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

101               JOB   FORTRAN COMPILER -- ARITH PHASE TWO -- PHASE 34
102               CTL   6611
103         *
104         * ALL ARITHMETIC AND IF STATEMENTS ARE UNNESTED USING A
105         * FORCING TABLE TECHNIQUE.  ERROR CHECKING CONTINUES.
106         *
107         * ON ENTRY X1 IS THE TOP OF THE TOPMOST NON-ASSIGNMENT NON-IF
108         * STATEMENT, X2 IS THE TOP OF THE TOPMOST ASSIGNMENT OR IF
109         * STATEMENT IN HIGH CORE, AND X3 IS ONE BELOW THE BOTTOMMOST
110         * ASSIGNMENT OR IF STATEMENT IN HIGH CORE.
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         GLOBER EQU   184  GLOBAL ERROR FLAG -- WM MEANS ERROR                0184
119         *
120               EXT00   SNAPSH, LOADNX, CDOVLY                                                MACRO
121         SNAPSH EQU   333                                                     0333             GEN
122         PHASLD EQU   381                                                     0381             GEN
123         SNAPEX EQU   564                                                     0564             GEN
124         LOADNX EQU   700   CARD OVERLAY UNLESS NOP                         0700             GEN
125         CDOVLY EQU   700   1 IF LOADING FROM CARDS, N IF FROM TAPE         0700             GEN
126         TPREAD EQU   704   LOAD OVERLAY FROM TAPE                          0704             GEN
127         TPERR  EQU   728                                                     0728             GEN
128         *
129               EXT03   START, TOP OF PHASE 3                                                 MACRO
130         BEGIN3 EQU   838                                                     0838             GEN
131         TOP3   EQU   2600                                                    2600             GEN
132         *
133         110    DCW   @ARITH TWO@                                       9   0110                      1
134         *
135         * LOAD THIS BLOCK AND THE NEXT ONE
136         *
137         PHAS34 LDPH  ARITH TWO,LOADAD,LOADNX,,,34.1                                          MACRO
            * PHAZ   LDPH [PHASID],LOADAD,ENTAD[,SKIPFG,SKIP],[NUMBER][,HALT]                 GEN
            *        XFR  PHASZ     PROHIBITED IN A MACRO                                     GEN
            *                                                                                 GEN
            * LOAD A BLOCK                                                                    GEN
            *                                                                                 GEN
138         )6J003 EQU   110  PHASE ID                                           0110             GEN
139         )6K003 EQU   700  LOAD NEXT PHASE                                    0700             GEN
140         )6L003 EQU   704  TAPE READ INSTRUCTION                              0704             GEN
141         )6M003 EQU   728  TAPE ERROR HANDLER                                 0728             GEN
            *                                                                                 GEN
142               ORG   201                                                                0201
143         PHAS34 BSS   )8J003,G                                              5   0201  B 257 G     GEN      2   257
144               NOP     TO PATCH IN TRAPS FOR DEBUGGING                      1   0206  N           GEN      2
```

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

145         )0J003  EQU   *&1                                                0207          GEN
146                 LCA   )9J003,)6J003                                7  0207  L 281 110   GEN     2   281     110
147                 BCE   )1J003,)6K003,1    Q: LOADING FROM CARDS?    8  0214  B 250 700 1 GEN     2   250     700
148                 BCE   )1J003,)6L003&4,0  Q: LOADING FROM AUTOCODER  8  0222  B 250 708 0 GEN     2   250     708
149                 RTW   1,LOADAD           READ THE BLOCK            8  0230  L %U1 838 R GEN     2   %U1     838
150                 BER   )6M003             Q: TAPE ERROR?            5  0238  B 728 L     GEN     3   728
151                 CS    LOADNX,)9R003      ENTER THE BLOCK           7  0243  / 700 287   GEN     3   700     287
152         )1J003  CS    )6K003,)9R003      LOAD CARDS OR AUTOCODER   7  0250  / 700 287   GEN     3   700     287
153         )8J003  SW    )9R003                                       4  0257  , 287       GEN     3   287
154                 MU    %T0,)8K003,W                                 8  0261  M %T0 273 W GEN     3   %T0     273
155                 H     )0J003                                       4  0269  . 207       GEN     3   207
156         )8K003  EQU   *&1                                                0273          GEN
157         )9J003  DCW   @ARITH TWO@          PHASE ID                9  0281          GEN     4
158                 DCW   #1                                           1  0282          GEN     4
159                 DC    @34.1@          PHASE NUMBER                4  0286          GEN     4
160         )9R003  DCW   @}@                                         1  0287          GEN     4
161                 XFR   PHAS34                                             B 201         5   201
162         *
163                 ORG   BEGIN3                                                0838
164         *
165         LOADAD  EQU   *&1          LOAD ADDRESS                          0838
166    838  BEGN34  BCE   DONE,X2,.                                    8  0838  B N47 094 .       6  2547     094
167    846          SW    GM                                           4  0846  , N54             6  2554
168    850          MCW   X2,SX2                                       7  0850  M 094 P26         6   094    2726
169    857          SBR   X3,2&X3                                     7  0857  H 099 0?2         6   099     002+3
170    864          SBR   X1,2&X1                                     7  0864  H 089 0|2         6   089     002+1
171    871          MCW   X1,X2                                       7  0871  M 089 094         7   089     094
172    878  GET00   MN    X2,CHKX2  GET X2                            7  0878  D 094 P28         7   094    2728
173    885          MN                UP TO                          1  0885  D                 7
174    886          C     CHKX2,K00     X2 & X00                     7  0886  C P28 P30         7  2728    2730
175    893          BE    GOT00                                        5  0893  B 913 S           7   913
176    898          CW    0&X2                                         4  0898  ) 0!0             7   000+2
177    902          SBR   X2,1&X2                                     7  0902  H 094 0!1         7   094     001+2
178    909          B     GET00                                        4  0909  B 878             8   878
179    913  GOT00   MN    0&X2                                         4  0913  D 0!0             8   000+2
180    917          SAR   X2P99  X2 & X00 - 1                         4  0917  Q P33             8  2733
181    921          MN    0&X3                                         4  0921  D 0?0             8   000+3
