```
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  EQU   *&1                                                    0201          GEN
150                 LCA   )9J004,)6J004                                       7  0201  L 253 110   GEN      2   253     110
151                 BCE   )6K004,)6K004,1      Q: LOADING FROM CARDS?         8  0208  B 700 700 1 GEN      2   700     700
152                 BCE   )6K004,)6L004&4,0    Q: LOADING FROM AUTOCODER TAPE? 8  0216  B 700 708 0 GEN      2   700     708
153                 RTW   1,BEGN24             READ THE BLOCK                 8  0224  L %U1 980 R GEN      2   %U1     980
154                 BER   )6M004               Q: TAPE ERROR?                 5  0232  B 728 L     GEN      2   728
155                 CS    BEGN24,)9R004        ENTER THE BLOCK                7  0237  / 980 257   GEN      3   980     257
156         )9J004  DCW   @TAMROF TWO@         PHASE ID                      10  0253          GEN      3
157                 DC    #1                                                 1  0254          GEN      3
158                 DC    @24@          PHASE NUMBER                         2  0256          GEN      3
159         )9R004  DCW   @}@                                                1  0257          GEN      3
160                 XFR   PHAS24                                                  B 201         3   201
161         *
162                 ORG   BEGN23  AFTER THE ERROR MESSAGE ROUTINES IN PHASE 23      0980
163    980  BEGN24  BCE   DONE,96,.  NO FORMAT STATEMENTS                       8  0980  B |21 096 .       4  1021     096
164    988         MCW   X2,SX2&6                                             7  0988  M 094 J15         4   094    2115
165    995  NEXT   SBR   X2,2&X1                                              7  0995  H 094 0|2         4   094     002+1
166  1 002         LCA   KB1                                                  4  1002  L L76             4  2376
167  1 006         MCW   0&X1,SEQCOD                                         7  1006  M 0|0 879         4   000+1   879
168  1 013         BCE   FORMAT,SEQCOD-3,F                                  8  1013  B |30 876 F       5  1030     876
169         *
170         * FORMAT STATEMENTS ARE SORTED TOGETHER, SO IF WE DO NOT
171         * SEE ONE HERE, THERE ARE NO MORE.
172         *
173  1 021  DONE   BSS   SNAPSH,C                                            5  1021  B 333 C           5   333
174  1 058         B     LOADNX                                             4  1026  B 700             5   700
175         *
176         * FORMAT STATEMENT
177         *
178  1 062  FORMAT C     0&X1  GET DOWN TO BODY                             4  1030  C 0|0             5   000+1
179  1 066         SAR   X1                                                 4  1034  Q 089             5   089
180  1 070         SBR   SX1&6                                              4  1038  H |89             5  1089
181  1 074         MCW   4&X1,FMTLAB                                        7  1042  M 0|4 L79         5   004+1  2379
182  1 081         SW    FLAG1                                              4  1049  , L80             6  2380
183  1 085         CW    FLAG2                                              4  1053  ) L81             6  2381
184  1 089         ZA    KP1,W3                                             7  1057  ? L82 L88         6  2382    2388
185  1 096         BCE   SYNTAX,0&X1,)                                      8  1064  B S26 0|0 )       6  1226     000+1
186  1 104         MCW   X2,SX2B                                            7  1072  M 094 L85         6   094    2385
187  1 111         B     CONT                                               4  1079  B U78             6  1478
188  1 115  SX1    SBR   X1,0                                               7  1083  H 089 000         7   089     000
189  1 122  LOOP   ZA    KP1,W3                                             7  1090  ? L82 L88         7  2382    2388
190  1 129  CODEOK BCE   RPAR,0&X1,)                                       8  1097  B V09 0|0 )       7  1509     000+1
191  1 137         SBR   SX1&6                                              4  1105  H |89             7  1089
192  1 141         BCE   LPAR,0&X1,%                                        8  1109  B U66 0|0 %       7  1466     000+1
193  1 149         BCE   IFEA,0&X1,I                                        8  1117  B W32 0|0 I       8  1632     000+1
194  1 157         BCE   IFEA,0&X1,F                                        8  1125  B W32 0|0 F       8  1632     000+1
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SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR

195  1 165         BCE   IFEA,0&X1,E                                          8  1133  B W32 0|0 E          8  1632     000+1
196  1 173         BCE   IFEA,0&X1,A                                          8  1141  B W32 0|0 A          8  1632     000+1
197  1 181         BCE   SIGN,0&X1,&                                         8  1149  B T92 0|0 &          9  1392     000+1
198  1 189         BCE   SIGN,0&X1,-                                         8  1157  B T92 0|0 -          9  1392     000+1
199  1 197         BCE   SLASH,0&X1,@                                       8  1165  B W04 0|0 @          9  1604     000+1
200  1 205         C     0&X1,KZ                                            7  1173  C 0|0 L89            9   000+1  2389
