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

101               JOB   FORTRAN COMPILER -- TAMROF PHASE TWO -- 24
102               CTL   6611
103         *
104         * THE OBJECT-TIME FORMAT STRINGS ARE DEVELOPED AND STORED
105         * IMMEDIATELY PRECEDING THE CONSTANTS AT THE LOWER (RIGHTMOST)
106         * END OF STORAGE.
107         *
108         * ON ENTRY, X1 IS THE TOP OF STATEMENTS, X2 IS THE TOP OF
109         * FORMATTED I/O STATEMENTS, AND 81-83 IS ONE BELOW THE NUMBER
110         * TABLE.
111         *
112         X1     EQU   89                                                  0089
113         X2     EQU   94                                                  0094
114         X3     EQU   99                                                  0099
115         *
116         * STUFF IN THE RESIDENT AREA
117         *
118         ARYSIZ EQU   160  TOTAL ARRAY SIZE & 2                           0160
119         NEGARY EQU   163  16000 - ARYSIZ                                 0163
120         *
121               EXT00   SNAPSH, LOADNX, CDOVLY                                          MACRO
122         SNAPSH EQU   333                                                 0333         GEN
123         PHASLD EQU   381                                                 0381         GEN
124         SNAPEX EQU   564                                                 0564         GEN
125         LOADNX EQU   700   CARD OVERLAY UNLESS NOP                      0700         GEN
126         CDOVLY EQU   700   1 IF LOADING FROM CARDS, N IF FROM TAPE      0700         GEN
127         TPREAD EQU   704   LOAD OVERLAY FROM TAPE                       0704         GEN
128         TPERR  EQU   728                                                 0728         GEN
129         *
130               EXT03   START OF PHASE 3                                           MACRO
131         BEGIN3 EQU   838                                                 0838         GEN
132         TOP3   EQU   2600                                                2600         GEN
133               EXT23   STUFF IN PHASE 23                                          MACRO
134         TOOBIG EQU   838                                                 0838         GEN
135         SEMIC  EQU   872                                                 0872         GEN
136         SX3    EQU   875   USED TO SAVE X3 EXACTLY ONCE                  0875         GEN
137         SEQCOD EQU   879                                                 0879         GEN
138         MSG    EQU   880                                                 0880         GEN
139         BEGN23 EQU   980                                                 0980         GEN
140         *
141         110    DCW   @TAMROF TWO@                                  10  0110                    1
142         *
143         PHAS24 LDPH  TAMROF TWO,BEGN24,BEGN24,,,24                                   MACRO
            * PHAZ   LDPH [PHASID],LOADAD,ENTAD[,SKIPFG,SKIP],[NUMBER][,HALT]         GEN
            *        XFR  PHASZ     PROHIBITED IN A MACRO                            GEN
            *                                                                        GEN
            * LOAD A BLOCK                                                          GEN
            *                                                                       GEN
144         )6J004 EQU   110  PHASE ID                                       0110         GEN
145         )6K004 EQU   700  LOAD NEXT PHASE                                0700         GEN
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SEQ PG LIN  LABEL   OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR

146         )6L004  EQU   704  TAPE READ INSTRUCTION                            0704          GEN
147         )6M004  EQU   728  TAPE ERROR HANDLER                              0728          GEN
            *                                                                               GEN
148                 ORG   201                                                      0201
149         PHAS24  BSS   )8J004,G                                            5  0201  B 257 G     GEN      2   257
150                 NOP     TO PATCH IN TRAPS FOR DEBUGGING                   1  0206  N           GEN      2
151         )0J004  EQU   *&1                                                     0207          GEN
152                 LCA   )9J004,)6J004                                       7  0207  L 282 110   GEN      2   282     110
153                 BCE   )1J004,)6K004,1    Q: LOADING FROM CARDS?          8  0214  B 250 700 1 GEN      2   250     700
154                 BCE   )1J004,)6L004&4,0  Q: LOADING FROM AUTOCODER TAPE?  8  0222  B 250 708 0 GEN      2   250     708
155                 RTW   1,BEGN24           READ THE BLOCK                  8  0230  L %U1 980 R GEN      2   %U1     980
156                 BER   )6M004             Q: TAPE ERROR?                  5  0238  B 728 L     GEN      3   728
157                 CS    BEGN24,)9R004      ENTER THE BLOCK                 7  0243  / 980 286   GEN      3   980     286
158         )1J004  CS    )6K004,)9R004      LOAD CARDS OR AUTOCODER TAPE    7  0250  / 700 286   GEN      3   700     286
159         )8J004  SW    )9R004                                            4  0257  , 286       GEN      3   286
160                 MU    %T0,)8K004,W                                      8  0261  M %T0 273 W GEN      3   %T0     273
161                 H     )0J004                                            4  0269  . 207       GEN      3   207
162         )8K004  EQU   *&1                                                     0273          GEN
163         )9J004  DCW   @TAMROF TWO@          PHASE ID                   10  0282          GEN      4
164                 DCW   #1                                                1  0283          GEN      4
165                 DC    @24@          PHASE NUMBER                        2  0285          GEN      4
166         )9R004  DCW   @}@                                               1  0286          GEN      4
167                 XFR   PHAS24                                                  B 201         4   201
168         *
169                 ORG   BEGN23  AFTER THE ERROR MESSAGE ROUTINES IN PHASE 23      0980
170    980  BEGN24  BCE   DONE,96,.  NO FORMAT STATEMENTS                    8  0980  B |21 096 .       5  1021     096
171    988         MCW   X2,SX2&6                                           7  0988  M 094 J10         5   094    2110
172    995  NEXT   SBR   X2,2&X1                                           7  0995  H 094 0|2         5   094     002+1
173  1 002         LCA   KB1                                               4  1002  L L71             5  2371
174  1 006         MCW   0&X1,SEQCOD                                       7  1006  M 0|0 879         5   000+1   879
175  1 013         BCE   FORMAT,SEQCOD-3,F                                 8  1013  B |25 876 F       6  1025     876
176         *
177         * FORMAT STATEMENTS ARE SORTED TOGETHER, SO IF WE DO NOT
178         * SEE ONE HERE, THERE ARE NO MORE.