182    925          SAR   X2                                           4  0925  Q 094             8   094
183    929  CLRL    C     X2,X2P99  CLEAR DOWN                        7  0929  C 094 P33         8   094    2733
184    936          BE    CLRX        TO TOP                         5  0936  B 953 S           8   953
185    941          CS    0&X2          OF CODE                      4  0941  / 0!0             9   000+2
186    945          SBR   X2              IN LOW                     4  0945  H 094             9   094
187    949          B     CLRL              CORE & X00               4  0949  B 929             9   929
188    953  CLRX    MN    0&X1                                         4  0953  D 0|0             9   000+1
189    957          SAR   X1                                           4  0957  Q 089             9   089
190    961  MORE    MCM   0&X3     MOVE CODE                           4  0961  P 0?0             9   000+3
191    965          SAR   SX3&6      DOWN FROM                       4  0965  Q 987             9   987
192    969          MCM   0&X3,1&X1    TOP CORE                      7  0969  P 0?0 0|1        10   000+3   001+1
193    976          MN                  TO BOTTOM                    1  0976  D                10
194    977          SBR   X1                OF BOTTOMMOST            4  0977  H 089            10   089
```

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

195    981  SX3    SBR   X3,0               ASSIGNMENT                      7  0981  H 099 000          10   099     000
196    988         BCE   MORE,0&X1,|          OR IF                        8  0988  B 961 0|0 |        10   961     000+1
197    996         MN    0&X3                   STATEMENT                   4  0996  D 0?0              10   000+3
198  1 000         CW                                                      1  1000  )                  10
199  1 001         SW    0&X1                                              4  1001  , 0|0              11   000+1
200  1 005         C     X3,SX2                                            7  1005  C 099 P26          11   099    2726
201  1 012         BU    MORE                                              5  1012  B 961 /            11   961
202  1 017         MN    0&X1                                              4  1017  D 0|0              11   000+1
203  1 021         SAR   X1                                                4  1021  Q 089              11   089
204         *
205         * X1 IS NOW THE TOP OF THE TOPMOST ASSIGNMENT OR IF STATEMENT
206         * IN LOW CORE AND X3 IS ONE ABOVE THE TOP OF THE TOPMOST
207         * ASSIGNMENT OR IF STATEMENT IN HIGH CORE.
208         *
209  1 025         MN    0&X3                                              4  1025  D 0?0              11   000+3
210  1 029         SBR   IXTOP  INDEX OF STATEMENT IN TOP CORE             4  1029  H P36              11  2736
211  1 033         BCE   LOOP,0&X3,}                                       8  1033  B |60 0?0 } GMARK  12  1060     000+3
212  1 041         SBR   X3                                                4  1041  H 099              12   099
213  1 045         LCA   GM                                                4  1045  L N54              12  2554
214  1 049         SBR   IXTOP                                            4  1049  H P36              12  2736
215  1 053         MCW   X3,SX2                                           7  1053  M 099 P26          12   099    2726
216  1 060  LOOP   MCW   IXTOP,IXTSAV                                      7  1060  M P36 P39          12  2736    2739
217  1 067         MCW   0&X1,X3                                           7  1067  M 0|0 099          13   000+1   099
218  1 074         BWZ   *&5,X3,2  ZONE IN ONES OR                        8  1074  V |86 099 2        13  1086     099
219  1 082         B     *&9         THOUSANDS MEANS ADDRESS OF            4  1082  B |94              13  1094
220  1 086         BWZ   *&8,X3-2,2    SEQUENCE NUMBER IN SYMBOL TABLE     8  1086  V /01 097 2        13  1101     097
221  1 094         MCW   0&X3,X3  GET SEQUENCE NUMBER FROM TABLE           7  1094  M 0?0 099          13   000+3   099
222  1 101         MCW   X3,SEQNO                                          7  1101  M 099 P42          14   099    2742
223  1 108         MCW   KB12,W3B                                          7  1108  M P95 Q09          14  2795    2809
224  1 115         MCW   KBRACK,40&X1  RIGHT BRACKET                      7  1115  M P43 0U0          14  2743     040+1
225  1 122         SBR   LOCBRK&6,40&X1  REMEMBER WHERE WE PUT IT          7  1122  H /85 0U0          14  1185     040+1
226  1 129         B     MOVEUP          MOVE PREFIX UP TO HIGH CORE       4  1129  B S57              14  1257
227  1 133         BCE   IFSTMT,2&X1,E  IF STATEMENT?                      8  1133  B S21 0|2 E        15  1221     002+1
228  1 141         C     2&X1,KR         ASSIGNMENT STATEMENT?             7  1141  C 0|2 P44          15   002+1  2744
229  1 148         BU    ALMOST          NO, ALMOST DONE                   5  1148  B N19 /            15  2519
230  1 153  READY  MCW   X1,X3                                            7  1153  M 089 099          15   089     099
231  1 160         SBR   LINK&3,0&X1                                      7  1160  H M96 0|0          15  2496     000+1
232  1 167         C     0&X3                                              4  1167  C 0?0              15   000+3
233  1 171         SAR   SX3B                                             4  1171  Q P47              16  2747
234  1 175         B     HUNT                                              4  1175  B S91              16  1291
235  1 179  LOCBRK BCE   WHEW,0,]  RIGHT BRACKET                          8  1179  B T81 000 ]        16  1381     000
236         *
237         * BRACKET HAVING BEEN CLOBBERED MEANS PROGRAM IS TOO BIG
238         *
239  1 187         CS    332                                               4  1187  / 332              16   332
240  1 191         CS                                                      1  1191  /                  16
241  1 192         CC    1                                                 2  1192  F 1                16
242  1 194         MCW   ERR2,270                                          7  1194  M P83 270          16  2783     270
243  1 201         W                                                       1  1201  2                  17
244  1 202         CC    1                                                 2  1202  F 1                17
```

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

245  1 204         BCE   HALT,CDOVLY,1                                        8  1204  B S17 700 1         17  1217     700
246  1 212         RWD   1                                                    5  1212  U %U1 R             17   %U1
247  1 217  HALT   H     HALT                                                 4  1217  . S17               17  1217
248         *
249         * IF STATEMENT, GET X3 DOWN TO A BLANK BELOW X1, THEN SET
250         * A WORD MARK ONE BELOW THERE
251         *
252  1 221  IFSTMT MCW   X1,X3                                               7  1221  M 089 099           17   089     099
