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

101               JOB   FORTRAN COMPILER -- CONSTANTS PHASE ONE -- 18
102               CTL   6611
103         *
104         * CONSTANTS IN THE SOURCE PROGRAM ARE NOTED AND NORMALIZED
105         * AND/OR TRUNCATED.  THE ONLY WORD MARKS IN THE STATEMENT ARE
106         * UNDER THE GROUP MARKS THAT SEPARATE PREFIX FROM BODY AND
107         * ONE STATEMENT FROM ANOTHER.
108         *
109         X1     EQU   89                                                        0089
110         X2     EQU   94                                                        0094
111         X3     EQU   99                                                        0099
112         *
113         * ON ENTRY, X1 IS THE TOP OF CODE.
114         *
115         * ON EXIT, CODE IS MOVED UP TO THE TOP, 83 IS THE TOP OF
116         * CODE, AND X2 IS ONE BELOW THE BOTTOM OF CODE.
117         *
118         * STUFF IN THE RESIDENT AREA
119         *
120         GLOBER EQU   184  GLOBAL ERROR FLAG -- WM MEANS ERROR                 0184
121         TOPCOR EQU   688  TOP CORE ADDRESS FROM PARAM CARD                    0688
122         IMOD   EQU   690  INTEGER MODULUS -- NUMBER OF DIGITS                 0690
123         MANTIS EQU   692  FLOATING POINT MANTISSA DIGITS                      0692
124         *
125               EXT00   SNAPSH, LOADNX, CDOVLY                                                MACRO
126         SNAPSH EQU   333                                                      0333             GEN
127         PHASLD EQU   381                                                      0381             GEN
128         SNAPEX EQU   564                                                      0564             GEN
129         LOADNX EQU   700   CARD OVERLAY UNLESS NOP                           0700             GEN
130         CDOVLY EQU   700   1 IF LOADING FROM CARDS, N IF FROM TAPE           0700             GEN
131         TPREAD EQU   704   LOAD OVERLAY FROM TAPE                            0704             GEN
132         TPERR  EQU   728                                                      0728             GEN
133         *
134               EXT03   START, TOP OF PHASE 3                                                  MACRO
135         BEGIN3 EQU   838                                                      0838             GEN
136         TOP3   EQU   2600                                                     2600             GEN
137         *
138         110    DCW   @CONST ONE@                                          9  0110                       1
139         094    DCW   000                                                  3  0094                       2
140         096    DC    00                                                   2  0096                       2
141         099    DCW   000                                                  3  0099                       2
142         100    DC    0                                                    1  0100                       2
143         *
144         * LOAD THIS BLOCK AND PART 2
145         *
146         PHAS18 LDPH  CONST ONE,LOADAD,LOADNX,,,18.1                                          MACRO
            * PHAZ   LDPH [PHASID],LOADAD,ENTAD[,SKIPFG,SKIP],[NUMBER][,HALT]               GEN
            *        XFR  PHASZ     PROHIBITED IN A MACRO                                    GEN
            *                                                                               GEN
            * LOAD A BLOCK                                                                  GEN
```

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

            *                                                                       GEN
147         )6J003  EQU   110  PHASE ID                                        0110       GEN
148         )6K003  EQU   700  LOAD NEXT PHASE                                 0700       GEN
149         )6L003  EQU   704  TAPE READ INSTRUCTION                          0704       GEN
150         )6M003  EQU   728  TAPE ERROR HANDLER                             0728       GEN
            *                                                                       GEN
151                 ORG   201                                                      0201
152         PHAS18  BSS   )8J003,G                                          5   0201  B 257 G     GEN      3   257
153                 NOP     TO PATCH IN TRAPS FOR DEBUGGING                 1   0206  N           GEN      3
154         )0J003  EQU   *&1                                                0207       GEN
155                 LCA   )9J003,)6J003                                     7   0207  L 281 110   GEN      3   281     110
156                 BCE   )1J003,)6K003,1    Q: LOADING FROM CARDS?         8   0214  B 250 700 1 GEN      3   250     700
157                 BCE   )1J003,)6L003&4,0  Q: LOADING FROM AUTOCODER TAPE? 8   0222  B 250 708 0 GEN      3   250     708
158                 RTW   1,LOADAD          READ THE BLOCK                  8   0230  L %U1 838 R GEN      3   %U1     838
159                 BER   )6M003            Q: TAPE ERROR?                  5   0238  B 728 L     GEN      4   728
160                 CS    LOADNX,)9R003     ENTER THE BLOCK                 7   0243  / 700 287   GEN      4   700     287
161         )1J003  CS    )6K003,)9R003     LOAD CARDS OR AUTOCODER TAPE    7   0250  / 700 287   GEN      4   700     287
162         )8J003  SW    )9R003                                          4   0257  , 287       GEN      4   287
163                 MU    %T0,)8K003,W                                    8   0261  M %T0 273 W GEN      4   %T0     273
164                 H     )0J003                                          4   0269  . 207       GEN      4   207
165         )8K003  EQU   *&1                                                0273       GEN
166         )9J003  DCW   @CONST ONE@          PHASE ID                    9   0281       GEN      5
167                 DCW   #1                                              1   0282       GEN      5
168                 DC    @18.1@          PHASE NUMBER                    4   0286       GEN      5
169         )9R003  DCW   @}@                                            1   0287       GEN      5
170                 XFR   PHAS18                                                 B 201              5   201
171         *
172                 ORG   BEGIN3                                                 0838
173         LOADAD  EQU   *&1          LOAD ADDRESS                         0838
174     838 BEGN18  CS    299                                             4   0838  / 299              6   299
175     842         SW    GM                                              4   0842  , L19              6  2319
176     846         SW    200                                             4   0846  , 200              6   200
177     850         MCW   TOPCOR,X2                                       7   0850  M 688 094          6   688     094
178     857         MN    0&X2                                            4   0857  D 0!0              6   000+2