179         *
180  1 021  DONE   B     LOADNX                                            4  1021  B 700             6   700
181         *
182         * FORMAT STATEMENT
183         *
184  1 062  FORMAT C     0&X1  GET DOWN TO BODY                            4  1025  C 0|0             6   000+1
185  1 066         SAR   X1                                                4  1029  Q 089             6   089
186  1 070         SBR   SX1&6                                             4  1033  H |84             6  1084
187  1 074         MCW   4&X1,FMTLAB                                       7  1037  M 0|4 L74         6   004+1  2374
188  1 081         SW    FLAG1                                             4  1044  , L75             6  2375
189  1 085         CW    FLAG2                                             4  1048  ) L76             7  2376
190  1 089         ZA    KP1,W3                                            7  1052  ? L77 L83         7  2377    2383
191  1 096         BCE   SYNTAX,0&X1,)                                     8  1059  B S21 0|0 )       7  1221     000+1
192  1 104         MCW   X2,SX2B                                           7  1067  M 094 L80         7   094    2380
193  1 111         B     CONT                                              4  1074  B U73             7  1473
194  1 115  SX1    SBR   X1,0                                              7  1078  H 089 000         7   089     000
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SEQ PG LIN  LABEL   OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR

195  1 122  LOOP    ZA    KP1,W3                                              7  1085  ? L77 L83           8  2377    2383
196  1 129  CODEOK  BCE   RPAR,0&X1,)                                        8  1092  B V04 0|0 )         8  1504     000+1
197  1 137          SBR   SX1&6                                             4  1100  H |84               8  1084
198  1 141          BCE   LPAR,0&X1,%                                       8  1104  B U61 0|0 %         8  1461     000+1
199  1 149          BCE   IFEA,0&X1,I                                       8  1112  B W27 0|0 I         8  1627     000+1
200  1 157          BCE   IFEA,0&X1,F                                       8  1120  B W27 0|0 F         9  1627     000+1
201  1 165          BCE   IFEA,0&X1,E                                       8  1128  B W27 0|0 E         9  1627     000+1
202  1 173          BCE   IFEA,0&X1,A                                       8  1136  B W27 0|0 A         9  1627     000+1
203  1 181          BCE   SIGN,0&X1,&                                       8  1144  B T87 0|0 &         9  1387     000+1
204  1 189          BCE   SIGN,0&X1,-                                       8  1152  B T87 0|0 -        10  1387     000+1
205  1 197          BCE   SLASH,0&X1,@                                      8  1160  B V99 0|0 @        10  1599     000+1
206  1 205          C     0&X1,KZ                                           7  1168  C 0|0 L84          10   000+1  2384
207  1 212          BL    NUMBER                                            5  1175  B Y67 T            10  1867
208  1 217          BL    CHKCOD                                            5  1180  B Z61 T            10  1961
209  1 222          BW    SYNTAX,FLAG1  NOT PRECEDED BY A NUMBER?           8  1185  V S21 L75 1        11  1221    2375
210  1 230          BCE   HOLRIT,0&X1,H  NUMBER, THE HOLLERITH             8  1193  B S69 0|0 H        11  1269     000+1
211  1 238          SBR   X1                                                4  1201  H 089              11   089
212  1 242          BCE   XFLD,1&X1,X                                       8  1205  B S44 0|1 X        11  1244     001+1
213  1 250          BCE   PFLD,1&X1,P                                       8  1213  B U42 0|1 P        11  1442     001+1
214  1 258  SYNTAX  B     MSG                                               4  1221  B 880              12   880
215  1 262          MCW   ERR15,223                                         7  1225  M M02 223          12  2402     223
216  1 269  WMSG    W                                                       1  1232  2                  12
217  1 270          MZ    ABZONE,SEQCOD                                     7  1233  Y M03 879          12  2403     879
218  1 277          B     ENDFMT                                            4  1240  B !05              12  2005
219         *
220         * X FORMAT CONTROL.  EMIT SBR X3,NUMBER&X3
221         *
222  1 281  XFLD    SW    8&X2                                              4  1244  , 0!8              12   008+2
223  1 285          SBR   X2                                                4  1248  H 094              12   094
224  1 289          LCA   BUMPX3                                            4  1252  L L46              13  2346
225  1 293          MN    W3,0&X2                                           7  1256  D L83 0!0          13  2383     000+2
226  1 300          MN                                                      1  1263  D                  13
227  1 301          MN                                                      1  1264  D                  13
228  1 302          B     ENDFLD                                            4  1265  B X98              13  1798
229         *
230         * HOLLERITH
231         *
232  1 306  HOLRIT  SW    5&X2                                              4  1269  , 0!5              13   005+2
233  1 310          CW                                                      1  1273  )                  13
234  1 311          SBR   X2                                                4  1274  H 094              14   094
235  1 315          LCA   DOH&3,1&X2  EMIT CALL TO DO HOLLERITH ROUTINE     7  1278  L L39 0!1          14  2339     001+2
236  1 322          S     KP1,W3                                            7  1285  S L77 L83          14  2377    2383