253  1 228  GETB   BCE   GOTB,0&X3,,                                         8  1228  B S44 0?0 ,         17  1244     000+3
254  1 236         SBR   X3                                                 4  1236  H 099               18   099
255  1 240         B     GETB                                               4  1240  B S28               18  1228
256  1 244  GOTB   MN    0&X3                                               4  1244  D 0?0               18   000+3
257  1 248         SW                                                       1  1248  ,                   18
258  1 249         B     MOVEUP                                             4  1249  B S57               18  1257
259  1 253         B     READY                                              4  1253  B /53               18  1153
260         *
261         * MOVE UP PREFIX OR BODY
262         *
263  1 257  MOVEUP SBR   MOVEUX&3                                           4  1257  H S90               18  1290
264  1 261         MCW   IXTOP,X2                                           7  1261  M P36 094           19  2736     094
265  1 268         LCA   0&X1,0&X2                                          7  1268  L 0|0 0!0           19   000+1   000+2
266  1 275         SBR   IXTOP                                              4  1275  H P36               19  2736
267  1 279         C     0&X1                                               4  1279  C 0|0               19   000+1
268  1 283         SAR   X1                                                 4  1283  Q 089               19   089
269  1 287  MOVEUX B     0                                                  4  1287  B 000               19   000
270         *
271         * HUNT FOR INTERESTING CHARACTERS
272         *
273  1 291  HUNT   SBR   HUNTX&3                                           4  1291  H T46               19  1346
274  1 295         BCE   SKPSUB,0&X3,$                                      8  1295  B T47 0?0 $         20  1347     000+3
275  1 303  HUNTL  MCW   0&X3,CURR                                          7  1303  M 0?0 P96           20   000+3  2796
276  1 310         SAR   X3                                                 4  1310  Q 099               20   099
277  1 314         MCW   CURR,*&8                                          7  1314  M P96 T28           20  2796    1328
278  1 321         BCE   HUNTX,CHARS,0                                      8  1321  B T43 O23 0         20  1343    2623
279  1 329         CHAIN 10                                                                 MACRO
280               BCE                                                      1  1329  B           GEN     20
281               BCE                                                      1  1330  B           GEN     20
282               BCE                                                      1  1331  B           GEN     21
283               BCE                                                      1  1332  B           GEN     21
284               BCE                                                      1  1333  B           GEN     21
285               BCE                                                      1  1334  B           GEN     21
286               BCE                                                      1  1335  B           GEN     21
287               BCE                                                      1  1336  B           GEN     21
288               BCE                                                      1  1337  B           GEN     21
289               BCE                                                      1  1338  B           GEN     22
290  1 339         B     HUNTL                                              4  1339  B T03               22  1303
291  1 343  HUNTX  B     0                                                  4  1343  B 000               22   000
292         *
293         * SKIP SUBSCRIPT -- DECREASE X3 BY EITHER 12 OR 18
294         *
```

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

295  1 347  SKPSUB C     0&X3,KB12                                      7  1347  C 0?0 P95          22   000+3  2795
296  1 354         SAR   X3                                           4  1354  Q 099              22   099
297  1 358         BCE   HUNTX,2&X3,$                                 8  1358  B T43 0?2 $        22  1343     002+3
298  1 366         C     0&X3,KB12-6                                  7  1366  C 0?0 P89          22   000+3  2789
299  1 373         SAR   X3                                           4  1373  Q 099              23   099
300  1 377         B     HUNTX                                        4  1377  B T43              23  1343
301         *
302         * PROGRAM ISN'T TOO BIG
303         *
304  1 381  WHEW   MCW   1&X3,CURR    CURRENT OPERATOR OR ASSIGNMENT   7  1381  M 0?1 P96          23   001+3  2796
305  1 388         MCW   1&X1,PREV    PREVIOUS OPERATOR OR GM          7  1388  M 0|1 P97          23   001+1  2797
306  1 395         MCW   PREV,LOOKCH&7                                7  1395  M P97 V46          23  2797    1546
307  1 402         MCW   KB12,W3                                      7  1402  M P95 Q00          23  2795    2800
308  1 409         B     LOOK                                         4  1409  B V16              24  1516
309  1 413         MN    CHNUM,W3-1   PREVIOUS CHARS INDEX IS TENS    7  1413  D Q01 P99          24  2801    2799
310  1 420         MCW   CURR,LOOKCH&7                                7  1420  M P96 V46          24  2796    1546
311  1 427         B     LOOK                                         4  1427  B V16              24  1516
312  1 431         MN    CHNUM,W3     CURRENT CHARS INDEX IS ONES     7  1431  D Q01 Q00          24  2801    2800
313  1 438         MCW   W3,X2                                        7  1438  M Q00 094          24  2800     094
314  1 445         MN    TABLE&X2,X2  GET ONE                         7  1445  D OK4 094          25  2624+2   094
315  1 452         MCW   KB12           DIGIT FROM TABLE              4  1452  M P95              25  2795
316  1 456         BWZ   MSG24,X2,S                                   8  1456  V K61 094 S        25  2261     094
317  1 464         A     X2                                           4  1464  A 094              25   094
318  1 468         A     X2           QUADRUPLE IT                    4  1468  A 094              25   094
319  1 472         B     *&1&X2                                       4  1472  B UP6              25  1476+2
320  1 476         B     ZERO   INDEX FROM TABLE IS ZERO              4  1476  B W03              25  1603
321  1 480         B     ONE    INDEX FROM TABLE IS ONE               4  1480  B W18              26  1618
322  1 484         B     TWO    INDEX FROM TABLE IS TWO               4  1484  B W59              26  1659
323  1 488         B     THREE  INDEX FROM TABLE IS THREE             4  1488  B M58              26  2458
324  1 492         B     FOUR   INDEX FROM TABLE IS FOUR              4  1492  B Z48              26  1948
325  1 496         B     FIVE   INDEX FROM TABLE IS FIVE              4  1496  B Z81              26  1981
326  1 500         B     MSG25  INDEX FROM TABLE IS SIX               4  1500  B M13              26  2413