201  1 212         BL    NUMBER                                             5  1180  B Y72 T              9  1872
202  1 217         BL    CHKCOD                                             5  1185  B Z66 T             10  1966
203  1 222         BW    SYNTAX,FLAG1  NOT PRECEDED BY A NUMBER?            8  1190  V S26 L80 1         10  1226    2380
204  1 230         BCE   HOLRIT,0&X1,H  NUMBER, THE HOLLERITH              8  1198  B S74 0|0 H         10  1274     000+1
205  1 238         SBR   X1                                                 4  1206  H 089               10   089
206  1 242         BCE   XFLD,1&X1,X                                        8  1210  B S49 0|1 X         10  1249     001+1
207  1 250         BCE   PFLD,1&X1,P                                        8  1218  B U47 0|1 P         11  1447     001+1
208  1 258  SYNTAX B     MSG                                                4  1226  B 880               11   880
209  1 262         MCW   ERR15,223                                          7  1230  M M07 223           11  2407     223
210  1 269  WMSG   W                                                        1  1237  2                   11
211  1 270         MZ    ABZONE,SEQCOD                                      7  1238  Y M08 879           11  2408     879
212  1 277         B     ENDFMT                                             4  1245  B !10               11  2010
213         *
214         * X FORMAT CONTROL.  EMIT SBR X3,NUMBER&X3
215         *
216  1 281  XFLD   SW    8&X2                                               4  1249  , 0!8               11   008+2
217  1 285         SBR   X2                                                 4  1253  H 094               12   094
218  1 289         LCA   BUMPX3                                             4  1257  L L51               12  2351
219  1 293         MN    W3,0&X2                                            7  1261  D L88 0!0           12  2388     000+2
220  1 300         MN                                                       1  1268  D                   12
221  1 301         MN                                                       1  1269  D                   12
222  1 302         B     ENDFLD                                             4  1270  B Y03               12  1803
223         *
224         * HOLLERITH
225         *
226  1 306  HOLRIT SW    5&X2                                               4  1274  , 0!5               12   005+2
227  1 310         CW                                                       1  1278  )                   13
228  1 311         SBR   X2                                                 4  1279  H 094               13   094
229  1 315         LCA   DOH&3,1&X2  EMIT CALL TO DO HOLLERITH ROUTINE      7  1283  L L44 0!1           13  2344     001+2
230  1 322         S     KP1,W3                                             7  1290  S L82 L88           13  2382    2388
231  1 329         BM    SYNTAX,W3                                          8  1297  V S26 L88 K         13  1226    2388
232  1 337         MN    0&X1                                               4  1305  D 0|0               13   000+1
233  1 341         SAR   X1                                                 4  1309  Q 089               13   089
234  1 345  MOVEH  MN    0&X1,2&X2  MOVE                                    7  1313  D 0|0 0!2           14   000+1   002+2
235  1 352         SBR   X2           CHARACTERS                            4  1320  H 094               14   094
236  1 356         MZ    0&X1,1&X2      OF HOLLERITH                      7  1324  Y 0|0 0!1           14   000+1   001+2
237  1 363         SAR   X1               FIELD WHILE                     4  1331  Q 089               14   089
238  1 367         SBR   SX1&6              REVERSING                     4  1335  H |89               14  1089
239  1 371         CW    2&X2                 TO CORRECT                  4  1339  ) 0!2               14   002+2
240  1 375         S     KP1,W3                 ORDER                     7  1343  S L82 L88           14  2382    2388
241  1 382         BCE   SHORTH,0&X1,}                                      8  1350  B T77 0|0 } GMARK   15  1377     000+1
242  1 390         BWZ   MOVEH,W3,B                                         8  1358  V T13 L88 B         15  1313    2388
243  1 398  HOLFIN SBR   X2,1&X2                                            7  1366  H 094 0!1           15   094     001+2
244  1 405         B     ENDFLD                                             4  1373  B Y03               15  1803
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SEQ PG LIN  LABEL  OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR

245         *
246         * STATEMENT ENDS BEFORE HOLLERITH ENDS
247         *
248  1 409  SHORTH B     MSG                                              4  1377  B 880              15   880
249  1 413         MCW   ERR45,231                                        7  1381  M M28 231          15  2428     231
250  1 420         W     HOLFIN                                           4  1388  2 T66              16  1366
251         *
252         * PLUS OR MINUS SIGN BEFORE NUMBER BEFORE P CODE
253         *
254  1 424  SIGN   MZ    0&X1,W3  MOVE SIGN TO WHERE THE NUMBER WILL BE   7  1392  Y 0|0 L88          16   000+1  2388
255  1 431         SAR   X1                                               4  1399  Q 089              16   089
256  1 435         B     NUMBER                                           4  1403  B Y72              16  1872