237  1 329          BM    SYNTAX,W3                                         8  1292  V S21 L83 K        14  1221    2383
238  1 337          MN    0&X1                                              4  1300  D 0|0              14   000+1
239  1 341          SAR   X1                                                4  1304  Q 089              14   089
240  1 345  MOVEH   MN    0&X1,2&X2  MOVE                                   7  1308  D 0|0 0!2          15   000+1   002+2
241  1 352          SBR   X2           CHARACTERS                         4  1315  H 094              15   094
242  1 356          MZ    0&X1,1&X2      OF HOLLERITH                     7  1319  Y 0|0 0!1          15   000+1   001+2
243  1 363          SAR   X1               FIELD WHILE                    4  1326  Q 089              15   089
244  1 367          SBR   SX1&6              REVERSING                      4  1330  H |84              15  1084
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SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR

245  1 371         CW    2&X2                TO CORRECT                      4  1334  ) 0!2               15   002+2
246  1 375         S     KP1,W3                ORDER                         7  1338  S L77 L83           15  2377    2383
247  1 382         BCE   SHORTH,0&X1,}                                       8  1345  B T72 0|0 } GMARK   16  1372     000+1
248  1 390         BWZ   MOVEH,W3,B                                          8  1353  V T08 L83 B         16  1308    2383
249  1 398  HOLFIN SBR   X2,1&X2                                            7  1361  H 094 0!1           16   094     001+2
250  1 405         B     ENDFLD                                              4  1368  B X98               16  1798
251         *
252         * STATEMENT ENDS BEFORE HOLLERITH ENDS
253         *
254  1 409  SHORTH B     MSG                                                 4  1372  B 880               16   880
255  1 413         MCW   ERR45,231                                           7  1376  M M23 231           16  2423     231
256  1 420         W     HOLFIN                                              4  1383  2 T61               17  1361
257         *
258         * PLUS OR MINUS SIGN BEFORE NUMBER BEFORE P CODE
259         *
260  1 424  SIGN   MZ    0&X1,W3  MOVE SIGN TO WHERE THE NUMBER WILL BE      7  1387  Y 0|0 L83           17   000+1  2383
261  1 431         SAR   X1                                                  4  1394  Q 089               17   089
262  1 435         B     NUMBER                                              4  1398  B Y67               17  1867
263  1 439         C     X3,K20                                              7  1402  C 099 M26           17   099    2426
264  1 446         BL    SYNTAX   SCALE FACTOR TOO BIG?                      5  1409  B S21 T             17  1221
265  1 451         MN    X3,W3                                               7  1414  D 099 L83           17   099    2383
266  1 458         MN                                                        1  1421  D                   18
267  1 459         C     0&X1,KP                                             7  1422  C 0|0 M27           18   000+1  2427
268  1 466         SAR   SX1&6                                              4  1429  Q |84               18  1084
269  1 470         SBR   X1                                                  4  1433  H 089               18   089
270  1 474         BU    SYNTAX   ERROR IF NOT P FIELD                      5  1437  B S21 /             18  1221
271  1 479  PFLD   SBR   X2,7&X2                                            7  1442  H 094 0!7           18   094     007+2
272  1 486         LCA   W3       EMIT SCALE FACTOR                        4  1449  L L83               18  2383
273  1 490         LCA   DOP&3    EMIT CALL TO P ROUTINE                   4  1453  L L70               19  2370
274  1 494         B     ENDFLD                                              4  1457  B X98               19  1798
275         *
276         * LEFT PARENTHESIS
277         *
278  1 498  LPAR   BW    DEEP,FLAG2                                          8  1461  V V32 L76 1         19  1532    2376
279  1 506         SW    FLAG2                                               4  1469  , L76               19  2376
280  1 510  CONT   SW    8&X2                                                4  1473  , 0!8               19   008+2
281  1 514         SBR   X2                                                  4  1477  H 094               19   094
282  1 518         CW    FLAG3                                               4  1481  ) N07               19  2507
283  1 522         LCA   W3,0&X2                                            7  1485  L L83 0!0           20  2383     000+2
284  1 529         LCA   DOLP&3                                            4  1492  L L50               20  2350
285  1 533         SW    FLAG1                                               4  1496  , L75               20  2375
286  1 537         B     SX1                                                 4  1500  B |78               20  1078
287         *
288         * RIGHT PARENTHESIS
289         *
290  1 541  RPAR   MN    0&X1                                                4  1504  D 0|0               20   000+1
291  1 545         SAR   SX1&6                                              4  1508  Q |84               20  1084
292  1 549         SBR   *&7                                                 4  1512  H V22               20  1522
293  1 553         BCE   SAWGM,0,}                                          8  1516  B V75 000 } GMARK   21  1575     000
294  1 561         BW    RPOK,FLAG2  SEEN A RIGHT PARENTHESIS?               8  1524  V V47 L76 1         21  1547    2376
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SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR
295  1 569  DEEP   B     MSG                                                  4  1532  B 880              21   880
296  1 573         MCW   ERR16,228                                           7  1536  M M49 228          21  2449     228
297  1 580         B     WMSG                                                 4  1543  B S32              21  1232
298         *
299  1 584  RPOK   CW    FLAG2                                                4  1547  ) L76              21  2376
300  1 588         SW    5&X2                                                 4  1551  , 0!5              21   005+2
301  1 592         SBR   X2                                                   4  1555  H 094              22   094
302  1 596         LCA   DORP&3                                               4  1559  L L54              22  2354
303  1 600         MN    0&X1                                                 4  1563  D 0|0              22   000+1
304  1 604         SAR   X1                                                   4  1567  Q 089              22   089
305  1 608         B     ENDFLD                                               4  1571  B X98              22  1798
306         *
307         * SAW GM AFTER RIGHT PARENTHESIS
308         *
309  1 612  SAWGM  CW    5&X2                                                 4  1575  ) 0!5              22   005+2
310  1 616         SBR   X2                                                   4  1579  H 094              22   094
311  1 620         LCA   DOGM&3                                               4  1583  L L66              23  2366
312  1 624         BW    DEEP,FLAG2                                           8  1587  V V32 L76 1        23  1532    2376
313  1 632         B     ENDFMT                                               4  1595  B !05              23  2005
314         *
315         * SLASH FIELD.  SLASH WAS CONVERTED TO @ IN PHASE 2
316         *
317  1 636  SLASH  BW    *&5,FLAG1  NO NUMBER?                                8  1599  V W11 L75 1        23  1611    2375
318  1 644         B     SYNTAX     ERROR IF NUMBER                           4  1607  B S21              23  1221
319  1 648         SW    5&X2                                                 4  1611  , 0!5              23   005+2
320  1 652         SBR   X2                                                   4  1615  H 094              23   094
321  1 656         LCA   DOSLSH&3  EMIT CALL TO SLASH ROUTINE                 4  1619  L L58              24  2358
322  1 660         B     SX1                                                  4  1623  B |78              24  1078
323         *
324         * I, F, E OR A FIELD
325         *
326  1 664  IFEA   SW    5&X2                                                 4  1627  , 0!5              24   005+2
327  1 668         LCA   DOIFEA&3                                             4  1631  L L62              24  2362
328  1 672         LCA   W3,8&X2                                              7  1635  L L83 0!8          24  2383     008+2
329  1 679         MCW   0&X1                                                 4  1642  M 0|0              24   000+1
330  1 683         SAR   X1                                                   4  1646  Q 089              24   089
331  1 687         B     NUMBER                                               4  1650  B Y67              25  1867
332  1 691         ZA    X3,W3B                                               7  1654  ? 099 M52          25   099    2452
333  1 698         SW    IFEAT&4                                              4  1661  , X75              25  1775
334  1 702         BCE   FFLD,5&X2,F                                          8  1665  B W96 0!5 F        25  1696     005+2
335  1 710         BCE   IAFLD,5&X2,I                                         8  1673  B X35 0!5 I        25  1735     005+2
336  1 718         BCE   IAFLD,5&X2,A                                         8  1681  B X35 0!5 A        25  1735     005+2
337  1 726         S     KP4,W3B  EW.D FIELD, SUBTRACT FOUR FROM W FOR EXP    7  1689  S M53 M52          26  2453    2452
338  1 733  FFLD   CW    IFEAT&4  FW.D FIELD                                   4  1696  ) X75              26  1775
339  1 737         C     0&X1,KDOT                                            7  1700  C 0|0 M54          26   000+1  2454
340  1 744         SAR   X1                                                   4  1707  Q 089              26   089
341  1 748         BU    SYNTAX  NUMBER NOT FOLLOWED BY DOT                   5  1711  B S21 /            26  1221
342  1 753         B     NUMBER                                               4  1716  B Y67              26  1867
343  1 757         S     X3,W3B  SUBTRACT D FROM W                            7  1720  S 099 M52          26   099    2452
344  1 764         BM    ETEST,W3B                                  V3M4      8  1727  V N08 M52 K        27  2508    2452
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SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR

345  1 772  IAFLD   BCE   FFLD2,5&X2,F  I OR A FIELD                   8  1735  B X50 0!5 F         27  1750     005+2
346  1 780          A     KP4,X3                                       7  1743  A M53 099           27  2453     099
347  1 787  FFLD2   SBR   X2,11&X2                                     7  1750  H 094 0J1           27   094     011+2
348  1 794          MZ    *-4,W3B                                      7  1757  Y X59 M52           27  1759    2452
349  1 801          LCA   W3B,0&X2                                     7  1764  L M52 0!0           28  2452     000+2
350  1 808  IFEAT   BCE   TSTWID,IFEAT,C                              8  1771  B X90 X71 C         28  1790    1771
351  1 816          SBR   X2,3&X2                                     7  1779  H 094 0!3           28   094     003+2