179     861         MN                                                    1   0861  D                  6
180     862         SAR   X2          TOPCOR-2                            4   0862  Q 094              6   094
181     866         SBR   83          TOPCOR-2                            4   0866  H 083              7   083
182     870         LCA   GM,1&X2     GMWM TO TOPCOR-1                    7   0870  L L19 0!1          7  2319     001+2
183     877 LOOP    BCE   DONE,0&X1,  BOTTOM OF STATEMENTS IF BLANK        8   0877  B 700 0|0          7   700     000+1
184     885         MCW   0&X1,SEQCOD                                      7   0885  M 0|0 L23          7   000+1   2323
185     892         LCA   0&X1,PREFIX                                      7   0892  L 0|0 L33          7   000+1   2333
186     899         SAR   X1                                              4   0899  Q 089              7   089
187     903         SBR   SX1                                             4   0903  H L36              8  2336
188     907         SBR   SX2,0&X2                                        7   0907  H L39 0!0          8  2339     000+2
189     914         LCA   PREFIX,0&X2  MOVE PREFIX UP                     7   0914  L L33 0!0          8  2333     000+2
190     921         SBR   X2                                              4   0921  H 094              8   094
191     925         MCW   SEQCOD-3,*&8                                    7   0925  M L20 939          8  2320     939
192     932         BCE   IO,CODES,0  INTERESTING STATEMENT?              8   0932  B 972 L49 0        8   972    2349
193     940         CHAIN 9                                                                 MACRO
194                 BCE                                                   1   0940  B           GEN      8
```

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

195                 BCE                                                      1  0941  B           GEN      9
196                 BCE                                                      1  0942  B           GEN      9
197                 BCE                                                      1  0943  B           GEN      9
198                 BCE                                                      1  0944  B           GEN      9
199                 BCE                                                      1  0945  B           GEN      9
200                 BCE                                                      1  0946  B           GEN      9
201                 BCE                                                      1  0947  B           GEN      9
202                 BCE                                                      1  0948  B           GEN     10
203    949          LCA   0&X1,0&X2   MOVE STATEMENT BODY UP                 7  0949  L 0|0 0!0           10   000+1   000+2
204    956          SAR   X1                                                4  0956  Q 089               10   089
205    960          C     0&X2                                              4  0960  C 0!0               10   000+2
206    964          SAR   X2                                                4  0964  Q 094               10   094
207    968          B     LOOP                                              4  0968  B 877               10   877
208          *
209          * I/O, IF, DO, ARITHEMTIC STATEMENT
210          *
211    972  IO     SBR   X3,CODTAB-4                                        7  0972  H 099 K77           10   099    2277
212    979          MCW   SEQCOD-3,*&8                                      7  0979  M L20 993           11  2320     993
213    986  SEARCH BCE   FOUND,4&X3,0                                       8  0986  B |02 0?4 0         11  1002     004+3
214    994          SBR   X3                                                4  0994  H 099               11   099
215    998          B     SEARCH                                            4  0998  B 986               11   986
216          *
217          * FOUND THE STATEMENT CODE IN CODTAB.  COPY THE INTERESTING
218          * PUNCTUATION AND THE COUNT TO PUNCNT.  THE PUNCTUATION
219          * MARK IS WHAT IS SOUGHT IN THE STATEMENT.  THE COUNT
220          * PART IS 2 MINUS THE NUMBER OF TIMES THE PUNCTUATION
221          * MARK MUST BE FOUND.  IT STARTS AT 0, 1 OR 2, AND IS
222          * INCREMENTED UNTIL IT IS 2.
223          *
224  1 002  FOUND  MCW   6&X3,PUNCNT                                        7  1002  M 0?6 L51           11   006+3  2351
225  1 009          MCW   PUNCNT-1,SCHPUN&7                                 7  1009  M L50 |38           11  2350    1038
226  1 016  SCHCNT BCE   FOUND2,PUNCNT,2  FOUND IT ENOUGH TIMES?           8  1016  B |67 L51 2         12  1067    2351
227  1 024          A     K1,PUNCNT                                         7  1024  A L52 L51           12  2352    2351
228  1 031  SCHPUN BCE   GOTPUN,0&X1,0  FOUND THE DESIRED PUNCTUATION?     8  1031  B |55 0|0 0         12  1055     000+1
229  1 039          BCE   FOUND2,0&X1,}  FOUND GM?                         8  1039  B |67 0|0 } GMARK   12  1067     000+1
230  1 047          SBR   X1                                                4  1047  H 089               12   089
231  1 051          B     SCHPUN  GO SEARCH FOR MORE PUNCTUATION            4  1051  B |31               12  1031
232  1 055  GOTPUN MN    0&X1                                              4  1055  D 0|0               13   000+1
233  1 059          SAR   X1                                                4  1059  Q 089               13   089
234  1 063          B     SCHCNT  GO TEST HAVE WE SEEN IT ENOUGH TIMES?     4  1063  B |16               13  1016
235  1 067  FOUND2 BWZ   NOZONE,0&X1,3  DIGIT OR GMWM?                     8  1067  V |91 0|0 3         13  1091     000+1
236  1 075          SBR   X1                                                4  1075  H 089               13   089
237  1 079          BCE   SWITCH,1&X1,$  SUBSCRIPT?                        8  1079  B /76 0|1 $         13  1176     001+1
238  1 087          B     FOUND2                                            4  1087  B |67               13  1067
239  1 091  NOZONE BCE   ENDSTM,0&X1,}  GM MEANS END OF STATEMENT          8  1091  B J65 0|0 } GMARK   14  2165     000+1
240  1 099          SBR   X1                                                4  1099  H 089               14   089
241  1 103          BCE   FOUND2,1&X1,#  ASSIGNMENT OPERATOR IS NOT A NUMBER 8  1103  B |67 0|1 #         14  1067     001+1
242  1 111          BCE   FOUND2,1&X1,@  ATSIGN IS NOT A NUMBER            8  1111  B |67 0|1 @         14  1067     001+1
243  1 119          MCW   2&X1,BEFORE                                       7  1119  M 0|2 L18           14   002+1  2318
244  1 126          MCW        AT                                           1  1126  M                   14
```

```
SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR
245  1 127         MCW        AFTER                                          1  1127  M                    14