327  1 504         B     MSG16  INDEX FROM TABLE IS SEVEN             4  1504  B L75              26  2375
328  1 508         B     MSG32  INDEX FROM TABLE IS EIGHT             4  1508  B L37              27  2337
329  1 512         B     MSG26  INDEX FROM TABLE IS NINE              4  1512  B K99              27  2299
330         *
331         * LOOK FOR A CHARACTER IN CHARS, TREATING MINUS AND PLUS
332         * EQUALLY, COUNTING AS WE LOOK
333         *
334  1 516  LOOK   SBR   LOOKCH&3                                      4  1516  H V42              27  1542
335  1 520         BCE   LOOK3,LOOKCH&7,-                             8  1520  B V62 V46 -        27  1562    1546
336  1 528  LOOK2  S     CHNUM  INDEX IN CHARS                        4  1528  S Q01              27  2801
337  1 532         MCW   ACHARS,LOOKCH&6                             7  1532  M Q04 V45          27  2804    1545
338  1 539  LOOKCH BCE   0,0,0                                       8  1539  B 000 000 0        27   000     000
339  1 547         SBR   LOOKCH&6                                    4  1547  H V45              28  1545
340  1 551         A     K1,CHNUM                                     7  1551  A Q05 Q01          28  2805    2801
341  1 558         B     LOOKCH                                       4  1558  B V39              28  1539
342  1 562  LOOK3  MCW   KPLUS,LOOKCH&7                              7  1562  M Q06 V46          28  2806    1546
343  1 569         B     LOOK2                                        4  1569  B V28              28  1528
344         *
```

```
SEQ PG LIN  LABEL  OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR
345  1 573  COUNT  SBR   COUNTX&3                                      4  1573  H W02               28  1602
346  1 577         A     K1,W3B                                       7  1577  A Q05 Q09           28  2805    2809
347  1 584         MZ    W3B-1,CH                                     7  1584  Y Q08 N53           29  2808    2553
348  1 591         MN    W3B,CH                                       7  1591  D Q09 N53           29  2809    2553
349  1 598         MN                                                 1  1598  D                   29
350  1 599  COUNTX B     0                                            4  1599  B 000               29   000
351         *
352         * INDEX FROM TABLE IS ZERO.
353         * PREV *      CURR %. BLANK
354         * PREV %      CURR *%&@. BLANK ,
355         * PREV #      CURR *%&@. BLANK ,
356         * PREV GM     CURR #
357         * PREV &      CURR *%@. BLANK ,
358         * PREV @      CURR %. BLANK
359         * PREV .      CURR % BLANK
360         * PREV BLANK  CURR *%&@. BLANK ,
361         * PREV ,      CURR %. BLANK
362         *
363  1 603  ZERO   MCW   X3,X1  CURRENT TO PREVIOUS                   7  1603  M 099 089           29   099     089
364  1 610         B     HUNT   GET NEXT OPERATOR                     4  1610  B S91               29  1291
365  1 614         B     WHEW                                         4  1614  B T81               29  1381
366         *
367         * INDEX FROM TABLE IS ONE.
368         * PREV %  CURR )
369         *
370  1 618  ONE    SW    2&X3                                         4  1618  , 0?2               30   002+3
371  1 622         LCA   0&X1,1&X1                                    7  1622  L 0|0 0|1           30   000+1   001+1
372  1 629         CW    3&X3                                         4  1629  ) 0?3               30   003+3
373  1 633         CW                                                 1  1633  )                   30
374  1 634         LCA   0&X3,2&X3                                    7  1634  L 0?0 0?2           30   000+3   002+3
375  1 641         SBR   X1,1&X1                                      7  1641  H 089 0|1           30   089     001+1
376  1 648         SBR   X3,1&X3                                      7  1648  H 099 0?1           30   099     001+3
377  1 655         B     WHEW                                         4  1655  B T81               31  1381
378         *
379         * INDEX FROM TABLE IS TWO
380         * PREV *  CURR *)G&@
381         * PREV &  CURR )G&
382         * PREV @  CURR *)G&@
383         * PREV .  CURR *)G&@
384         *
385  1 659  TWO    MCW   IXTOP,X2                                     7  1659  M P36 094           31  2736     094
386  1 666         MZ    4&X3,SAVTAG                                  7  1666  Y 0?4 Q10           31   004+3  2810
387  1 673         BCE   *&8,2&X3,$                                   8  1673  B W88 0?2 $         31  1688     002+3
388  1 681         MZ    3&X3,SAVTAG                                  7  1681  Y 0?3 Q10           31   003+3  2810
389  1 688         SW    2&X3                                         4  1688  , 0?2               31   002+3
390  1 692         LCA   0&X1,0&X2                                    7  1692  L 0|0 0!0           32   000+1   000+2
391  1 699         SBR   X2                                           4  1699  H 094               32   094
392  1 703         CW    1&X2                                         4  1703  ) 0!1               32   001+2
393  1 707         SW    2&X1                                         4  1707  , 0|2               32   002+1
394  1 711         SW                                                 1  1711  ,                   32
```

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

395  1 712          LCA   1&X1,0&X2                                7  1712  L 0|1 0!0           32   001+1   000+2
396  1 719          SBR   X2                                       4  1719  H 094               32   094
397  1 723          SBR   IXTOP                                    4  1723  H P36               33  2736
398  1 727          CW    1&X2                                     4  1727  ) 0!1               33   001+2
399  1 731          BCE   SUBTWO,2&X1,$                            8  1731  B Y90 0|2 $         33  1890     002+1
400  1 739          LCA   4&X1,0&X2                                7  1739  L 0|4 0!0           33   004+1   000+2
401  1 746          SBR   IXTOP                                    4  1746  H P36               33  2736
402  1 750          MZ    3&X1,TAG1                                7  1750  Y 0|3 N52           33   003+1  2552
403  1 757          SAR   X1                                       4  1757  Q 089               33   089
404  1 761  SUBBAK  B     COUNT                                    4  1761  B V73               34  1573
405  1 765          LCA   CH,2&X1                                  7  1765  L N53 0|2           34  2553     002+1
406  1 772          LCA   1&X3                                     4  1772  L 0?1               34   001+3
407  1 776          CW    0&X1                                     4  1776  ) 0|0               34   000+1
408  1 780          MN                                             1  1780  D                   34
409  1 781          SAR   X3                                       4  1781  Q 099               34   099
410  1 785          SBR   X1,2&X1                                  7  1785  H 089 0|2           34   089     002+1
411  1 792          BWZ   TWOA,TAG1,S                             8  1792  V Y36 N52 S         35  1836    2552