257  1 439         C     X3,K20                                           7  1407  C 099 M31          16   099    2431
258  1 446         BL    SYNTAX   SCALE FACTOR TOO BIG?                   5  1414  B S26 T            16  1226
259  1 451         MN    X3,W3                                            7  1419  D 099 L88          16   099    2388
260  1 458         MN                                                     1  1426  D                  17
261  1 459         C     0&X1,KP                                          7  1427  C 0|0 M32          17   000+1  2432
262  1 466         SAR   SX1&6                                            4  1434  Q |89              17  1089
263  1 470         SBR   X1                                               4  1438  H 089              17   089
264  1 474         BU    SYNTAX   ERROR IF NOT P FIELD                   5  1442  B S26 /            17  1226
265  1 479  PFLD   SBR   X2,7&X2                                         7  1447  H 094 0!7          17   094     007+2
266  1 486         LCA   W3       EMIT SCALE FACTOR                       4  1454  L L88              17  2388
267  1 490         LCA   DOP&3    EMIT CALL TO P ROUTINE                  4  1458  L L75              18  2375
268  1 494         B     ENDFLD                                           4  1462  B Y03              18  1803
269         *
270         * LEFT PARENTHESIS
271         *
272  1 498  LPAR   BW    DEEP,FLAG2                                       8  1466  V V37 L81 1        18  1537    2381
273  1 506         SW    FLAG2                                            4  1474  , L81              18  2381
274  1 510  CONT   SW    8&X2                                             4  1478  , 0!8              18   008+2
275  1 514         SBR   X2                                               4  1482  H 094              18   094
276  1 518         CW    FLAG3                                            4  1486  ) N12              18  2512
277  1 522         LCA   W3,0&X2                                          7  1490  L L88 0!0          19  2388     000+2
278  1 529         LCA   DOLP&3                                          4  1497  L L55              19  2355
279  1 533         SW    FLAG1                                            4  1501  , L80              19  2380
280  1 537         B     SX1                                              4  1505  B |83              19  1083
281         *
282         * RIGHT PARENTHESIS
283         *
284  1 541  RPAR   MN    0&X1                                             4  1509  D 0|0              19   000+1
285  1 545         SAR   SX1&6                                            4  1513  Q |89              19  1089
286  1 549         SBR   *&7                                              4  1517  H V27              19  1527
287  1 553         BCE   SAWGM,0,}                                       8  1521  B V80 000 } GMARK  20  1580     000
288  1 561         BW    RPOK,FLAG2  SEEN A RIGHT PARENTHESIS?            8  1529  V V52 L81 1        20  1552    2381
289  1 569  DEEP   B     MSG                                              4  1537  B 880              20   880
290  1 573         MCW   ERR16,228                                        7  1541  M M54 228          20  2454     228
291  1 580         B     WMSG                                             4  1548  B S37              20  1237
292         *
293  1 584  RPOK   CW    FLAG2                                            4  1552  ) L81              20  2381
294  1 588         SW    5&X2                                             4  1556  , 0!5              20   005+2
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SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR
295  1 592         SBR   X2                                                   4  1560  H 094              21   094
296  1 596         LCA   DORP&3                                               4  1564  L L59              21  2359
297  1 600         MN    0&X1                                                 4  1568  D 0|0              21   000+1
298  1 604         SAR   X1                                                   4  1572  Q 089              21   089
299  1 608         B     ENDFLD                                               4  1576  B Y03              21  1803
300         *
301         * SAW GM AFTER RIGHT PARENTHESIS
302         *
303  1 612  SAWGM  CW    5&X2                                                 4  1580  ) 0!5              21   005+2
304  1 616         SBR   X2                                                   4  1584  H 094              21   094
305  1 620         LCA   DOGM&3                                               4  1588  L L71              22  2371
306  1 624         BW    DEEP,FLAG2                                           8  1592  V V37 L81 1        22  1537    2381
307  1 632         B     ENDFMT                                               4  1600  B !10              22  2010
308         *
309         * SLASH FIELD.  SLASH WAS CONVERTED TO @ IN PHASE 2
310         *
311  1 636  SLASH  BW    *&5,FLAG1  NO NUMBER?                                8  1604  V W16 L80 1        22  1616    2380
312  1 644         B     SYNTAX     ERROR IF NUMBER                           4  1612  B S26              22  1226
313  1 648         SW    5&X2                                                 4  1616  , 0!5              22   005+2
314  1 652         SBR   X2                                                   4  1620  H 094              22   094