246  1 128         SAR   X1                                                 4  1128  Q 089                15   089
247  1 132         MCW   BEFORE,*&8                                         7  1132  M L18 /46            15  2318    1146
248  1 139         BCE   FOUND3,OPPUN,0  CHAR BEFORE IS OPERATOR OR PUNCT?  8  1139  B S16 L63 0          15  1216    2363
249  1 147         CHAIN 10                                                                 MACRO
250               BCE                                                      1  1147  B           GEN      15
251               BCE                                                      1  1148  B           GEN      15
252               BCE                                                      1  1149  B           GEN      15
253               BCE                                                      1  1150  B           GEN      15
254               BCE                                                      1  1151  B           GEN      16
255               BCE                                                      1  1152  B           GEN      16
256               BCE                                                      1  1153  B           GEN      16
257               BCE                                                      1  1154  B           GEN      16
258               BCE                                                      1  1155  B           GEN      16
259               BCE                                                      1  1156  B           GEN      16
260  1 157         BCE   ENDSTM,1&X1,}                                     8  1157  B J65 0|1 } GMARK    16  2165     001+1
261  1 165  BACKSP SBR   X1,1&X1                                           7  1165  H 089 0|1            17   089     001+1
262  1 172         B     FOUND2                                           4  1172  B |67                17  1067
263         *
264         * SUBSCRIPT BEGIN
265         *
266  1 176  SWITCH NOP   UNSW                                            4  1176  N /98                17  1198
267  1 180         MCW   BRANCH,SWITCH                                    7  1180  M L64 /76            17  2364    1176
268  1 187         MCW   KB1,SWICH3&4  SET TO UNCONDITIONAL BRANCH        7  1187  M M74 !42            17  2474    2042
269  1 194         B     FOUND2                                           4  1194  B |67                17  1067
270         *
271         * SUBSCRIPT END
272         *
273  1 198  UNSW   MCW   NOP,SWITCH                                       7  1198  M L65 /76            18  2365    1176
274  1 205         MCW   UNEQ,SWICH3&4  SET TO BRANCH UNEQUAL             7  1205  M L66 !42            18  2366    2042
275  1 212         B     FOUND2                                           4  1212  B |67                18  1067
276         *
277         * FOUND A DIGIT PRECEDED BY AN OPERATOR OR PUNCTUATION IN OPPUN
278         *
279  1 216  FOUND3 BCE   DECMAL,3&X1,.  3&X1 = BEFORE                     8  1216  B K02 0|3 .          18  2202     003+1
280  1 224         MCW   AFTER,*&8                                        7  1224  M L16 S38            18  2316    1238
281  1 231         BCE   BACKSP,ATHRUR,0  ?A-I!J-R ?                     8  1231  B /65 L86 0          19  1165    2386
282  1 239         CHAIN 19                                                                 MACRO
283               BCE                                                      1  1239  B           GEN      19
284               BCE                                                      1  1240  B           GEN      19
285               BCE                                                      1  1241  B           GEN      19
286               BCE                                                      1  1242  B           GEN      19
287               BCE                                                      1  1243  B           GEN      19
288               BCE                                                      1  1244  B           GEN      19
289               BCE                                                      1  1245  B           GEN      20
290               BCE                                                      1  1246  B           GEN      20
291               BCE                                                      1  1247  B           GEN      20
292               BCE                                                      1  1248  B           GEN      20
293               BCE                                                      1  1249  B           GEN      20
294               BCE                                                      1  1250  B           GEN      20
```

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

295                 BCE                                                     1  1251  B           GEN     20
296                 BCE                                                     1  1252  B           GEN     21
297                 BCE                                                     1  1253  B           GEN     21
298                 BCE                                                     1  1254  B           GEN     21
299                 BCE                                                     1  1255  B           GEN     21
300                 BCE                                                     1  1256  B           GEN     21
301                 BCE                                                     1  1257  B           GEN     21
302  1 258          BCE   TESTIF,3&X1,)                                     8  1258  B J53 0|3 )       21  2153     003+1
303  1 266  MARK    SW    3&X1  WM ABOVE FIELD                               4  1266  , 0|3             22   003+1
304  1 270          MCW   SX1,X3                                           7  1270  M L36 099         22  2336     099
305  1 277          LCA   0&X3,0&X2  MOVE UP STUFF ABOVE FIELD              7  1277  L 0?0 0!0         22   000+3   000+2
306  1 284          SBR   X2                                              4  1284  H 094             22   094
307  1 288          MCW   KLESS,3&X1                                       7  1288  M L87 0|3         22  2387     003+1
308  1 295          SBR   TLESS&6,3&X1                                    7  1295  H J17 0|3         22  2117     003+1
309  1 302          CW    1&X2                                            4  1302  ) 0!1             23   001+2
310  1 306          LCA   KUNDER,0&X2  MARK TOP OF CONSTANT                7  1306  L L88 0!0         23  2388     000+2
311  1 313          SBR   X2                                              4  1313  H 094             23   094
312  1 317          CW    1&X2                                            4  1317  ) 0!1             23   001+2
313  1 321          CW    FLAG                                            4  1321  ) N14             23  2514
314  1 325          S     EXP                                             4  1325  S L90             23  2390
315  1 329          S     SIGWID                                          4  1329  S L93             23  2393