412  1 800          BM    TWOA,TAG1                                8  1800  V Y36 N52 K         35  1836    2552
413  1 808          BWZ   LOCBRK,SAVTAG,2                          8  1808  V /79 Q10 2         35  1179    2810
414  1 816          BWZ   LOCBRK,SAVTAG,B                          8  1816  V /79 Q10 B         35  1179    2810
415  1 824          BCE   LOCBRK,PREV,.                            8  1824  B /79 P97 .         36  1179    2797
416  1 832          B     MIXED                                    4  1832  B Y52               36  1852
417  1 836  TWOA    BWZ   LOCBRK,SAVTAG,S                          8  1836  V /79 Q10 S         36  1179    2810
418  1 844          BM    LOCBRK,SAVTAG                            8  1844  V /79 Q10 K         36  1179    2810
419          *
420          * MIXED MODE ARITHMETIC
421          *
422  1 852  MIXED   CS    332                                      4  1852  / 332               36   332
423  1 856          CS                                             1  1856  /                   36
424  1 857          SW    GLOBER                                   4  1857  , 184               36   184
425  1 861          MN    SEQNO,241                                7  1861  D P42 241           37  2742     241
426  1 868          MN                                             1  1868  D                   37
427  1 869          MN                                             1  1869  D                   37
428  1 870          MCW   ERR46                                    4  1870  M Q48               37  2848
429  1 874          W                                              1  1874  2                   37
430  1 875          BCV   *&5                                      5  1875  B Y84 @             37  1884
431  1 880          B     *&3                                      4  1880  B Y86               37  1886
432  1 884          CC    1                                        2  1884  F 1                 38
433  1 886          B     ERRFIN                                   4  1886  B M47               38  2447
434          *
435  1 890  SUBTWO  SBR   X2,10&X1                                 7  1890  H 094 0/0           38   094     010+1
436  1 897          BCE   *&8,2&X2,$                               8  1897  B Z12 0!2 $         38  1912     002+2
437  1 905          SBR   X2,6&X2                                  7  1905  H 094 0!6           38   094     006+2
438  1 912          MCW   IXTOP,*&7                                7  1912  M P36 Z25           38  2736    1925
439  1 919          LCA   2&X2,0                                   7  1919  L 0!2 000           39   002+2   000
440  1 926          SBR   IXTOP                                    4  1926  H P36               39  2736
441  1 930          MZ    4&X1,TAG1                                7  1930  Y 0|4 N52           39   004+1  2552
442  1 937          MCW   X2,X1                                    7  1937  M 094 089           39   094     089
443  1 944          B     SUBBAK                                   4  1944  B X61               39  1761
444          *
```

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

445         * INDEX FROM TABLE IS FOUR
446         * PREV ,  CURR *)G&@
447         *
448  1 948  FOUR   MCW   KN,1&X1                                    7  1948  M Q49 0|1           39  2849     001+1
449  1 955         MZ    4&X3,TAG1                                 7  1955  Y 0?4 N52           40   004+3  2552
450  1 962         BCE   FIVEB,2&X3,$                             8  1962  B J17 0?2 $         40  2117     002+3
451  1 970         MZ    3&X3,TAG1                                 7  1970  Y 0?3 N52           40   003+3  2552
452  1 977         B     FIVEB                                     4  1977  B J17               40  2117
453         *
454         * INDEX FROM TABLE IS FIVE
455         * PREV BLANK  CURR )
456         *
457  1 981  FIVE   MCW   3&X1,W2                                   7  1981  M 0|3 Q51           40   003+1  2851
458  1 988         BCE   FIVEC,3&X1,X                             8  1988  B J75 0|3 X         41  2175     003+1
459  1 996         MZ    *-4,TAG1                                  7  1996  Y Z98 N52           41  1998    2552
460  2 003  FIVEF  SW    2&X1                                      4  2003  , 0|2               41   002+1
461  2 007         MCW   2&X1,*&8                                  7  2007  M 0|2 !21           41   002+1  2021
462  2 014         BCE   USRFNC,USRCOD,0                          8  2014  B !99 Q63 0         41  2099    2863
463  2 022         CHAIN 11                                                                  MACRO
464               BCE                                             1  2022  B                   GEN     41
465               BCE                                             1  2023  B                   GEN     41
466               BCE                                             1  2024  B                   GEN     42
467               BCE                                             1  2025  B                   GEN     42
468               BCE                                             1  2026  B                   GEN     42
469               BCE                                             1  2027  B                   GEN     42
470               BCE                                             1  2028  B                   GEN     42
471               BCE                                             1  2029  B                   GEN     42
472               BCE                                             1  2030  B                   GEN     42
473               BCE                                             1  2031  B                   GEN     43
474               BCE                                             1  2032  B                   GEN     43
475  2 033         MZ    4&X3,SAVTAG                               7  2033  Y 0?4 Q10           43   004+3  2810
476  2 040         BCE   FIVEA,2&X3,$                             8  2040  B !55 0?2 $         43  2055     002+3
477  2 048         MZ    3&X3,SAVTAG                               7  2048  Y 0?3 Q10           43   003+3  2810
478  2 055  FIVEA  BCE   FIVED,2&X1,F                             8  2055  B K07 0|2 F         43  2207     002+1
479  2 063         BCE   FIVED,2&X1,I                             8  2063  B K07 0|2 I         44  2207     002+1
480  2 071         C     W2,KAX                                    7  2071  C Q51 Q65           44  2851    2865
481  2 078         BE    FIVED                                     5  2078  B K07 S             44  2207
482  2 083         BWZ   MSG28,SAVTAG,S                          8  2083  V K23 Q10 S         44  2223    2810
483  2 091         BM    MSG28,SAVTAG                              8  2091  V K23 Q10 K         44  2223    2810
484  2 099  USRFNC MCW   2&X1,1&X1                                 7  2099  M 0|2 0|1           45   002+1   001+1
485  2 106         MCW   KLPAR,2&X1                               7  2106  M Q66 0|2           45  2866     002+1
486  2 113         CW    2&X1                                      4  2113  ) 0|2               45   002+1
487  2 117  FIVEB  MCW   IXTOP,X2                                 7  2117  M P36 094           45  2736      094
