728
520                CS    BEGN13,)9R004        ENTER THE BLOCK                7  0230  / 838 242   GEN     44   838      242
521                DC    #1                                                 1  0237              GEN     44
522                DC    @13.2@          PHASE NUMBER                       4  0241              GEN     45
523         )9R004 DCW   @}@                                               1  0242              GEN     45
524                XFR   PART2                                                     B 201               45   201
525                ORG   END1                                                       2138
526         *
527         * DONE
528         *
529  2 138  DONE   BSS   SNAPSH,C                                           5  2138  B 333 C             46   333
530  2 164         B     LOADNX                                            4  2143  B 700               46   700
531         *
532         * DATA TRANSFER INPUT/OUTPUT STATEMENT
533         *
534  2 168  DATXFR MCW   BRANCH,SWICH1  TURN ON DATA TRANSFER               7  2147  M P72 956           46  2772      956
535  2 175         MCW   BRANCH,SWICH2    STATEMENT SWITCHES                7  2154  M P72 T32           46  2772     1332
536  2 182         MCW   PREFIX-3,*&8                                       7  2161  M O22 J75           46  2622     2175
537  2 189         BCE   RWT,RWTC,0  READ/WRITE (INPUT/OUTPUT) TAPE?        8  2168  B J83 P76 0         46  2183     2776
538  2 197         CHAIN 3                                                                  MACRO
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SEQ PG LIN  LABEL   OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR

539            BCE                                                    1  2176  B           GEN     46
540            BCE                                                    1  2177  B           GEN     47
541            BCE                                                    1  2178  B           GEN     47
542  2 200     B     STMT  READ, PRINT OR PUNCH                       4  2179  B 937               47   937
543  2 204 RWT SW    FLAG5                                            4  2183  , N78               47  2578
544  2 208     B     STMT                                             4  2187  B 937               47   937
545  2 212 DATXF1 BCE  DATXRP,CH,)                                    8  2191  B K03 O34 )         47  2203    2634
546  2 220     B     SKIPP  GO SKIP PUNCTUATION                       4  2199  B 960               47   960
547  2 224 DATXRP MCW  BRANCH,SWICH2                                  7  2203  M P72 T32           47  2772    1332
548  2 231     B     SKIPP  GO SKIP PUNCTUATION                       4  2210  B 960               47   960
549       *
550       * BOTTOM (END) OF STATEMENT
551       *
552  2 235 ENDST2 MN    0&X2                                          4  2214  D 0!0               48   000+2
553  2 239     SAR   X2                                               4  2218  Q 094               48   094
554  2 243 ENDSTM LCA   GM,1&X2                                       7  2222  L N34 0!1           48  2534     001+2
555  2 250     B     NXTSTM                                           4  2229  B 856               48   856
556       *
557       * SAW ASSIGNMENT OPERATOR (#)
558       *
559  2 254 ASG   MCW   NOP,SWICH2                                     7  2233  M O33 T32           48  2633    1332
560  2 261     B     LOOK2                                            4  2240  B S55               48  1255
561       *
562       * MAKE SURE AT LEAST 3 CHARACTERS
563       *
564  2 265 SHORT2 LCA   KB2,1&X2                                      7  2244  L P67 0!1           48  2767     001+2
565  2 272     SBR   X2                                               4  2251  H 094               49   094
566  2 276     B     SUBVR4                                           4  2255  B X83               49  1783
567       *
568       * VARIABLE NAME IS SHORT -- WE NEED AT LEAST THREE SPACES
569       *
570  2 280 SHORT  LCA   KB1,0&X2                                      7  2259  L P66 0!0           49  2766     000+2
571  2 287     SBR   X2                                               4  2266  H 094               49   094
572  2 291     CW    1&X2                                             4  2270  ) 0!1               49   001+2
573  2 295     B     VARFIN                                           4  2274  B U45               49  1445
574       *
575       * LOOKS LIKE A FLOATING-POINT CONSTANT
576       *
577  2 299 FLTCON BCE   GOTVAR,2&X1,#                                 8  2278  B /19 0|2 #         49  1119     002+1
578  2 307     BCE   GOTVAR,2&X1,@                                    8  2286  B /19 0|2 @         50  1119     002+1
579  2 315     BWZ   STMT,2&X1,2                                      8  2294  V 937 0|2 2         50   937     002+1
580  2 323     BCE   STMT,2&X1,.                                     8  2302  B 937 0|2 .         50   937     002+1