315  1 656         LCA   DOSLSH&3  EMIT CALL TO SLASH ROUTINE                 4  1624  L L63              23  2363
316  1 660         B     SX1                                                  4  1628  B |83              23  1083
317         *
318         * I, F, E OR A FIELD
319         *
320  1 664  IFEA   SW    5&X2                                                 4  1632  , 0!5              23   005+2
321  1 668         LCA   DOIFEA&3                                             4  1636  L L67              23  2367
322  1 672         LCA   W3,8&X2                                              7  1640  L L88 0!8          23  2388     008+2
323  1 679         MCW   0&X1                                                 4  1647  M 0|0              23   000+1
324  1 683         SAR   X1                                                   4  1651  Q 089              23   089
325  1 687         B     NUMBER                                               4  1655  B Y72              24  1872
326  1 691         ZA    X3,W3B                                               7  1659  ? 099 M57          24   099    2457
327  1 698         SW    IFEAT&4                                              4  1666  , X80              24  1780
328  1 702         BCE   FFLD,5&X2,F                                          8  1670  B X01 0!5 F        24  1701     005+2
329  1 710         BCE   IAFLD,5&X2,I                                         8  1678  B X40 0!5 I        24  1740     005+2
330  1 718         BCE   IAFLD,5&X2,A                                         8  1686  B X40 0!5 A        24  1740     005+2
331  1 726         S     KP4,W3B  EW.D FIELD, SUBTRACT FOUR FROM W FOR EXP    7  1694  S M58 M57          25  2458    2457
332  1 733  FFLD   CW    IFEAT&4  FW.D FIELD                                   4  1701  ) X80              25  1780
333  1 737         C     0&X1,KDOT                                            7  1705  C 0|0 M59          25   000+1  2459
334  1 744         SAR   X1                                                   4  1712  Q 089              25   089
335  1 748         BU    SYNTAX  NUMBER NOT FOLLOWED BY DOT                   5  1716  B S26 /            25  1226
336  1 753         B     NUMBER                                               4  1721  B Y72              25  1872
337  1 757         S     X3,W3B  SUBTRACT D FROM W                            7  1725  S 099 M57          25   099    2457
338  1 764         BM    ETEST,W3B                                  V3M4      8  1732  V N13 M57 K        26  2513    2457
339  1 772  IAFLD  BCE   FFLD2,5&X2,F  I OR A FIELD                           8  1740  B X55 0!5 F        26  1755     005+2
340  1 780         A     KP4,X3                                               7  1748  A M58 099          26  2458     099
341  1 787  FFLD2  SBR   X2,11&X2                                            7  1755  H 094 0J1          26   094     011+2
342  1 794         MZ    *-4,W3B                                              7  1762  Y X64 M57          26  1764    2457
343  1 801         LCA   W3B,0&X2                                             7  1769  L M57 0!0          27  2457     000+2
344  1 808  IFEAT  BCE   TSTWID,IFEAT,C                                       8  1776  B X95 X76 C        27  1795    1776
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SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR

345  1 816          SBR   X2,3&X2                                     7  1784  H 094 0!3           27   094     003+2
346  1 823          LCA   X3                                          4  1791  L 099               27   099
347  1 827  TSTWID  BM    SYNTAX,W3B                                  8  1795  V S26 M57 K         27  1226    2457
348          *
349          * END OF FIELD
350          *
351  1 835  ENDFLD  SW    FLAG1  SET NO NUMBER FLAG                   4  1803  , L80               27  2380
352  1 839  SKPCOM  C     0&X1,COMMA                                  7  1807  C 0|0 M60           28   000+1  2460
353  1 846          SAR   SX1&6                                       4  1814  Q |89               28  1089
354  1 850          SBR   X1                                          4  1818  H 089               28   089
355  1 854          BE    SKPCOM  SKIP COMMAS                         5  1822  B Y07 S             28  1807
356  1 859          SBR   X1,1&X1                                    7  1827  H 089 0|1           28   089     001+1
357  1 866          B     LOOP                                        4  1834  B |90               28  1090
358          *
359          * W GT D FOR F FIELD, OR W+4 GT D FOR E FIELD
360          *
361  1 870  WBIG    A     X3,W3B                                      7  1838  A 099 M57           28   099    2457
362  1 877          A     K4,W3B                                      7  1845  A M61 M57           29  2461    2457
363  1 884          MN    W3B,X3                                      7  1852  D M57 099           29  2457     099
364  1 891          MN                                                1  1859  D                   29
365  1 892          MN                                                1  1860  D                   29
366  1 893          MCW   KZ3,W3B                                     7  1861  M M64 M57           29  2464    2457
367  1 900          B     FFLD2                                       4  1868  B X55               29  1755
368          *
369          * PROBABLY A DIGIT.  MAKE SURE.  THEN PUT INTO X3.