352  1 823          LCA   X3                                           4  1786  L 099               28   099
353  1 827  TSTWID  BM    SYNTAX,W3B                                   8  1790  V S21 M52 K         28  1221    2452
354          *
355          * END OF FIELD
356          *
357  1 835  ENDFLD  SW    FLAG1  SET NO NUMBER FLAG                    4  1798  , L75               28  2375
358  1 839  SKPCOM  C     0&X1,COMMA                                   7  1802  C 0|0 M55           29   000+1  2455
359  1 846          SAR   SX1&6                                        4  1809  Q |84               29  1084
360  1 850          SBR   X1                                           4  1813  H 089               29   089
361  1 854          BE    SKPCOM  SKIP COMMAS                          5  1817  B Y02 S             29  1802
362  1 859          SBR   X1,1&X1                                     7  1822  H 089 0|1           29   089     001+1
363  1 866          B     LOOP                                         4  1829  B |85               29  1085
364          *
365          * W GT D FOR F FIELD, OR W+4 GT D FOR E FIELD
366          *
367  1 870  WBIG    A     X3,W3B                                       7  1833  A 099 M52           29   099    2452
368  1 877          A     K4,W3B                                       7  1840  A M56 M52           30  2456    2452
369  1 884          MN    W3B,X3                                       7  1847  D M52 099           30  2452     099
370  1 891          MN                                                 1  1854  D                   30
371  1 892          MN                                                 1  1855  D                   30
372  1 893          MCW   KZ3,W3B                                      7  1856  M M59 M52           30  2459    2452
373  1 900          B     FFLD2                                        4  1863  B X50               30  1750
374          *
375          * PROBABLY A DIGIT.  MAKE SURE.  THEN PUT INTO X3.
376          *
377  1 904  NUMBER  SBR   NUMBRX&3                                     4  1867  H Z60               30  1960
378  1 908          S     X3&1    CLEAR X3                             4  1871  S 100               31   100
379  1 912          C     0&X1,K0                                      7  1875  C 0|0 M60           31   000+1  2460
380  1 919          BH    SYNTAX  0 GT CHAR, Z LT CHAR                 5  1882  B S21 U             31  1221
381  1 924  NUMBRL  MN    0&X1,X3                                      7  1887  D 0|0 099           31   000+1   099
382  1 931          SAR   X1                                           4  1894  Q 089               31   089
383  1 935          C     0&X1,K0                                      7  1898  C 0|0 M60           31   000+1  2460
384  1 942          BH    NODIG   NOT A DIGIT, MUST BE DONE            5  1905  B Z40 U             31  1940
385  1 947          C     X3,K133  IS THE NUMBER TOO BIG?              7  1910  C 099 M63           32   099    2463
386  1 954          BL    SYNTAX                                       5  1917  B S21 T             32  1221
387  1 959          MN    X3-1,X3-2  SHIFT LEFT TO REVERSE             7  1922  D 098 097           32   098     097
388  1 966          MN    X3,X3-1      DIGITS TO CORRECT ORDER         7  1929  D 099 098           32   099     098
389  1 973          B     NUMBRL   LOOK FOR ANOTHER DIGIT              4  1936  B Y87               32  1887
390  1 977  NODIG   C     K134,X3  IS THE NUMBER TOO BIG?              7  1940  C M66 099           32  2466     099
391  1 984          BH    SYNTAX                                       5  1947  B S21 U             33  1221
392  1 989          BE    SYNTAX                                       5  1952  B S21 S             33  1221
393  1 994  NUMBRX  B     0                                            4  1957  B 000               33   000
394          *
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SEQ PG LIN  LABEL   OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR

395         * CHECK THE FORMAT CODE FOLLOWING A NUMBER
396         *
397  1 998  CHKCOD ZA    X3,W3  SAVE NUMBER                               7  1961  ? 099 L83           33   099    2383
398  2 005         SW    TEST&7                                           4  1968  , Z93               33  1993
399  2 009         MCW   0&X1,TEST&7                                      7  1972  M 0|0 Z93           33   000+1  1993
400  2 016         CW    TEST&7,FLAG1                                     7  1979  ) Z93 L75           33  1993    2375
401  2 023  TEST   BCE   CODEOK,FMTCOD,X                                  8  1986  B |92 M74 X         34  1092    2474
402  2 031         CHAIN 7                                                          MACRO
403                BCE                                                    1  1994  B           GEN     34
404                BCE                                                    1  1995  B           GEN     34
405                BCE                                                    1  1996  B           GEN     34
406                BCE                                                    1  1997  B           GEN     34
407                BCE                                                    1  1998  B           GEN     34
408                BCE                                                    1  1999  B           GEN     34
409                BCE                                                    1  2000  B           GEN     35
410  2 038         B     SYNTAX                                           4  2001  B S21               35  1221
411         *
412  2 042  ENDFMT MCW   83,X3                                            7  2005  M 083 099           35   083     099
413  2 049         BWZ   ENDERR,SEQCOD,B                                  8  2012  V K23 879 B         35  2223     879