581  2 331     B     GOTVAR                                           4  2310  B /19               50  1119
582       *
583       * CONVERT BIGWRK TO MACHINE ADDRESS
584       *
585  2 335 CVTADR MCW   7&X3,W5B                                      7  2314  M 0?7 P81           50   007+3  2781
586  2 342     MN    W5B,SUBADR                                       7  2321  D P81 N76           51  2781    2576
587  2 349     MN                                                     1  2328  D                   51
588  2 350     MN                                                     1  2329  D                   51
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SEQ PG LIN  LABEL   OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR

589  2 351          SAR   *&4                                               4  2330  Q L37               51  2337
590  2 355          MCW   0-0,X3  THOUSANDS                                 7  2334  M 000 099           51   000     099
591  2 362          MCW   K0        AND A ZERO TO X3                       4  2341  M P82               51  2782
592  2 366          A     X3      DOUBLE X3                                4  2345  A 099               51   099
593  2 370          MZ    ZONES&1&X3,SUBADR                                7  2349  Y NH2 N76           51  2582+3  2576
594  2 377          CW                                                     1  2356  )                   51
595  2 378          SBR   *&7                                               4  2357  H L67               52  2367
596  2 382          MZ    ZONES&X3,0-0                                     7  2361  Y NH1 000           52  2581+3   000
597  2 389          BCE   CVTAD2,2&X2,,                                    8  2368  B L83 0!2 ,         52  2383     002+2
598  2 397          SBR   X2,1&X2                                          7  2376  H 094 0!1           52   094     001+2
599  2 404  CVTAD2  LCA   SUBADR,1&X2                                      7  2383  L N76 0!1           52  2576     001+2
600  2 411          SBR   X2                                               4  2390  H 094               52   094
601  2 415          CW    1&X2                                             4  2394  ) 0!1               53   001+2
602  2 419          MZ    SAVZON,2&X2                                      7  2398  Y P47 0!2           53  2747     002+2
603  2 426          BW    VARFIN,FLAG7  IN ARRAY TABLE AND SUBSCRIPTED?    8  2405  V U45 P58 1         53  1445    2758
604  2 434          B     SUBFN2                                           4  2413  B Z70               53  1970
605          *
606          * SAW A COMMA, HERE COMES ANOTHER SUBSCRIPT
607          *
608  2 438  MORSUB MZ    *-4,PROD-7                                       7  2417  Y M19 N66           53  2419    2566
609  2 445          M     W5,PROD-1                                        7  2424  @ P46 N72           53  2746    2572
610  2 452          MCM   PROD-5,PROD-11                                   7  2431  P N68 N62           54  2568    2562
611  2 459          S     PROD-7,W6                                        7  2438  S N66 P41           54  2566    2741
612  2 466          B     SUBVR5                                           4  2445  B Y40               54  1840
613          *
614          * FORMAT STATEMENT -- JUST COPY IT
615          *
616  2 470  FORMAT  LCA   0&X1,0&X2  COPY STMT BELOW ARRAY TABLE           7  2449  L 0|0 0!0           54   000+1   000+2
617  2 477          SBR   X2         SAVE NEXT 'TO' ADDRESS                4  2456  H 094               54   094
618  2 481          C     0&X1       GET TO BOTTOM OF STATEMENT            4  2460  C 0|0               54   000+1
619  2 485          SAR   X1         SAVE TOP OF NEXT STATEMENT            4  2464  Q 089               54   089
620  2 489          B     NXTSTM                                           4  2468  B 856               55   856
621          *
622          * DATA
623          *
624  2 501  PUNCT2  DCW   @#,}*@&-%)@                                      9  2480                      55
625  2 502  FLAG1   DC    #1  SYNTAX ERROR AFTER FIRST SUBSCRIPT           1  2481                      55
626  2 503  FLAG2   DC    #1                                               1  2482                      55
627  2 504  FLAG3   DC    #1                                               1  2483                      55
628  2 505  BIGWRK  DCW   #1                                               1  2484                      55
629  2 554          DC    #49                                             49  2533                      57
630  2 555  GM      DC    @}@                                              1  2534            GMARK     57
631  2 561          DCW   @ERROR @                                         6  2540                      57
632  2 582          DCW   @ VARIABLE, STATEMENT @                        21  2561                      57
633  2 594  PROD    DCW   @           |@                                  12  2573                      58