370          *
371  1 904  NUMBER  SBR   NUMBRX&3                                    4  1872  H Z65               29  1965
372  1 908          S     X3&1    CLEAR X3                            4  1876  S 100               30   100
373  1 912          C     0&X1,K0                                     7  1880  C 0|0 M65           30   000+1  2465
374  1 919          BH    SYNTAX  0 GT CHAR, Z LT CHAR                5  1887  B S26 U             30  1226
375  1 924  NUMBRL  MN    0&X1,X3                                     7  1892  D 0|0 099           30   000+1   099
376  1 931          SAR   X1                                          4  1899  Q 089               30   089
377  1 935          C     0&X1,K0                                     7  1903  C 0|0 M65           30   000+1  2465
378  1 942          BH    NODIG   NOT A DIGIT, MUST BE DONE           5  1910  B Z45 U             30  1945
379  1 947          C     X3,K133  IS THE NUMBER TOO BIG?             7  1915  C 099 M68           31   099    2468
380  1 954          BL    SYNTAX                                      5  1922  B S26 T             31  1226
381  1 959          MN    X3-1,X3-2  SHIFT LEFT TO REVERSE            7  1927  D 098 097           31   098     097
382  1 966          MN    X3,X3-1      DIGITS TO CORRECT ORDER        7  1934  D 099 098           31   099     098
383  1 973          B     NUMBRL   LOOK FOR ANOTHER DIGIT             4  1941  B Y92               31  1892
384  1 977  NODIG   C     K134,X3  IS THE NUMBER TOO BIG?             7  1945  C M71 099           31  2471     099
385  1 984          BH    SYNTAX                                      5  1952  B S26 U             32  1226
386  1 989          BE    SYNTAX                                      5  1957  B S26 S             32  1226
387  1 994  NUMBRX  B     0                                           4  1962  B 000               32   000
388          *
389          * CHECK THE FORMAT CODE FOLLOWING A NUMBER
390          *
391  1 998  CHKCOD  ZA    X3,W3  SAVE NUMBER                          7  1966  ? 099 L88           32   099    2388
392  2 005          SW    TEST&7                                      4  1973  , Z98               32  1998
393  2 009          MCW   0&X1,TEST&7                                 7  1977  M 0|0 Z98           32   000+1  1998
394  2 016          CW    TEST&7,FLAG1                                7  1984  ) Z98 L80           32  1998    2380
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SEQ PG LIN  LABEL   OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR
395  2 023  TEST    BCE   CODEOK,FMTCOD,X                                      8  1991  B |97 M79 X        33  1097    2479
396  2 031          CHAIN 7                                                          MACRO
397                 BCE                                                    1  1999  B           GEN     33
398                 BCE                                                    1  2000  B           GEN     33
399                 BCE                                                    1  2001  B           GEN     33
400                 BCE                                                    1  2002  B           GEN     33
401                 BCE                                                    1  2003  B           GEN     33
402                 BCE                                                    1  2004  B           GEN     33
403                 BCE                                                    1  2005  B           GEN     34
404  2 038          B     SYNTAX                                           4  2006  B S26               34  1226
405          *
406  2 042  ENDFMT  MCW   83,X3                                            7  2010  M 083 099           34   083     099
407  2 049          BWZ   ENDERR,SEQCOD,B                                  8  2017  V K28 879 B         34  2228     879
408  2 057          C     0&X3,SEMIC  SEMICOLON BELOW NUMBER TABLE GONE?   7  2025  C 0?0 872           34   000+3   872
409  2 064          BU    TOOBIG                                           5  2032  B 838 /             34   838
410  2 069  ENDFM2  LCA   0&X2,0&X3                                        7  2037  L 0!0 0?0           34   000+2   000+3
411  2 076          SAR   X2                                               4  2044  Q 094               35   094
412  2 080          C     0&X3                                             4  2048  C 0?0               35   000+3
413  2 084          SAR   X3                                               4  2052  Q 099               35   099
414  2 088          CW    1&X2                                             4  2056  ) 0!1               35   001+2
415  2 092          C     X2,SX2B                                          7  2060  C 094 L85           35   094    2385
416  2 099          BU    ENDFM2                                           5  2067  B !37 /             35  2037
417  2 104          SBR   SX3,0&X3                                         7  2072  H 875 0?0           35   875     000+3
418  2 111          CW    0&X2                                             4  2079  ) 0!0               36   000+2
419  2 115          CW                                                     1  2083  )                   36