414  2 057         C     0&X3,SEMIC  SEMICOLON BELOW NUMBER TABLE GONE?   7  2020  C 0?0 872           35   000+3   872
415  2 064         BU    TOOBIG                                           5  2027  B 838 /             35   838
416  2 069  ENDFM2 LCA   0&X2,0&X3                                        7  2032  L 0!0 0?0           35   000+2   000+3
417  2 076         SAR   X2                                               4  2039  Q 094               36   094
418  2 080         C     0&X3                                             4  2043  C 0?0               36   000+3
419  2 084         SAR   X3                                               4  2047  Q 099               36   099
420  2 088         CW    1&X2                                             4  2051  ) 0!1               36   001+2
421  2 092         C     X2,SX2B                                          7  2055  C 094 L80           36   094    2380
422  2 099         BU    ENDFM2                                           5  2062  B !32 /             36  2032
423  2 104         SBR   SX3,0&X3                                         7  2067  H 875 0?0           36   875     000+3
424  2 111         CW    0&X2                                             4  2074  ) 0!0               37   000+2
425  2 115         CW                                                     1  2078  )                   37
426  2 116         MCW                                                    1  2079  M                   37
427  2 117         SAR   X2                                               4  2080  Q 094               37   094
428  2 121         CW    1&X2                                             4  2084  ) 0!1               37   001+2
429  2 125         BW    ENDER2,FLAG3                                     8  2088  V K11 N07 1         37  2211    2507
430  2 133         BCE   ENDER2,*&6,  WAS X2 ORIGINALLY BLANK?           8  2096  B K11 J09           37  2211    2109
431  2 141  SX2    SBR   X2,0                                             7  2104  H 094 000           38   094     000
432  2 148         CW    FLAG4                                            4  2111  ) M75               38  2475
433  2 152         SBR   SX3B&6,1&X3                                      7  2115  H L09 0?1           38  2309     001+3
434  2 159  ENDER4 MN    0&X2                                             4  2122  D 0!0               38   000+2
435  2 163         MN                                                     1  2126  D                   38
436  2 164         MN                                                     1  2127  D                   38
437  2 165         SAR   X3                                               4  2128  Q 099               38   099
438  2 169         MN    0&X3,*&15                                        7  2132  D 0?0 J53           39   000+3  2153
439  2 176         MZ    0&X3,*&8                                         7  2139  Y 0?0 J53           39   000+3  2153
440  2 183         BCE   IOSTMT,IOCODE,X                                  8  2146  B K60 M80 X         39  2260    2480
441  2 191         CHAIN 4                                                          MACRO
442                BCE                                                    1  2154  B           GEN     39
443                BCE                                                    1  2155  B           GEN     39
444                BCE                                                    1  2156  B           GEN     39
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SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR

445                 BCE                                               1  2157  B           GEN     39
446  2 195          BW    ENDER5,FLAG4                                8  2158  V J82 M75 1         40  2182    2475
447  2 203          B     MSG                                         4  2166  B 880               40   880
448  2 207          MCW   ERR17,232                                   7  2170  M N06 232           40  2506     232
449  2 214          W                                                 1  2177  2                   40
450  2 215          B     ENDER6                                      4  2178  B K38               40  2238
451  2 219  ENDER5  MCW   SX3,X3                                      7  2182  M 875 099           40   875     099
452  2 226          BWZ   ENDER6,SEQCOD,B                             8  2189  V K38 879 B         40  2238     879
453  2 234  ENDER3  MCW   X3,83                                       7  2197  M 099 083           41   099     083
454  2 241          MCW   SEMIC,0&X3                                  7  2204  M 872 0?0           41   872     000+3
455  2 248  ENDER2  C     0&X1                                        4  2211  C 0|0               41   000+1
456  2 252          SAR   X1                                         4  2215  Q 089               41   089
457  2 256          B     NEXT                                        4  2219  B 995               41   995
458         *
459  2 260  ENDERR  MCW   X2,X3                                       7  2223  M 094 099           41   094     099
460  2 267          SW    FLAG3                                       4  2230  , N07               41  2507
461  2 271          B     ENDFM2                                      4  2234  B !32               42  2032
462  2 275  ENDER6  MCW   83,X3                                       7  2238  M 083 099           42   083     099
463  2 282          LCA   KDOT,0&X3                                  7  2245  L M54 0?0           42  2454     000+3
464  2 289          SBR   X3                                          4  2252  H 099               42   099
465  2 293          B     ENDER3                                      4  2256  B J97               42  2197
466         *