488  2 124         SW    2&X3                                      4  2124  , 0?2               45   002+3
489  2 128         LCA   1&X1,0&X2                               7  2128  L 0|1 0!0           45   001+1   000+2
490  2 135         SBR   IXTOP                                     4  2135  H P36               46  2736
491  2 139         B     COUNT                                     4  2139  B V73               46  1573
492  2 143         LCA   CH,1&X1                                  7  2143  L N53 0|1           46  2553     001+1
493  2 150         LCA   1&X3                                      4  2150  L 0?1               46   001+3
494  2 154         MN    0&X1                                      4  2154  D 0|0               46   000+1
```

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

495  2 158         CW                                                        1  2158  )                   46
496  2 159         MN                                                        1  2159  D                   46
497  2 160         SAR   X3                                                  4  2160  Q 099               47   099
498  2 164         SBR   X1,1&X1                                             7  2164  H 089 0|1           47   089     001+1
499  2 171         B     LOCBRK                                              4  2171  B /79               47  1179
500  2 175  FIVEC  MZ    FIVEC,TAG1                                          7  2175  Y J75 N52           47  2175    2552
501  2 182         LCA   2&X1,3&X1                                          7  2182  L 0|2 0|3           47   002+1   003+1
502  2 189         SBR   X1,1&X1                                             7  2189  H 089 0|1           47   089     001+1
503  2 196         SBR   X3,1&X3                                             7  2196  H 099 0?1           48   099     001+3
504  2 203         B     FIVEF                                               4  2203  B !03               48  2003
505  2 207  FIVED  BWZ   USRFNC,SAVTAG,S                                     8  2207  V !99 Q10 S         48  2099    2810
506  2 215         BM    USRFNC,SAVTAG                                       8  2215  V !99 Q10 K         48  2099    2810
507         *
508         * TAPE BLOCK IS TOO BIG FOR CHM TAU EMULATOR
509         *
510         END1   DCW   @}@                                                 1  2223              GMARK   48
511                XFR   LOADNX         LOAD THIS                                    B 700               49   700
512         PART2  LDPH  ,MSG28,BEGN34,,,34.2  LOAD PART2 AND START IN PART 1                          MACRO
            * PHAZ   LDPH [PHASID],LOADAD,ENTAD[,SKIPFG,SKIP],[NUMBER][,HALT]                         GEN
            *        XFR  PHASZ     PROHIBITED IN A MACRO                                            GEN
            *                                                                                        GEN
            * LOAD A BLOCK                                                                           GEN
            *                                                                                        GEN
513         )6K004 EQU   700  LOAD NEXT PHASE                                  0700                 GEN
514         )6L004 EQU   704  TAPE READ INSTRUCTION                            0704                 GEN
515         )6M004 EQU   728  TAPE ERROR HANDLER                               0728                 GEN
            *                                                                                        GEN
516                ORG   201                                                          0201
517         PART2  BSS   )8J004,G                                              5  0201  B 250 G     GEN     50   250
518                NOP     TO PATCH IN TRAPS FOR DEBUGGING                    1  0206  N           GEN     50
519         )0J004 EQU   *&1                                                   0207                 GEN
520                BCE   )1J004,)6K004,1    Q: LOADING FROM CARDS?            8  0207  B 243 700 1 GEN     50   243     700
521                BCE   )1J004,)6L004&4,0  Q: LOADING FROM AUTOCODER TAPE?    8  0215  B 243 708 0 GEN     50   243     708
522                RTW   1,MSG28           READ THE BLOCK                     8  0223  L %U1 K23 R GEN     50   %U1    2223
523                BER   )6M004            Q: TAPE ERROR?                     5  0231  B 728 L     GEN     50   728
524                CS    BEGN34,)9R004      ENTER THE BLOCK                   7  0236  / 838 271   GEN     51   838     271
525         )1J004 CS    )6K004,)9R004      LOAD CARDS OR AUTOCODER TAPE      7  0243  / 700 271   GEN     51   700     271
526         )8J004 SW    )9R004                                             4  0250  , 271       GEN     51   271
527                MU    %T0,)8K004,W                                       8  0254  M %T0 266 W GEN     51   %T0     266
528                H     )0J004                                             4  0262  . 207       GEN     51   207
529         )8K004 EQU   *&1                                                   0266                 GEN
530                DCW   #1                                                 1  0266                 GEN     51
531                DC    @34.2@          PHASE NUMBER                       4  0270                 GEN     51
532         )9R004 DCW   @}@                                                 1  0271                 GEN     51
533                XFR   PART2                                                      B 201               52   201
534                ORG   END1                                                        2223
535         *
536         * WRONG ARGUMENT TYPE FOR FUNCTION
537         *
538  2 223  MSG28  CS    332                                                4  2223  / 332               53   332
```

```
SEQ PG LIN  LABEL  OP    OPERANDS                    SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR
539  2 227         CS                                  1  2227  /                   53
540  2 228         SW    GLOBER                        4  2228  , 184               53   184
541  2 232         MN    SEQNO,261                     7  2232  D P42 261           53  2742     261
542  2 239         MN                                  1  2239  D                   53
543  2 240         MN                                  1  2240  D                   53
544  2 241         MCW   ERR28                        4  2241  M O12               53  2612
545  2 245         W                                   1  2245  2                   54
546  2 246         BCV   *&5                          5  2246  B K55 @             54  2255
547  2 251         B     *&3                           4  2251  B K57               54  2257
548  2 255         CC    1                             2  2255  F 1                 54
549  2 257         B     ERRFIN                        4  2257  B M47               54  2447
550         *
551         * SYSTEM ERROR
552         *
553  2 261  MSG24  CS    332                           4  2261  / 332               54   332
554  2 265         CS                                  1  2265  /                   54