634  2 597  SUBADR  DCW   #3  SUBSCRIPT VARIABLE ADDRESS                  3  2576                      58
635  2 598  FLAG4   DC    #1  MOVING VARIABLE SUBSCRIPT                    1  2577                      58
636  2 599  FLAG5   DC    #1                                               1  2578                      58
637  2 600  FLAG6   DC    #1                                               1  2579                      58
638  2 602  ZONES   DCW   @ 9@                                            2  2581                      58
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SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR
639  2 633         DCW   @9Z9R9I99ZZZRZIZ9RZRRRIR9IZIRIII@                   31  2612                      59
640  2 636  TBLBOT DCW   #3  BOTTOM OF THE ARRAY TABLE                       3  2615                      59
641  2 646  PREFIX DCW   #10                                                10  2625                      60
642  2 653  DATXFC DCW   @3L5UP61@  CODES FOR DATA TRANSFER STATEMENTS       7  2632                      60
643  2 654  NOP    NOP                                                      1  2633  N                   60
644  2 655  CH     DCW   #1                                                 1  2634                      60
645  2 663  PUNCT  DCW   @@*-&.%),@  PUNCTUATION CHARACTERS                 8  2642                      60
646  2 664  CH2    DCW   #1                                                 1  2643                      60
647  2 701  ERROR9 DCW   @ERROR 9 - VARIABLE SYNTAX, STATEMENT @           37  2680                      61
648  2 704  K0Q0   DSA   0&X3                                              3  2683  0?0                 62   000
649  2 705  SEMIC  DCW   @;@  SEMICOLON                                     1  2684                      62
650  2 706  KP1    DCW   &1                                                1  2685                      62
651  2 708  W2     DCW   #2                                                 2  2687                      62
652  2 711  SX1    DCW   #3                                                 3  2690                      62
653  2 713  KBUNDR DCW   @ _@  BLANK, UNDERSCORE                           2  2692                      62
654  2 714  KP2    DCW   &2                                                1  2693                      62
655  2 715  DOLLAR DCW   @$@                                               1  2694                      62
656  2 752  ERROR6 DCW   @ERROR 6 - UNDEFINED ARRAY, STATEMENT @           37  2731                      63
657  2 756  KPCT3Z DCW   @%000@                                            4  2735                      64
658  2 762  W6     DCW   #6                                                 6  2741                      64
659  2 767  W5     DCW   #5                                                 5  2746                      64
660  2 768  SAVZON DCW   #1                                                 1  2747                      64
661  2 770  KBDOLR DCW   @ $@                                              2  2749                      64
662  2 772  KSTAR1 DCW   @*1@                                              2  2751                      64
663  2 776  PUNCT3 DCW   @-&),@                                            4  2755                      64
664  2 778  KBCOMM DCW   @ ,@                                              2  2757                      64
665  2 779  FLAG7  DCW   #1  WM MEANS IN ARRAY TABLE AND SUBSCRIPTED        1  2758                      64
666  2 781  KBSTAR DCW   @ *@                                              2  2760                      64
667  2 786  KP16K  DCW   @1600?@                                           5  2765                      64
668  2 787  KB1    DCW   #1                                                 1  2766                      64
669  2 788  KB2    DC    #1                                                 1  2767                      64
670  2 792  KB6    DC    #4                                                 4  2771                      65
671  2 802  BRANCH B                                                       1  2772  B                   65
672  2 806  RWTC   DCW   @1356@  READ/WRITE (INPUT/OUTPUT) TAPE CODES       4  2776                      65
673  2 811  W5B    DCW   #5                                                 5  2781                      65
674  2 812  K0     DCW   0                                                  1  2782                      65
675  2 813  GMWM   DCW   @}@                                               1  2783        GMARK         65
676 *       ORGVB  EQU   *&1  MOKOTOFF V3M0.LST LINE 2959                     2784
677                XFR   BEGN13                                                  B 838                 66   838
678         CLRME  CLRA  BEGN13,GMWM                                                 MACRO
            *      CLRA  CLRBOT,CLRTOP[,ORG,GMWMAD]                                  GEN