420  2 116          MCW                                                    1  2084  M                   36
421  2 117          SAR   X2                                               4  2085  Q 094               36   094
422  2 121          CW    1&X2                                             4  2089  ) 0!1               36   001+2
423  2 125          BW    ENDER2,FLAG3                                     8  2093  V K16 N12 1         36  2216    2512
424  2 133          BCE   ENDER2,*&6,  WAS X2 ORIGINALLY BLANK?           8  2101  B K16 J14           36  2216    2114
425  2 141  SX2     SBR   X2,0                                             7  2109  H 094 000           37   094     000
426  2 148          CW    FLAG4                                            4  2116  ) M80               37  2480
427  2 152          SBR   SX3B&6,1&X3                                      7  2120  H L14 0?1           37  2314     001+3
428  2 159  ENDER4  MN    0&X2                                             4  2127  D 0!0               37   000+2
429  2 163          MN                                                     1  2131  D                   37
430  2 164          MN                                                     1  2132  D                   37
431  2 165          SAR   X3                                               4  2133  Q 099               37   099
432  2 169          MN    0&X3,*&15                                        7  2137  D 0?0 J58           38   000+3  2158
433  2 176          MZ    0&X3,*&8                                         7  2144  Y 0?0 J58           38   000+3  2158
434  2 183          BCE   IOSTMT,IOCODE,X                                  8  2151  B K65 M85 X         38  2265    2485
435  2 191          CHAIN 4                                                          MACRO
436                 BCE                                                    1  2159  B           GEN     38
437                 BCE                                                    1  2160  B           GEN     38
438                 BCE                                                    1  2161  B           GEN     38
439                 BCE                                                    1  2162  B           GEN     38
440  2 195          BW    ENDER5,FLAG4                                     8  2163  V J87 M80 1         39  2187    2480
441  2 203          B     MSG                                              4  2171  B 880               39   880
442  2 207          MCW   ERR17,232                                        7  2175  M N11 232           39  2511     232
443  2 214          W                                                      1  2182  2                   39
444  2 215          B     ENDER6                                           4  2183  B K43               39  2243
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SEQ PG LIN  LABEL   OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR

445  2 219  ENDER5 MCW   SX3,X3                                            7  2187  M 875 099           39   875     099
446  2 226         BWZ   ENDER6,SEQCOD,B                                  8  2194  V K43 879 B         39  2243     879
447  2 234  ENDER3 MCW   X3,83                                            7  2202  M 099 083           40   099     083
448  2 241         MCW   SEMIC,0&X3                                       7  2209  M 872 0?0           40   872     000+3
449  2 248  ENDER2 C     0&X1                                            4  2216  C 0|0               40   000+1
450  2 252         SAR   X1                                              4  2220  Q 089               40   089
451  2 256         B     NEXT                                            4  2224  B 995               40   995
452         *
453  2 260  ENDERR MCW   X2,X3                                           7  2228  M 094 099           40   094     099
454  2 267         SW    FLAG3                                           4  2235  , N12               40  2512
455  2 271         B     ENDFM2                                          4  2239  B !37               41  2037
456  2 275  ENDER6 MCW   83,X3                                           7  2243  M 083 099           41   083     099
457  2 282         LCA   KDOT,0&X3                                       7  2250  L M59 0?0           41  2459     000+3
458  2 289         SBR   X3                                              4  2257  H 099               41   099
459  2 293         B     ENDER3                                          4  2261  B K02               41  2202
460         *
461  2 297  IOSTMT C     0&X3                                            4  2265  C 0?0               41   000+3
462  2 301         SAR   X2                                              4  2269  Q 094               41   094
463  2 305         BWZ   *&5,2&X3,B                                      8  2273  V K85 0?2 B         42  2285     002+3
464  2 313         B     IOSTME                                          4  2281  B L29               42  2329
465  2 317         C     0&X2,FMTLAB                                     7  2285  C 0!0 L79           42   000+2  2379
466  2 324         BU    IOSTME                                          5  2292  B L29 /             42  2329
467  2 329         SW    FLAG4                                           4  2297  , M80               42  2480