467  2 297  IOSTMT  C     0&X3                                        4  2260  C 0?0               42   000+3
468  2 301          SAR   X2                                         4  2264  Q 094               42   094
469  2 305          BWZ   *&5,2&X3,B                                  8  2268  V K80 0?2 B         43  2280     002+3
470  2 313          B     IOSTME                                      4  2276  B L24               43  2324
471  2 317          C     0&X2,FMTLAB                                 7  2280  C 0!0 L74           43   000+2  2374
472  2 324          BU    IOSTME                                      5  2287  B L24 /             43  2324
473  2 329          SW    FLAG4                                       4  2292  , M75               43  2475
474  2 333          MA    NEGARY,SX3B&6                               7  2296  # 163 L09           43   163    2309
475  2 340  SX3B    SBR   0&X2,0                                     7  2303  H 0!0 000           44   000+2   000
476  2 347          MZ    KB1,2&X3                                    7  2310  Y L71 0?2           44  2371     002+3
477  2 354          MA    ARYSIZ,SX3B&6                               7  2317  # 160 L09           44   160    2309
478  2 361  IOSTME  C     0&X2                                        4  2324  C 0!0               44   000+2
479  2 365          SAR   X2                                         4  2328  Q 094               44   094
480  2 369          B     ENDER4                                      4  2332  B J22               44  2122
481         *
482         * VECTORS TO FORMAT CONVERSION ROUTINES
483         *
484  2 373  DOH     B     2328       DO HOLLERITH                     4  2336  B L28               44  2328
485  2 383  BUMPX3  DCW   @H0990&0@  BUMPS X3, FOR X FORMAT           7  2346                      45
486  2 384  DOLP    B     2152       DO LEFT PARENTHESIS              4  2347  B J52               45  2152
487  2 388  DORP    B     2185       DO RIGHT PARENTHESIS             4  2351  B J85               45  2185
488  2 392  DOSLSH  B     2208       DO / -- NEWLINE                  4  2355  B K08               45  2208
489  2 396  DOIFEA  B     2385       I, F, E OR A FIELD               4  2359  B L85               45  2385
490  2 400  DOGM    B     2223       DO GM -- END OF FORMAT           4  2363  B K23               45  2223
491  2 404  DOP     B     2310       DO P -- SCALE FACTOR             4  2367  B L10               45  2310
492         *
493         * DATA
494         *
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SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR
495  2 408  KB1    DCW   #1                                                   1  2371                      46
496  2 417  FMTLAB DCW   #3                                                   3  2374                      46
497  2 418  FLAG1  DCW   #1  CLEARED WHEN A NUMBER IS PROCESSED               1  2375                      46
498  2 419  FLAG2  DCW   #1  SET WHEN LEFT PARENTHESIS IS PROCESSED           1  2376                      46
499  2 420  KP1    DCW   &1                                                   1  2377                      46
500  2 423  SX2B   DCW   #3                                                   3  2380                      46
501  2 426  W3     DCW   #3                                                   3  2383                      46
502  2 427  KZ     DCW   @Z@                                                  1  2384                      47
503  2 445  ERR15  DCW   @15 - FORMAT SYNTAX@                               18  2402                      47
504  2 446  ABZONE DCW   @A@                                                  1  2403                      47
505  2 466  ERR45  DCW   @45 - HOLLERITH COUNT@                             20  2423                      48
506  2 469  K20    DCW   020                                                  3  2426                      48
507  2 470  KP     DCW   @P@                                                  1  2427                      48
508  2 492  ERR16  DCW   @16 - PARENTHESIS ERROR@                           22  2449                      49
509  2 495  W3B    DCW   #3                                                   3  2452                      49
510  2 496  KP4    DCW   &4                                                   1  2453                      49
511  2 497  KDOT   DCW   @.@                                                  1  2454                      49
512  2 498  COMMA  DCW   @,@                                                  1  2455                      49
513  2 499  K4     DCW   4                                                    1  2456                      49
514  2 502  KZ3    DCW   000                                                  3  2459                      49
515  2 503  K0     DCW   0                                                    1  2460                      50
516  2 506  K133   DCW   133                                                  3  2463                      50
517  2 509  K134   DCW   134                                                  3  2466                      50
518  2 517  FMTCOD DCW   @PAXHIFE%@                                           8  2474                      50
519  2 518  FLAG4  DCW   #1                                                   1  2475                      50
520  2 523  IOCODE DCW   @56ULP@  STMT CODE FOR FORMATTED I/O STMT            5  2480                      50
521  2 549  ERR17  DCW   @17 - DOUBLY DEFINED FORMAT@                       26  2506                      51
522  2 550  FLAG3  DCW   #1  SET IF ERROR                                     1  2507                      51
523         *
524         * PATCH IN V3M4
525         *
526  2 551  ETEST  BCE   WBIG,5&X2,E                              V3M4       8  2508  B Y33 0!5 E         51  1833     005+2