            *                                                                       GEN
            * CLEAR CORE AFTER A PHASE USING THE CLRTOP ADDRESS                     GEN
            *                                                                       GEN
679                ORG   201                                                      0201
            *                                                                       GEN
            * CLEAR DOWN TO CLRBOT & X00 THE EASY WAY                               GEN
            *                                                                       GEN
680         CLRME  EQU   *&1                                                  0201  GEN
681         )0J005 CS    GMWM         CLEAR FROM CLRTOP                       4  0201  / P83       GEN     67  2783
```

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

682                 SBR   )0J005&3                                      4  0205  H 204       GEN     67   204
683                 SBR   )0L005&6                                      4  0209  H 250       GEN     67   250
684                 C     )0J005&3,)0M005   DOWN TO CLRBOT & X00?       7  0213  C 204 261   GEN     67   204     261
685                 BU    )0J005                                       5  0220  B 201 /     GEN     67   201
            *                                                                                 GEN
            * NOW CLEAR DOWN TO CLRBOT THE HARD WAY                                          GEN
            *                                                                                 GEN
686         )0K005  C     )0L005&6,)0N005                               7  0225  C 250 264   GEN     67   250     264
687                 BU    )0L005                                       5  0232  B 244 /     GEN     67   244
688                 CS    LOADNX,)0Q005  LOAD THE NEXT BLOCK AT 1      7  0237  / 700 271   GEN     68   700     271
689         )0L005  LCA   )0P005,0-0     CLEAR WITH BLANK AND WORD MARK 7  0244  L 265 000   GEN     68   265     000
690                 SBR   )0L005&6                                      4  0251  H 250       GEN     68   250
691                 B     )0K005                                       4  0255  B 225       GEN     68   225
692         )0M005  DSA   )0R005         CLRBOT & X00 - 1             3  0261  899         GEN     68   899
693         )0N005  DSA   BEGN13         CLRBOT                       3  0264  838         GEN     68   838
694         )0P005  DCW   #1                                          1  0265              GEN     68
695                 DC    @CLRA @     IDENTIFY IN A DECK, TAPE, OR DUMP 5  0270              GEN     68
696         )0Q005  DCW   @}@                                         1  0271              GEN     68
697                 ORG   BEGN13&X00                                          0900
698         )0R005  EQU   *           CLRBOT & X00 - 1                    0899              GEN
699                 XFR   CLRME                                                 B 201               69   201
```

SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS
)0J005	0201: 0	)0K005	0225: 0	)0L005	0244: 0	)0M005	0261: 0	)0N005	0264: 0	)0P005	0265: 0
)0Q005	0271: 0	)0R005	0899: 0	)6J003	0110: 0	)6K003	0700: 0	)6K004	0700: 0	)6L003	0704: 0
)6L004	0704: 0	)6M003	0728: 0	)6M004	0728: 0	)9J003	0252: 0	)9R003	0258: 0	)9R004	0242: 0
ASG	2233: 0	BEGIN3	0838: 0	BEGN13	0838: 0	BIGWRK	2484: 0	BRANCH	2772: 0	CDOVLY	0700: 0
CH	2634: 0	CH2	2643: 0	CHECK	1468: 0	CLRME	0201: 0	CVTAD2	2383: 0	CVTADR	2314: 0
CW1S6	1938: 0	DATXF1	2191: 0	DATXF2	1358: 0	DATXFC	2632: 0	DATXFR	2147: 0	DATXRP	2203: 0
DOLLAR	2694: 0	DONE	2138: 0	END1	2138: 0	ENDST2	2214: 0	ENDSTM	2222: 0	ENDSUB	1571: 0
ERROR6	2731: 0	ERROR9	2680: 0	FLAG1	2481: 0	FLAG2	2482: 0	FLAG3	2483: 0	FLAG4	2577: 0
FLAG5	2578: 0	FLAG6	2579: 0	FLAG7	2758: 0	FLTCON	2278: 0	FORMAT	2449: 0	GETEND	1547: 0
GLOBER	0184: 0	GM	2534: 0	GMWM	2783: 0	GOTP2	1216: 0	GOTP3	1726: 0	GOTVAR	1119: 0
K0	2782: 0	K0Q0	2683: 0	KB1	2766: 0	KB2	2767: 0	KB6	2771: 0	KBCOMM	2757: 0
KBDOLR	2749: 0	KBSTAR	2760: 0	KBUNDR	2692: 0	KP1	2685: 0	KP16K	2765: 0	KP2	2693: 0
KPCT3Z	2735: 0	KSTAR1	2751: 0	LOADNX	0700: 0	LOOK2	1255: 0	LOOKFN	1347: 0	LOOKUP	1240: 0
MORE	1263: 0	MORSUB	2417: 0	NOP	2633: 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	2784: 0	OVFL1	1068: 0	OVFL2	1527: 0	PART2	0201: 0
PHAS13	0201: 0	PHASLD	0381: 0	PREFIX	2625: 0	PROD	2573: 0	PUNCT	2642: 0	PUNCT2	2480: 0
PUNCT3	2755: 0	RWT	2183: 0	RWTC	2776: 0	SAVZON	2747: 0	SEMIC	2684: 0	SHORT	2259: 0
SHORT2	2244: 0	SKIPP	0960: 0	SKP2P2	1171: 0	SKP2P3	1693: 0	SNAPEX	0564: 0	SNAPSH	0333: 0
STMT	0937: 0	SUB	1583: 0	SUBADR	2576: 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	2690: 0	SYNTAX	1036: 0	TBLBOT	2615: 0	TOP3	2600: 0	TPERR	0728: 0	TPREAD	0704: 0
TSTCON	1656: 0	VARFIN	1445: 0	VARFN2	1453: 0	W2	2687: 0	W5	2746: 0	W5B	2781: 0
W6	2741: 0	X1	0089: 0	X2	0094: 0	X3	0099: 0	ZONES	2581: 0		

UNREFERENCED SYMBOLS

CDOVLY ORGVB PHASLD SNAPEX TOP3 TPERR TPREAD