555  2 266         SW    GLOBER                        4  2266  , 184               55   184
556  2 270         MN    SEQNO,238                     7  2270  D P42 238           55  2742     238
557  2 277         MN                                  1  2277  D                   55
558  2 278         MN                                  1  2278  D                   55
559  2 279         MCW   ERR24                        4  2279  M R01               55  2901
560  2 283         W                                   1  2283  2                   55
561  2 284         BCV   *&5                          5  2284  B K93 @             55  2293
562  2 289         B     *&3                           4  2289  B K95               56  2295
563  2 293         CC    1                             2  2293  F 1                 56
564  2 295         B     ERRFIN                        4  2295  B M47               56  2447
565         *
566         * EXCESS OF # SIGNS
567         * INDEX FROM TABLE IS NINE
568         * PREV *      CURR #
569         * PREV #      CURR #
570         * PREV &      CURR #
571         * PREV @      CURR #
572         * PREV .      CURR #
573         * PREV BLANK  CURR #
574         * PREV ,      CURR #
575         *
576  2 299  MSG26  CS    332                           4  2299  / 332               56   332
577  2 303         CS                                  1  2303  /                   56
578  2 304         SW    GLOBER                        4  2304  , 184               56   184
579  2 308         MN    SEQNO,243                     7  2308  D P42 243           56  2742     243
580  2 315         MN                                  1  2315  D                   57
581  2 316         MN                                  1  2316  D                   57
582  2 317         MCW   ERR26                        4  2317  M R41               57  2941
583  2 321         W                                   1  2321  2                   57
584  2 322         BCV   *&5                          5  2322  B L31 @             57  2331
585  2 327         B     *&3                           4  2327  B L33               57  2333
586  2 331         CC    1                             2  2331  F 1                 57
587  2 333         B     ERRFIN                        4  2333  B M47               58  2447
588         *
```

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

589         * MULTIPLE EXPONENT
590         * INDEX FROM TABLE IS EIGHT
591         * PREV .  CURR .
592         *
593  2 337  MSG32  CS    332                                        4  2337  / 332              58   332
594  2 341         CS                                              1  2341  /                  58
595  2 342         SW    GLOBER                                    4  2342  , 184              58   184
596  2 346         MN    SEQNO,243                                 7  2346  D P42 243          58  2742     243
597  2 353         MN                                              1  2353  D                  58
598  2 354         MN                                              1  2354  D                  58
599  2 355         MCW   ERR32                                     4  2355  M R81              59  2981
600  2 359         W                                               1  2359  2                  59
601  2 360         BCV   *&5                                       5  2360  B L69 @            59  2369
602  2 365         B     *&3                                       4  2365  B L71              59  2371
603  2 369         CC    1                                         2  2369  F 1                59
604  2 371         B     ERRFIN                                    4  2371  B M47              59  2447
605         *
606         * PARENTHESIS ERROR
607         * INDEX FROM TABLE IS SEVEN
608         * PREV %      CURR GM
609         * PREV #      CURR )
610         * PREV BLANK  CURR GM
611         *
612  2 375  MSG16  CS    332                                        4  2375  / 332              59   332
613  2 379         CS                                              1  2379  /                  60
614  2 380         SW    GLOBER                                    4  2380  , 184              60   184
615  2 384         MN    SEQNO,243                                 7  2384  D P42 243          60  2742     243
616  2 391         MN                                              1  2391  D                  60
617  2 392         MN                                              1  2392  D                  60
618  2 393         MCW   ERR16                                     4  2393  M ?21              60  3021
619  2 397         W                                               1  2397  2                  60
620  2 398         BCV   *&5                                       5  2398  B M07 @            61  2407
621  2 403         B     *&3                                       4  2403  B M09              61  2409
622  2 407         CC    1                                         2  2407  F 1                61
623  2 409         B     ERRFIN                                    4  2409  B M47              61  2447
624         *
625         * LEFT SIDE IS WRONG
626         * INDEX FROM TABLE IS SIX
627         * PREV GM  CURR *)%&@. BLANK ,
628         *
629  2 413  MSG25  CS    332                                        4  2413  / 332              61   332
630  2 417         CS                                              1  2417  /                  61
631  2 418         SW    GLOBER                                    4  2418  , 184              61   184
632  2 422         MN    SEQNO,243                                 7  2422  D P42 243          62  2742     243
633  2 429         MN                                              1  2429  D                  62
634  2 430         MN                                              1  2430  D                  62
635  2 431         MCW   ERR25                                     4  2431  M ?61              62  3061
636  2 435         W                                               1  2435  2                  62
637  2 436         BCV   *&5                                       5  2436  B M45 @            62  2445
638  2 441         B     *&3                                       4  2441  B M47              62  2447
```

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

639  2 445         CC    1                                                   2  2445  F 1                 63
640  2 447  ERRFIN MCW   IXTSAV,IXTOP                                        7  2447  M P39 P36           63  2739    2736
641  2 454         B     RESTRT                                              4  2454  B N08               63  2508
642         *
643         * INDEX FROM TABLE IS THREE
644         * PREV #  CURR G
645         *
646  2 458  THREE  MCW   IXTOP,X2                                           7  2458  M P36 094           63  2736     094
647  2 465         SW    2&X3                                                4  2465  , 0?2               63   002+3
648  2 469         LCA   0&X1,0&X2                                           7  2469  L 0|0 0!0           63   000+1   000+2
649  2 476         LCA   KEQ                                                 4  2476  L ?62               63  3062