316  1 333          S     NLZ                                             4  1333  S L98             24  2398
317  1 337          MCW   SW,SWNOP                                        7  1337  M L94 K34         24  2394    2234
318  1 344          MCW   NOP,ASN2                                        7  1344  M L65 T90         24  2365    1390
319  1 351          MCW   BRANCH,SWICH2                                   7  1351  M L64 U04         24  2364    1404
320  1 358          SBR   MAN&3,ADD                                       7  1358  H K45 L11         24  2245    2311
321  1 365          SBR   MSN&3,SUB                                       7  1365  H K16 L12         24  2216    2312
322  1 372          SBR   X1,2&X1                                         7  1372  H 089 0|2         25   089     002+1
323  1 379  ZSCAN   MCW   0&X1,AT                                         7  1379  M 0|0 L17         25   000+1  2317
324  1 386          SAR   X1                                              4  1386  Q 089             25   089
325  1 390  ASN2    NOP   KP1,EXP  ADD, SUB OR NOP                        7  1390  N L95 L90         25  2395    2390
326  1 397          A     KP1,NLZ                                         7  1397  A L95 L98         25  2395    2398
327  1 404  SWICH2  BCE   ZSCAN,AT,0                                      8  1404  B T79 L17 0       26  1379    2317
328  1 412          BCE   MSN,AT,.                                        8  1412  B K13 L17 .       26  2213    2317
329  1 420          BCE   MAN,SWICH2,B                                    8  1420  B K42 U04 B       26  2242    1404
330  1 428          A     KP1,SIGWID                                      7  1428  A L95 L93         26  2395    2393
331  1 435  TSTASG  BCE   KLEFT,AT,#  CONSTANT ON LEFT SIDE OF EQUAL SIGN  8  1435  B X20 L17 #       26  1720    2317
332  1 443          BCE   *&9,AT,@    ORIGINALLY SLASH IN INPUT?          8  1443  B U59 L17 @       27  1459    2317
333  1 451          BWZ   ZSCAN,AT,2                                      8  1451  V T79 L17 2       27  1379    2317
334  1 459          C     MAN&3,ANOP                                      7  1459  C K45 L15         27  2245    2315
335  1 466          BU    GOTIK                                           5  1466  B Z31 /           27  1931
336  1 471          BWZ   *&8,EXP,B                                       8  1471  V U86 L90 B       27  1486    2390
337  1 479          A     KP1,EXP                                         7  1479  A L95 L90         28  2395    2390
338  1 486          SW    2&X1                                            4  1486  , 0|2             28   002+1
339  1 490          BCE   DEC2,2&X1,.                                    8  1490  B Y22 0|2 .       28  1822     002+1
340  1 498  DECBAK  BCE   GOTEXP,AT,E                                     8  1498  B Y37 L17 E       28  1837    2317
341  1 506  EXPBAK  C     NLZ,KP01                                        7  1506  C L98 M00         28  2398    2400
342  1 513          NOP   SYNTAX                                          4  1513  N X84             28  1784
343  1 517          NOP                                                   1  1517  N                 28
344  1 518          C     SIGWID,KPZ3                                     7  1518  C L93 M03         29  2393    2403
```

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

345  1 525         BU    GOTFPK                                              5  1525  B V49 /             29  1549
346  1 530  SYNBAK LCA   K15K,0&X2                                          7  1530  L M06 0!0           29  2406     000+2
347  1 537         SBR   X2                                                4  1537  H 094               29   094
348  1 541         CW    1&X2                                              4  1541  ) 0!1               29   001+2
349  1 545         B     TLESSX                                            4  1545  B J00               29  2100
350         *
351         * FOUND A FLOATING-POINT CONSTANT
352         *
353  1 549  GOTFPK MCW   X1,SX1A                                           7  1549  M 089 M09           29   089    2409
354  1 556         BW    *&8,FLAG                                          8  1556  V V71 N14 1         30  1571    2514
355  1 564         LCA   0&X3,1&X3                                         7  1564  L 0?0 0?1           30   000+3   001+3
356  1 571         MCW   SX1B,X1                                           7  1571  M M12 089           30  2412     089
357  1 578         MCW   MANTIS,WIDTH                                      7  1578  M 692 M14           30   692    2414
358  1 585         A     KP2,WIDTH                                         7  1585  A M15 M14           30  2415    2414
359  1 592         SBR   X3,198                                            7  1592  H 099 198           31   099     198
360  1 599         SW    200                                               4  1599  , 200               31   200
361  1 603  FLOOP  MCW   0&X1,AT  USE THE                                  7  1603  M 0|0 L17           31   000+1  2317
362  1 610         SAR   X1         PRINT AREA                             4  1610  Q 089               31   089
363  1 614         MCW   AT,2&X3      TO REVERSE                          7  1614  M L17 0?2           31  2317     002+3
364  1 621         SBR   X3             THE CONSTANT                      4  1621  H 099               31   099
365  1 625         BW    FINFK,1&X1       TO CORRECT                      8  1625  V W52 0|1 1         32  1652     001+1
366  1 633         S     KP1,WIDTH          ORDER                         7  1633  S L95 M14           32  2395    2414
367  1 640         C     WIDTH,KP00                                        7  1640  C M14 M17           32  2414    2417
368  1 647         BU    FLOOP                                             5  1647  B W03 /             32  1603
369  1 652  FINFK  SBR   X3,1&X3  FINISHED WITH FLOATING POINT CONSTANT     7  1652  H 099 0?1           32   099     001+3
370  1 659  SKIP0  BCE   *&5,0&X3,0                                        8  1659  B W71 0?0 0         33  1671     000+3
371  1 667         B     NOT0                                              4  1667  B W83               33  1683
372  1 671         MN    0&X3                                              4  1671  D 0?0               33   000+3
373  1 675         SAR   X3                                                4  1675  Q 099               33   099
374  1 679         B     SKIP0                                             4  1679  B W59               33  1659
375  1 683  NOT0   MN    0&X3                                              4  1683  D 0?0               33   000+3
376  1 687         SAR   X3                                                4  1687  Q 099               33   099
377  1 691         MCW   EXP,3&X3   MOVE EXPONENT                         7  1691  M L90 0?3           34  2390     003+3
378  1 698         MZ    ADD2,1&X3  ZONE FOR MANTISSA                      7  1698  Y M18 0?1           34  2418     001+3