468  2 333         MA    NEGARY,SX3B&6                                   7  2301  # 163 L14           42   163    2314
469  2 340  SX3B   SBR   0&X2,0                                          7  2308  H 0!0 000           43   000+2   000
470  2 347         MZ    KB1,2&X3                                        7  2315  Y L76 0?2           43  2376     002+3
471  2 354         MA    ARYSIZ,SX3B&6                                   7  2322  # 160 L14           43   160    2314
472  2 361  IOSTME C     0&X2                                            4  2329  C 0!0               43   000+2
473  2 365         SAR   X2                                              4  2333  Q 094               43   094
474  2 369         B     ENDER4                                          4  2337  B J27               43  2127
475         *
476         * VECTORS TO FORMAT CONVERSION ROUTINES
477         *
478  2 373  DOH    B     2328       DO HOLLERITH                         4  2341  B L28               43  2328
479  2 383  BUMPX3 DCW   @H0990&0@  BUMPS X3, FOR X FORMAT               7  2351                      44
480  2 384  DOLP   B     2152       DO LEFT PARENTHESIS                  4  2352  B J52               44  2152
481  2 388  DORP   B     2185       DO RIGHT PARENTHESIS                 4  2356  B J85               44  2185
482  2 392  DOSLSH B     2208       DO / -- NEWLINE                      4  2360  B K08               44  2208
483  2 396  DOIFEA B     2385       I, F, E OR A FIELD                   4  2364  B L85               44  2385
484  2 400  DOGM   B     2223       DO GM -- END OF FORMAT               4  2368  B K23               44  2223
485  2 404  DOP    B     2310       DO P -- SCALE FACTOR                 4  2372  B L10               44  2310
486         *
487         * DATA
488         *
489  2 408  KB1    DCW   #1                                              1  2376                      45
490  2 417  FMTLAB DCW   #3                                              3  2379                      45
491  2 418  FLAG1  DCW   #1  CLEARED WHEN A NUMBER IS PROCESSED          1  2380                      45
492  2 419  FLAG2  DCW   #1  SET WHEN LEFT PARENTHESIS IS PROCESSED       1  2381                      45
493  2 420  KP1    DCW   &1                                              1  2382                      45
494  2 423  SX2B   DCW   #3                                              3  2385                      45
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SEQ PG LIN  LABEL  OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR

495  2 426  W3     DCW   #3                                           3  2388                    45
496  2 427  KZ     DCW   @Z@                                          1  2389                    46
497  2 445  ERR15  DCW   @15 - FORMAT SYNTAX@                       18  2407                    46
498  2 446  ABZONE DCW   @A@                                          1  2408                    46
499  2 466  ERR45  DCW   @45 - HOLLERITH COUNT@                     20  2428                    47
500  2 469  K20    DCW   020                                          3  2431                    47
501  2 470  KP     DCW   @P@                                          1  2432                    47
502  2 492  ERR16  DCW   @16 - PARENTHESIS ERROR@                   22  2454                    48
503  2 495  W3B    DCW   #3                                           3  2457                    48
504  2 496  KP4    DCW   &4                                           1  2458                    48
505  2 497  KDOT   DCW   @.@                                          1  2459                    48
506  2 498  COMMA  DCW   @,@                                          1  2460                    48
507  2 499  K4     DCW   4                                            1  2461                    48
508  2 502  KZ3    DCW   000                                          3  2464                    48
509  2 503  K0     DCW   0                                            1  2465                    49
510  2 506  K133   DCW   133                                          3  2468                    49
511  2 509  K134   DCW   134                                          3  2471                    49
512  2 517  FMTCOD DCW   @PAXHIFE%@                                   8  2479                    49
513  2 518  FLAG4  DCW   #1                                           1  2480                    49
514  2 523  IOCODE DCW   @56ULP@  STMT CODE FOR FORMATTED I/O STMT    5  2485                    49
515  2 549  ERR17  DCW   @17 - DOUBLY DEFINED FORMAT@               26  2511                    50
516  2 550  FLAG3  DCW   #1  SET IF ERROR                             1  2512                    50
517         *
518         * PATCH IN V3M4
519         *
520  2 551  ETEST  BCE   WBIG,5&X2,E                          V3M4   8  2513  B Y38 0!5 E        50  1838     005+2
521  2 559         BIN   SYNTAX,                               V3M4   5  2521  B S26             51  1226
522                ORG   2599                                  V3M4            2599
523  2 599  GMWM   DCW   @}@                                          1  2599              GMARK  52