527  2 559         BIN   SYNTAX,                                   V3M4       5  2516  B S21               52  1221
528                ORG   2599                                      V3M4            2599
529  2 599  GMWM   DCW   @}@                                                  1  2599                GMARK 53
530                XFR   BEGN24                                                    B 980                     53   980
531         CLRME  CLRA  BEGIN3,GMWM,C                                                                MACRO
            *      CLRA  CLRBOT,CLRTOP[,SS,HERE,GWMAD]                                                GEN
            *                                                                                         GEN
            * CLEAR CORE AFTER A PHASE USING THE CLRTOP ADDRESS                                       GEN
            *                                                                                         GEN
532                ORG   201                                                        0201
            *                                                                                         GEN
            * CLEAR DOWN TO CLRBOT & X00 THE EASY WAY                                                 GEN
            *                                                                                         GEN
533         CLRME  EQU   *&1                                                    0201                  GEN
534                BSS   SNAPSH,C                                             5  0201  B 333 C        GEN     54   333
535         )0J005 CS    GMWM         CLEAR FROM CLRTOP                     4  0206  / N99           GEN     54  2599
536                SBR   )0J005&3                                           4  0210  H 209           GEN     54   209
537                SBR   )0L005&6                                           4  0214  H 255           GEN     54   255
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SEQ PG LIN  LABEL   OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR

538                 C     )0J005&3,)0M005   DOWN TO CLRBOT & X00?        7  0218  C 209 266   GEN     54   209     266
539                 BU    )0J005                                        5  0225  B 206 /     GEN     54   206
            *                                                                                 GEN
            * NOW CLEAR DOWN TO CLRBOT THE HARD WAY                                          GEN
            *                                                                                 GEN
540         )0K005  C     )0L005&6,)0N005                               7  0230  C 255 269   GEN     54   255     269
541                 BU    )0L005                                        5  0237  B 249 /     GEN     55   249
542                 CS    LOADNX,)0Q005  LOAD THE NEXT BLOCK AT 1       7  0242  / 700 276   GEN     55   700     276
543         )0L005  LCA   )0P005,0-0     CLEAR WITH BLANK AND WORD MARK 7  0249  L 270 000   GEN     55   270     000
544                 SBR   )0L005&6                                      4  0256  H 255       GEN     55   255
545                 B     )0K005                                        4  0260  B 230       GEN     55   230
546         )0M005  DSA   )0R005         CLRBOT & X00 - 1              3  0266  899         GEN     55   899
547         )0N005  DSA   BEGIN3         CLRBOT                        3  0269  838         GEN     55   838
548         )0P005  DCW   #1                                           1  0270              GEN     56
549                 DC    @CLRA @     IDENTIFY IN A DECK, TAPE, OR DUMP 5  0275              GEN     56
550         )0Q005  DCW   @}@                                          1  0276              GEN     56
551                 ORG   BEGIN3&X00                                          0900
552         )0R005  EQU   *           CLRBOT & X00 - 1                    0899              GEN
553                 XFR   CLRME                                                 B 201               56   201
```

SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS
)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	)1J004	0250: 0	)6J004	0110: 0	)6K004	0700: 0
)6L004	0704: 0	)6M004	0728: 0	)8J004	0257: 0	)8K004	0273: 0	)9J004	0282: 0	)9R004	0286: 0
ABZONE	2403: 0	ARYSIZ	0160: 0	BEGIN3	0838: 0	BEGN23	0980: 0	BEGN24	0980: 0	BUMPX3	2346: 0
CDOVLY	0700: 0	CHKCOD	1961: 0	CLRME	0201: 0	CODEOK	1092: 0	COMMA	2455: 0	CONT	1473: 0
DEEP	1532: 0	DOGM	2363: 0	DOH	2336: 0	DOIFEA	2359: 0	DOLP	2347: 0	DONE	1021: 0
DOP	2367: 0	DORP	2351: 0	DOSLSH	2355: 0	ENDER2	2211: 0	ENDER3	2197: 0	ENDER4	2122: 0
ENDER5	2182: 0	ENDER6	2238: 0	ENDERR	2223: 0	ENDFLD	1798: 0	ENDFM2	2032: 0	ENDFMT	2005: 0
ERR15	2402: 0	ERR16	2449: 0	ERR17	2506: 0	ERR45	2423: 0	ETEST	2508: 0	FFLD	1696: 0
FFLD2	1750: 0	FLAG1	2375: 0	FLAG2	2376: 0	FLAG3	2507: 0	FLAG4	2475: 0	FMTCOD	2474: 0
FMTLAB	2374: 0	FORMAT	1025: 0	GMWM	2599: 0	HOLFIN	1361: 0	HOLRIT	1269: 0	IAFLD	1735: 0
IFEA	1627: 0	IFEAT	1771: 0	IOCODE	2480: 0	IOSTME	2324: 0	IOSTMT	2260: 0	K0	2460: 0
K133	2463: 0	K134	2466: 0	K20	2426: 0	K4	2456: 0	KB1	2371: 0	KDOT	2454: 0
KP	2427: 0	KP1	2377: 0	KP4	2453: 0	KZ	2384: 0	KZ3	2459: 0	LOADNX	0700: 0
LOOP	1085: 0	LPAR	1461: 0	MOVEH	1308: 0	MSG	0880: 0	NEGARY	0163: 0	NEXT	0995: 0
NODIG	1940: 0	NUMBER	1867: 0	NUMBRL	1887: 0	NUMBRX	1957: 0	PFLD	1442: 0	PHAS24	0201: 0
PHASLD	0381: 0	RPAR	1504: 0	RPOK	1547: 0	SAWGM	1575: 0	SEMIC	0872: 0	SEQCOD	0879: 0
SHORTH	1372: 0	SIGN	1387: 0	SKPCOM	1802: 0	SLASH	1599: 0	SNAPEX	0564: 0	SNAPSH	0333: 0
SX1	1078: 0	SX2	2104: 0	SX2B	2380: 0	SX3	0875: 0	SX3B	2303: 0	SYNTAX	1221: 0
TEST	1986: 0	TOOBIG	0838: 0	TOP3	2600: 0	TPERR	0728: 0	TPREAD	0704: 0	TSTWID	1790: 0
W3	2383: 0	W3B	2452: 0	WBIG	1833: 0	WMSG	1232: 0	X1	0089: 0	X2	0094: 0
X3	0099: 0	XFLD	1244: 0								

UNREFERENCED SYMBOLS

CDOVLY PHASLD SNAPEX TOP3 TPERR TPREAD