379  1 705         LCA   3&X3,0&X2                                         7  1705  L 0?3 0!0           34   003+3   000+2
380  1 712         SBR   X2                                                4  1712  H 094               34   094
381  1 716         B     KFIN                                              4  1716  B !89               34  2089
382         *
383         * CONSTANT ON LEFT SIDE OF EQUAL SIGN
384         *
385  1 720  KLEFT  CS    332                                               4  1720  / 332               34   332
386  1 724         CS                                                      1  1724  /                   34
387  1 725         SW    GLOBER                                            4  1725  , 184               35   184
388  1 729         MN    SEQCOD,256                                        7  1729  D L23 256           35  2323     256
389  1 736         MN                                                      1  1736  D                   35
390  1 737         MN                                                      1  1737  D                   35
391  1 738         MCW   KLM1                                              4  1738  M M40               35  2440
392  1 742         MCW   KLM2                                              4  1742  M M73               35  2473
393  1 746         W                                                       1  1746  2                   35
394  1 747         BCV   *&5                                               5  1747  B X56 @             36  1756
```

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

395  1 752         B     *&3                                         4  1752  B X58               36  1758
396  1 756         CC    1                                           2  1756  F 1                 36
397  1 758         MCW   SX2,X2                                      7  1758  M L39 094           36  2339     094
398  1 765         MCW   KB1,0&X2                                    7  1765  M M74 0!0           36  2474     000+2
399  1 772         C     0&X1                                        4  1772  C 0|0               36   000+1
400  1 776         SAR   X1                                          4  1776  Q 089               36   089
401  1 780         B     LOOP                                        4  1780  B 877               37   877
402         *
403         * SYNTAX ERROR FOR CONSTANT
404         *
405  1 784  SYNTAX CS    332                                         4  1784  / 332               37   332
406  1 788         CS                                                1  1788  /                   37
407  1 789         SW    GLOBER                                      4  1789  , 184               37   184
408  1 793         MN    SEQCOD,241                                  7  1793  D L23 241           37  2323     241
409  1 800         MN                                                1  1800  D                   37
410  1 801         MN                                                1  1801  D                   37
411  1 802         MCW   ERR44                                       4  1802  M N12               38  2512
412  1 806         W                                                 1  1806  2                   38
413  1 807         BCV   *&5                                        5  1807  B Y16 @             38  1816
414  1 812         B     *&3                                         4  1812  B Y18               38  1818
415  1 816         CC    1                                           2  1816  F 1                 38
416  1 818         B     SYNBAK                                      4  1818  B V30               38  1530
417         *
418  1 822  DEC2   MCW   K0,2&X1                                    7  1822  M N13 0|2           38  2513     002+1
419  1 829         SW    FLAG                                        4  1829  , N14               39  2514
420  1 833         B     DECBAK                                      4  1833  B U98               39  1498
421         *
422         * FLOATING-POINT EXPONENT
423         *
424  1 837  GOTEXP ZA    PZE,THEEXP                                  7  1837  ? N15 N17           39  2515    2517
425  1 844         BWZ   EXPNS,0&X1,2                                8  1844  V Y63 0|0 2         39  1863     000+1
426  1 852         MZ    0&X1,THEEXP  EXPONENT IS SIGNED             7  1852  Y 0|0 N17           39   000+1  2517
427  1 859         SAR   X1                                          4  1859  Q 089               39   089
428  1 863  EXPNS  MN    0&X1                                        4  1863  D 0|0               39   000+1
429  1 867         SAR   X1                                          4  1867  Q 089               40   089
430  1 871         C     0&X1,Z                                      7  1871  C 0|0 N18           40   000+1  2518
431  1 878         BL    EXP2                                        5  1878  B Y94 T             40  1894
432  1 883         MN    1&X1,THEEXP                                 7  1883  D 0|1 N17           40   001+1  2517
433  1 890         B     EXP3                                        4  1890  B Z12               40  1912
434  1 894  EXP2   MN    1&X1,THEEXP-1                               7  1894  D 0|1 N16           40   001+1  2516
435  1 901         MN    0&X1,THEEXP                                 7  1901  D 0|0 N17           41   000+1  2517
436  1 908         SAR   X1                                          4  1908  Q 089               41   089
437  1 912  EXP3   A     THEEXP,EXP                                  7  1912  A N17 L90           41  2517    2390
438  1 919         MN    0&X1                                        4  1919  D 0|0               41   000+1
439  1 923         SAR   X1                                          4  1923  Q 089               41   089
440  1 927         B     EXPBAK                                      4  1927  B V06               41  1506
441         *
442         * FOUND INTEGER CONSTANT
443         *
444  1 931  GOTIK  C     SIGWID,KPZ3                                 7  1931  C L93 M03           41  2393    2403
```

```
SEQ PG LIN  LABEL  OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR
445  1 938         BU    I2                                                5  1938  B Z62 /             42  1962
446  1 943         LCA   KB0,0&X2  ZERO CONSTANT                          7  1943  L N20 0!0           42  2520     000+2
447  1 950         SBR   X2                                              4  1950  H 094               42   094
448  1 954         CW    1&X2                                            4  1954  ) 0!1               42   001+2
449  1 958         B     TLESSX                                          4  1958  B J00               42  2100
450  1 962  I2     MCW   X1,SX1A                                         7  1962  M 089 M09           42   089    2409
451  1 969         MCW   SX1B,X3                                         7  1969  M M12 099           42  2412     099
452  1 976         SW    0&X3                                            4  1976  , 0?0               43   000+3