524                XFR   BEGN24                                             B 980                52   980
525         CLRME  CLRA  BEGIN3,GMWM                                                      MACRO
            *      CLRA  CLRBOT,CLRTOP[,ORG,GMWMAD]                                       GEN
            *                                                                            GEN
            * CLEAR CORE AFTER A PHASE USING THE CLRTOP ADDRESS                          GEN
            *                                                                            GEN
526                ORG   201                                                  0201
            *                                                                            GEN
            * CLEAR DOWN TO CLRBOT & X00 THE EASY WAY                                    GEN
            *                                                                            GEN
527         CLRME  EQU   *&1                                                 0201        GEN
528         )0J005 CS    GMWM         CLEAR FROM CLRTOP                      4  0201  / N99       GEN     53  2599
529                SBR   )0J005&3                                            4  0205  H 204       GEN     53   204
530                SBR   )0L005&6                                            4  0209  H 250       GEN     53   250
531                C     )0J005&3,)0M005   DOWN TO CLRBOT & X00?             7  0213  C 204 261   GEN     53   204     261
532                BU    )0J005                                              5  0220  B 201 /     GEN     53   201
            *                                                                            GEN
            * NOW CLEAR DOWN TO CLRBOT THE HARD WAY                                     GEN
            *                                                                            GEN
533         )0K005 C     )0L005&6,)0N005                                     7  0225  C 250 264   GEN     53   250     264
534                BU    )0L005                                              5  0232  B 244 /     GEN     53   244
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SEQ PG LIN  LABEL   OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR

535                 CS    LOADNX,)0Q005  LOAD THE NEXT BLOCK AT 1       7  0237  / 700 271   GEN     54   700     271
536         )0L005  LCA   )0P005,0-0     CLEAR WITH BLANK AND WORD MARK 7  0244  L 265 000   GEN     54   265     000
537                 SBR   )0L005&6                                      4  0251  H 250        GEN     54   250
538                 B     )0K005                                       4  0255  B 225        GEN     54   225
539         )0M005  DSA   )0R005         CLRBOT & X00 - 1             3  0261  899          GEN     54   899
540         )0N005  DSA   BEGIN3         CLRBOT                       3  0264  838          GEN     54   838
541         )0P005  DCW   #1                                          1  0265                GEN     54
542                 DC    @CLRA @     IDENTIFY IN A DECK, TAPE, OR DUMP 5  0270              GEN     54
543         )0Q005  DCW   @}@                                         1  0271                GEN     55
544                 ORG   BEGIN3&X00                                          0900
545         )0R005  EQU   *           CLRBOT & X00 - 1                    0899              GEN
546                 XFR   CLRME                                                 B 201               55   201
```

SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS
)0J005	0201: 0	)0K005	0225: 0	)0L005	0244: 0	)0M005	0261: 0	)0N005	0264: 0	)0P005	0265: 0
)0Q005	0271: 0	)0R005	0899: 0	)6J004	0110: 0	)6K004	0700: 0	)6L004	0704: 0	)6M004	0728: 0
)9J004	0253: 0	)9R004	0257: 0	ABZONE	2408: 0	ARYSIZ	0160: 0	BEGIN3	0838: 0	BEGN23	0980: 0
BEGN24	0980: 0	BUMPX3	2351: 0	CDOVLY	0700: 0	CHKCOD	1966: 0	CLRME	0201: 0	CODEOK	1097: 0
COMMA	2460: 0	CONT	1478: 0	DEEP	1537: 0	DOGM	2368: 0	DOH	2341: 0	DOIFEA	2364: 0
DOLP	2352: 0	DONE	1021: 0	DOP	2372: 0	DORP	2356: 0	DOSLSH	2360: 0	ENDER2	2216: 0
ENDER3	2202: 0	ENDER4	2127: 0	ENDER5	2187: 0	ENDER6	2243: 0	ENDERR	2228: 0	ENDFLD	1803: 0
ENDFM2	2037: 0	ENDFMT	2010: 0	ERR15	2407: 0	ERR16	2454: 0	ERR17	2511: 0	ERR45	2428: 0
ETEST	2513: 0	FFLD	1701: 0	FFLD2	1755: 0	FLAG1	2380: 0	FLAG2	2381: 0	FLAG3	2512: 0
FLAG4	2480: 0	FMTCOD	2479: 0	FMTLAB	2379: 0	FORMAT	1030: 0	GMWM	2599: 0	HOLFIN	1366: 0
HOLRIT	1274: 0	IAFLD	1740: 0	IFEA	1632: 0	IFEAT	1776: 0	IOCODE	2485: 0	IOSTME	2329: 0
IOSTMT	2265: 0	K0	2465: 0	K133	2468: 0	K134	2471: 0	K20	2431: 0	K4	2461: 0
KB1	2376: 0	KDOT	2459: 0	KP	2432: 0	KP1	2382: 0	KP4	2458: 0	KZ	2389: 0
KZ3	2464: 0	LOADNX	0700: 0	LOOP	1090: 0	LPAR	1466: 0	MOVEH	1313: 0	MSG	0880: 0
NEGARY	0163: 0	NEXT	0995: 0	NODIG	1945: 0	NUMBER	1872: 0	NUMBRL	1892: 0	NUMBRX	1962: 0
PFLD	1447: 0	PHAS24	0201: 0	PHASLD	0381: 0	RPAR	1509: 0	RPOK	1552: 0	SAWGM	1580: 0
SEMIC	0872: 0	SEQCOD	0879: 0	SHORTH	1377: 0	SIGN	1392: 0	SKPCOM	1807: 0	SLASH	1604: 0
SNAPEX	0564: 0	SNAPSH	0333: 0	SX1	1083: 0	SX2	2109: 0	SX2B	2385: 0	SX3	0875: 0
SX3B	2308: 0	SYNTAX	1226: 0	TEST	1991: 0	TOOBIG	0838: 0	TOP3	2600: 0	TPERR	0728: 0
TPREAD	0704: 0	TSTWID	1795: 0	W3	2388: 0	W3B	2457: 0	WBIG	1838: 0	WMSG	1237: 0
X1	0089: 0	X2	0094: 0	X3	0099: 0	XFLD	1249: 0				

UNREFERENCED SYMBOLS

CDOVLY PHASLD SNAPEX TOP3 TPERR TPREAD