453  1 980         SBR   X3,299                                         7  1980  H 099 299           43   099     299
454  1 987         MCW   IMOD,WIDTH                                      7  1987  M 690 M14           43   690    2414
455  1 994  ILOOP  MCW   2&X1,AT  MOVE UP                               7  1994  M 0|2 L17           43   002+1  2317
456  2 001         SAR   X1         CONSTANT,                            4  2001  Q 089               43   089
457  2 005         MCW   AT,0&X3      REVERSING DIGITS                   7  2005  M L17 0?0           43  2317     000+3
458  2 012         SBR   X3             TO CORRECT                       4  2012  H 099               44   099
459  2 016         BW    FINIK,1&X1       ORDER                          8  2016  V !43 0|1 1         44  2043     001+1
460  2 024         S     KP1,WIDTH                                       7  2024  S L95 M14           44  2395    2414
461  2 031         C     WIDTH,KP00                                      7  2031  C M14 M17           44  2414    2417
462  2 038  SWICH3 BU    ILOOP                                           5  2038  B Z94 /             44  1994
463  2 043  FINIK  SW    1&X3  FINISHED WITH INTEGER CONSTANT            4  2043  , 0?1               44   001+3
464  2 047         LCA   299,0&X2                                       7  2047  L 299 0!0           45   299     000+2
465  2 054         SBR   X2                                              4  2054  H 094               45   094
466  2 058         CW    1&X3                                            4  2058  ) 0?1               45   001+3
467  2 062         C     SIGWID,KP001                                    7  2062  C L93 N23           45  2393    2523
468  2 069         BU    KFIN                                            5  2069  B !89 /             45  2089
469  2 074         CW    1&X2                                            4  2074  ) 0!1               45   001+2
470  2 078         LCA   KB1A,0&X2                                       7  2078  L N24 0!0           45  2524     000+2
471  2 085         SBR   X2                                              4  2085  H 094               46   094
472  2 089  KFIN   CW    1&X2  FINISHED WITH INTEGER OR FP CONSTANT        4  2089  ) 0!1               46   001+2
473  2 093         MCW   SX1A,X1                                         7  2093  M M09 089           46  2409     089
474  2 100  TLESSX SBR   X1,1&X1                                         7  2100  H 089 0|1           46   089     001+1
475  2 107         SBR   SX1                                             4  2107  H L36               46  2336
476  2 111  TLESS  BCE   FOUND2,0-0,<                                    8  2111  B |67 000 <         46  1067     000
477         *
478         * PROGRAM IS TOO BIG
479         *
480  2 119         CS    332                                             4  2119  / 332               46   332
481  2 123         CS                                                    1  2123  /                   47
482  2 124         CC    1                                               2  2124  F 1                 47
483  2 126         MCW   ERROR2,270                                      7  2126  M N60 270           47  2560     270
484  2 133         W                                                     1  2133  2                   47
485  2 134         CC    1                                               2  2134  F 1                 47
486  2 136         BCE   HALT,CDOVLY,1                                  8  2136  B J49 700 1         47  2149     700
487  2 144         RWD   1                                               5  2144  U %U1 R             47   %U1
488  2 149  HALT   H     HALT                                            4  2149  . J49               48  2149
489         *
490         * DONE
491         *
492  2 153  DONE   EQU   LOADNX                                            0700
493         *
494         * TAPE BLOCK IS TOO BIG FOR CHM TAU EMULATOR.
```

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

495         * LOAD PART2 AND START IN PART 1.
496         *
497         END1   DCW   @}@                                                1  2153          GMARK   48
498                XFR   LOADNX        LOAD THIS                                  B 700          48   700
499         PART2  LDPH  ,TESTIF,BEGN18,,,18.2                                     MACRO
            * PHAZ   LDPH [PHASID],LOADAD,ENTAD[,SKIPFG,SKIP],[NUMBER][,HALT]       GEN
            *        XFR  PHASZ     PROHIBITED IN A MACRO                          GEN
            *                                                                      GEN
            * LOAD A BLOCK                                                        GEN
            *                                                                     GEN
500         )6K004 EQU   700  LOAD NEXT PHASE                                0700          GEN
501         )6L004 EQU   704  TAPE READ INSTRUCTION                          0704          GEN
502         )6M004 EQU   728  TAPE ERROR HANDLER                             0728          GEN
            *                                                                     GEN
503                ORG   201                                                    0201
504         PART2  BSS   )8J004,G                                           5  0201  B 250 G     GEN     49   250
505                NOP     TO PATCH IN TRAPS FOR DEBUGGING                  1  0206  N           GEN     49
506         )0J004 EQU   *&1                                                 0207          GEN
507                BCE   )1J004,)6K004,1    Q: LOADING FROM CARDS?          8  0207  B 243 700 1 GEN     49   243     700
508                BCE   )1J004,)6L004&4,0  Q: LOADING FROM AUTOCODER TAPE?  8  0215  B 243 708 0 GEN     49   243     708
509                RTW   1,TESTIF           READ THE BLOCK                  8  0223  L %U1 J53 R GEN     49   %U1    2153
510                BER   )6M004             Q: TAPE ERROR?                  5  0231  B 728 L     GEN     49   728
511                CS    BEGN18,)9R004      ENTER THE BLOCK                 7  0236  / 838 271   GEN     50   838     271
512         )1J004 CS    )6K004,)9R004      LOAD CARDS OR AUTOCODER TAPE    7  0243  / 700 271   GEN     50   700     271
513         )8J004 SW    )9R004                                          4  0250  , 271       GEN     50   271
514                MU    %T0,)8K004,W                                    8  0254  M %T0 266 W GEN     50   %T0     266
515                H     )0J004                                          4  0262  . 207       GEN     50   207
516         )8K004 EQU   *&1                                                 0266          GEN
517                DCW   #1                                                1  0266          GEN     50
518                DC    @18.2@          PHASE NUMBER                      4  0270          GEN     50
519         )9R004 DCW   @}@                                                1  0271          GEN     50
520                XFR   PART2                                                B 201          50   201
521                ORG   END1                                                  2153
522         *
523         * CHECK FOR IF STATEMENT
524         *
525  2 183  TESTIF BCE   ENDSTM,SEQCOD-3,E  IF STATEMENT?                    8  2153  B J65 L20 E       51  2165    2320
526  2 191         B     MARK                                                4  2161  B S66             51  1266
527         *
528         * END OF STATEMENT.  MOVE IT UP
529         *
530  2 195  ENDSTM MCW   SX1,X3                                             7  2165  M L36 099         51  2336     099
531  2 202         LCA   0&X3,0&X2                                          7  2172  L 0?0 0!0         51   000+3   000+2
532  2 209         SAR   X3                                                 4  2179  Q 099             51   099
533  2 213         C     0&X2                                               4  2183  C 0!0             51   000+2
534  2 217         SAR   X2                                                 4  2187  Q 094             51   094
535  2 221         MCW   X3,X1                                              7  2191  M 099 089         52   099     089
536  2 228         B     LOOP                                               4  2198  B 877             52   877
537         *
538         * FP CONSTANT BEGN18ING WITH A DECIMAL POINT
```

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

539         *
540  2 232  DECMAL  SBR   X1,1&X1                                     7  2202  H 089 0|1           52   089     001+1
541  2 239          B     MARK                                        4  2209  B S66               52  1266
542         *
543         * DECIMAL POINT
544         *
545  2 243  MSN     MCW   SUB2,ASN2  MOVE SUB OR NOP                  7  2213  M N61 T90           52  2561    1390
546  2 250          MCW   ANOP,MAN&3                                  7  2220  M L15 K45           52  2315    2245
547  2 257          MCW   X1,X3                                       7  2227  M 089 099           53   089     099
548  2 264  SWNOP   SW    FLAG  EITHER SW OR NOP                      4  2234  , N14               53  2514
549  2 268          B     ZSCAN                                       4  2238  B T79               53  1379
550         *
551  2 272  MAN     MCW   ADD2,ASN2  MOVE ADD OR NOP                 7  2242  M M18 T90           53  2418    1390
552  2 279          MCW   ANOP,MSN&3                                  7  2249  M L15 K16           53  2315    2216
553  2 286          MCW   NOP,SWICH2                                  7  2256  M L65 U04           53  2365    1404
554  2 293          SBR   SX1B,1&X1                                   7  2263  H M12 0|1           54  2412     001+1
555  2 300          MCW   NOP,SWNOP                                   7  2270  M L65 K34           54  2365    2234
556  2 307          B     TSTASG                                      4  2277  B U35               54  1435
557         *
558         * DATA
559         *
560         CODTAB  EQU   *&1                                            2281
561  2 340          DCW   @R 2E 2D#1L,15,0U,1P,16,01,13,1@           30  2310                      55
562  2 341  ADD     A                                                 1  2311  A                   55
563  2 342  SUB     S                                                 1  2312  S                   55
564  2 345  ANOP    DSA   NOP                                         3  2315  L65                 55  2365
565  2 346  AFTER   DCW   #1    CHAR AFTER DIGIT                      1  2316                      55
566  2 347  AT      DCW   #1    DIGIT                                 1  2317                      55
567  2 348  BEFORE  DCW   #1    CHAR BEFORE DIGIT                     1  2318                      55
568  2 349  GM      DC    @}@   GM                                    1  2319              GMARK   55
569  2 353  SEQCOD  DCW   #4    STATEMENT CODE, SEQUENCE NUMBER       4  2323                      56
570  2 363  PREFIX  DCW   #10   ENTIRE STATEMENT PREFIX              10  2333                      56
571  2 366  SX1     DCW   #3                                          3  2336                      56
572  2 369  SX2     DCW   #3                                          3  2339                      56
573  2 379  CODES   DCW   @UPL3165DER@  I/O, DO, IF, ARITH CODES     10  2349                      56
574  2 381  PUNCNT  DCW   #2                                          2  2351                      56
575  2 382  K1      DCW   1                                           1  2352                      56
576  2 393  OPPUN   DCW   @)}@.#%$,*-&@  OPERATORS AND PUNCTUATION   11  2363                      57
577  2 394  BRANCH  B                                                 1  2364  B                   57
578  2 395  NOP     NOP                                               1  2365  N                   57
579  2 396  UNEQ    DCW   @/@  D-MODIFIER FOR UNEQUAL BRANCH          1  2366                      57
580  2 416  ATHRUR  DCW   @?ABCDEFGHI!JKLMNOPQR@                     20  2386                      57
581  2 417  KLESS   DCW   @<@                                         1  2387                      57
582  2 418  KUNDER  DCW   @_@                                         1  2388                      57
583  2 420  EXP     DCW   #2                                          2  2390                      58
584  2 423  SIGWID  DCW   #3  SIGNIFICANT WIDTH OF CONSTANT          3  2393                      58
585  2 424  SW      SW                                                1  2394  ,                   58
586  2 425  KP1     DCW   &1                                          1  2395                      58
587  2 428  NLZ     DCW   #3  NUMBER OF LEADING ZEROS                 3  2398                      58
588  2 430  KP01    DCW   &01                                         2  2400                      58
```

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

589  2 433  KPZ3    DCW   &000                                              3  2403                      58
590  2 436  K15K    DSA   15000                                            3  2406  ?0?                 59 15000
591  2 439  SX1A    DCW   #3                                               3  2409                      59
592  2 442  SX1B    DCW   #3                                               3  2412                      59
593  2 444  WIDTH   DCW   #2  MANTIS OR IMOD                               2  2414                      59
594  2 445  KP2     DCW   &2                                               1  2415                      59
595  2 447  KP00    DCW   &00                                              2  2417                      59
596  2 448  ADD2    A                                                      1  2418  A                   59
597  2 470  KLM1    DCW   @EQUAL SIGN, STATEMENT @                        22  2440                      60
598  2 503  KLM2    DCW   @ERROR 41 - CONSTANT LEFT SIDE OF @            33  2473                      61
599  2 504  KB1     DCW   #1                                              1  2474                      61
600  2 542  ERR44   DCW   @ERROR 44 - CONSTANT SYNTAX, STATEMENT @       38  2512                      62
601  2 543  K0      DCW   0                                               1  2513                      62
602  2 544  FLAG    DCW   #1                                              1  2514                      63
603  2 545  PZE     DCW   &0                                              1  2515                      63
604  2 547  THEEXP  DCW   #2                                              2  2517                      63
605  2 548  Z       DCW   @Z@                                             1  2518                      63
606  2 550  KB0     DCW   @ 0@                                            2  2520                      63
607  2 553  KP001   DCW   &001                                           3  2523                      63
608  2 554  KB1A    DCW   #1                                              1  2524                      63
609  2 590  ERROR2  DCW   @MESSAGE 2 - OBJECT PROGRAM TOO LARGE@         36  2560                      64
610  2 600  SUB2    S                                                      1  2561  S                   64
611  2 601  GMWM    DCW   @}@                                             1  2562              GMARK   64
612                 ORG   *&X00  MOKOTOFF V3M4.LST LINE 4022                    2600
613 *       FREBOT  EQU   *                                                    2599
614                 XFR   BEGN18                                                   B 838               64   838
615         CLRME   CLRA  BEGN18,GMWM,C                                                              MACRO
            *       CLRA  CLRBOT,CLRTOP[,SS,HERE,GWMAD]                                              GEN
            *                                                                                        GEN
            * CLEAR CORE AFTER A PHASE USING THE CLRTOP ADDRESS                                      GEN
            *                                                                                        GEN
616                 ORG   201                                                      0201
            *                                                                                        GEN
            * CLEAR DOWN TO CLRBOT & X00 THE EASY WAY                                                GEN
            *                                                                                        GEN
617         CLRME   EQU   *&1                                                  0201                  GEN
618                 BSS   SNAPSH,C                                           5 0201  B 333 C          GEN     65   333
619         )0J005  CS    GMWM         CLEAR FROM CLRTOP                   4 0206  / N62             GEN     65  2562
620                 SBR   )0J005&3                                           4 0210  H 209             GEN     65   209
621                 SBR   )0L005&6                                           4 0214  H 255             GEN     65   255
622                 C     )0J005&3,)0M005   DOWN TO CLRBOT & X00?           7 0218  C 209 266         GEN     65   209     266
623                 BU    )0J005                                             5 0225  B 206 /           GEN     65   206
            *                                                                                        GEN
            * NOW CLEAR DOWN TO CLRBOT THE HARD WAY                                                  GEN
            *                                                                                        GEN
624         )0K005  C     )0L005&6,)0N005                                    7 0230  C 255 269         GEN     65   255     269
625                 BU    )0L005                                             5 0237  B 249 /           GEN     66   249
626                 CS    LOADNX,)0Q005  LOAD THE NEXT BLOCK AT 1            7 0242  / 700 276         GEN     66   700     276
627         )0L005  LCA   )0P005,0-0     CLEAR WITH BLANK AND WORD MARK     7 0249  L 270 000         GEN     66   270     000
628                 SBR   )0L005&6                                           4 0256  H 255             GEN     66   255
```

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

629               B     )0K005                                        4  0260  B 230       GEN     66   230
630         )0M005 DSA    )0R005         CLRBOT & X00 - 1               3  0266  899         GEN     66   899
631         )0N005 DSA    BEGN18         CLRBOT                         3  0269  838         GEN     66   838
632         )0P005 DCW    #1                                            1  0270              GEN     67
633               DC      @CLRA @     IDENTIFY IN A DECK, TAPE, OR DUMP 5  0275              GEN     67
634         )0Q005 DCW    @}@                                           1  0276              GEN     67
635               ORG     BEGN18&X00                                             0900
636         )0R005 EQU    *           CLRBOT & X00 - 1                     0899              GEN
637               XFR     CLRME                                                  B 201               67   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	ADD	2311: 0	ADD2	2418: 0	AFTER	2316: 0	ANOP	2315: 0
ASN2	1390: 0	AT	2317: 0	ATHRUR	2386: 0	BACKSP	1165: 0	BEFORE	2318: 0	BEGIN3	0838: 0
BEGN18	0838: 0	BRANCH	2364: 0	CDOVLY	0700: 0	CLRME	0201: 0	CODES	2349: 0	CODTAB	2281: 0
DEC2	1822: 0	DECBAK	1498: 0	DECMAL	2202: 0	DONE	0700: 0	END1	2153: 0	ENDSTM	2165: 0
ERR44	2512: 0	ERROR2	2560: 0	EXP	2390: 0	EXP2	1894: 0	EXP3	1912: 0	EXPBAK	1506: 0
EXPNS	1863: 0	FINFK	1652: 0	FINIK	2043: 0	FLAG	2514: 0	FLOOP	1603: 0	FOUND	1002: 0
FOUND2	1067: 0	FOUND3	1216: 0	FREBOT	2599: 0	GLOBER	0184: 0	GM	2319: 0	GMWM	2562: 0
GOTEXP	1837: 0	GOTFPK	1549: 0	GOTIK	1931: 0	GOTPUN	1055: 0	HALT	2149: 0	I2	1962: 0
ILOOP	1994: 0	IMOD	0690: 0	IO	0972: 0	K0	2513: 0	K1	2352: 0	K15K	2406: 0
KB0	2520: 0	KB1	2474: 0	KB1A	2524: 0	KFIN	2089: 0	KLEFT	1720: 0	KLESS	2387: 0
KLM1	2440: 0	KLM2	2473: 0	KP00	2417: 0	KP001	2523: 0	KP01	2400: 0	KP1	2395: 0
KP2	2415: 0	KPZ3	2403: 0	KUNDER	2388: 0	LOADAD	0838: 0	LOADNX	0700: 0	LOOP	0877: 0
MAN	2242: 0	MANTIS	0692: 0	MARK	1266: 0	MSN	2213: 0	NLZ	2398: 0	NOP	2365: 0
NOT0	1683: 0	NOZONE	1091: 0	OPPUN	2363: 0	PART2	0201: 0	PHAS18	0201: 0	PHASLD	0381: 0
PREFIX	2333: 0	PUNCNT	2351: 0	PZE	2515: 0	SCHCNT	1016: 0	SCHPUN	1031: 0	SEARCH	0986: 0
SEQCOD	2323: 0	SIGWID	2393: 0	SKIP0	1659: 0	SNAPEX	0564: 0	SNAPSH	0333: 0	SUB	2312: 0
SUB2	2561: 0	SW	2394: 0	SWICH2	1404: 0	SWICH3	2038: 0	SWITCH	1176: 0	SWNOP	2234: 0
SX1	2336: 0	SX1A	2409: 0	SX1B	2412: 0	SX2	2339: 0	SYNBAK	1530: 0	SYNTAX	1784: 0
TESTIF	2153: 0	THEEXP	2517: 0	TLESS	2111: 0	TLESSX	2100: 0	TOP3	2600: 0	TOPCOR	0688: 0
TPERR	0728: 0	TPREAD	0704: 0	TSTASG	1435: 0	UNEQ	2366: 0	UNSW	1198: 0	WIDTH	2414: 0
X1	0089: 0	X2	0094: 0	X3	0099: 0	Z	2518: 0	ZSCAN	1379: 0		

UNREFERENCED SYMBOLS

FREBOT PHASLD SNAPEX TOP3 TPERR TPREAD