650  2 480         SBR   X2                                                  4  2480  H 094               64   094
651  2 484         CW    2&X2                                                4  2484  ) 0!2               64   002+2
652  2 488         CW                                                        1  2488  )                   64
653  2 489         SW    2&X1                                                4  2489  , 0|2               64   002+1
654  2 493  LINK   LCA   0,0&X2                                             7  2493  L 000 0!0           64   000     000+2
655  2 500         LCA   GM                                                  4  2500  L N54               64  2554
656  2 504         SBR   IXTOP                                               4  2504  H P36               64  2736
657  2 508  RESTRT MCW   SX3B,X1                                            7  2508  M P47 089           65  2747     089
658  2 515         B     LOOP                                                4  2515  B |60               65  1060
659         *
660  2 519  ALMOST SBR   X1,5&X1  GET BACK ABOVE PREFIX IN LOW CORE          7  2519  H 089 0|5           65   089     005+1
661  2 526         MCW   IXTOP,X3                                           7  2526  M P36 099           65  2736     099
662  2 533         SBR   X2,5&X3                                            7  2533  H 094 0?5           65   094     005+3
663  2 540         MCW   SX2,X3                                            7  2540  M P26 099           65  2726     099
664         *
665  2 547  DONE   B     LOADNX                                              4  2547  B 700               66   700
666         *
667         * DATA
668         *
669  2 570         DCW   @<@                                                 1  2551                      66
670  2 571  TAG1   DC    @ @                                                 1  2552                      66
671  2 572  CH     DC    @ @                                                 1  2553                      66
672  2 573  GM     DC    @}@                                                 1  2554             GMARK    66
673  2 623         DCW   @ERROR 28 - INCORRECT MODE OF FUNCTION ARGUMENT, ST@ 50  2604                      68
674  2 631  ERR28  DC    @ATEMENT @                                          8  2612                      68
675  2 632         DCW   @-@                                                 1  2613                      68
676         *
677         * ROWS AND COLUMNS OF TABLE ARE INDEXED BY POSITIONS IN
678         * CHARS, TAKEN IN REVERSE ORDER.
679         *
680  2 642  CHARS  DCW   @, .@&}#%)*@  PLUS, G-M, EQUAL                     10  2623                      68
681  2 643  TABLE  EQU   *&1                                                   2624
682         *         CURR  *)%#G&@. ,
683  2 652         DC    @220922200S@  *  PREV                             10  2633                      69
684  2 662         DC    @SSSSSSSSS@  )                                    10  2643                      69
685  2 672         DC    @0109700000@  %                                   10  2653                      69
686  2 682         DC    @0709300000@  #                                   10  2663                      70
687  2 692         DC    @6660S66666@  GM                                  10  2673                      70
688  2 702         DC    @020922000S@  &                                   10  2683                      70
```

```
SEQ PG LIN  LABEL  OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR
689  2 712         DC    @220922200S@  AT  WAS /                     10  2693                    71
690  2 722         DC    @220922280S@  .   WAS **                    10  2703                    71
691  2 732         DC    @0509700000@  BLANK                          10  2713                    71
692  2 742         DC    @440944400S@  ,   WAS NEGATE                 10  2723                    72
693          *
694          *    ARITH ALGORITHM
695          *
696          *                      PHI LEFT
697          *
698          *                                  -
699          *              *   )   %   #  GM   &   /  **  F%  NG
700          *
701          *   P     *    2   2   0   9   2   2   2   0   0   S
702          *   H     )    S   S   S   S   S   S   S   S   S   S
703          *   I     %    0   1   0   9   7   0   0   0   0   0
704          *         #    0   7   0   9   3   0   0   0   0   0
705          *   R    GM    6   6   6   0   S   6   6   6   6   6
706          *   I    -&    0   2   0   9   2   2   0   0   0   S
707          *   G     /    2   2   0   9   2   2   2   0   0   S
708          *   H   .**    2   2   0   9   2   2   2   8   0   S
709          *   T    F%    0   5   0   9   7   0   0   0   0   0
710          *       ,NG    4   4   0   9   4   4   4   0   0   S
711          *
712          *
713          *          0  SKIP TO NEXT OP
714          *          1  DELETE PARENS
715          *          2  FORCE BINARY OP
716          *          3  EOJ
717          *          4  NEGATE FN
718          *          5  OTHER FN
719          *          6  LEFT SIDE INVALID
720          *          7  PAREN ERROR
721          *          8  DOUBLE EXPONENTIATION
722          *          9  MULTIPLE # SIGNS
723          *          S  COMPILER ERROR
724          *
725          *
726  2 745  SX2    DCW   #3                                          3  2726                    72
727  2 747  CHKX2  DCW   #2                                          2  2728                    72
728  2 749  K00    DCW   00                                          2  2730                    72
729  2 752  X2P99  DCW   #3  X2 & X00 - 1                           3  2733                    72
730  2 755  IXTOP  DCW   #3  INDEX OF STATEMENT IN TOP CORE          3  2736                    73
731  2 758  IXTSAV DCW   #3                                          3  2739                    73
732  2 761  SEQNO  DCW   #3                                          3  2742                    73
733  2 762  KBRACK DCW   @]@                                         1  2743                    73
734  2 763  KR     DCW   @R@                                         1  2744                    73
735  2 766  SX3B   DCW   #3                                          3  2747                    73
736  2 802  ERR2   DCW   @MESSAGE 2 - OBJECT PROGRAM TOO LARGE@     36  2783                    74
737  2 814  KB12   DCW   #12                                        12  2795                    75
738  2 815  CURR   DCW   #1                                         1  2796                    75
```

```
SEQ PG LIN  LABEL   OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR
739  2 816  PREV    DCW   #1                                                  1  2797                      75
740  2 819  W3      DCW   #3                                                  3  2800                      75
741  2 820  CHNUM   DCW   #1                                                  1  2801                      75
742  2 823  ACHARS  DSA   CHARS                                               3  2804  O23                 75  2623
743  2 824  K1      DCW   1                                                   1  2805                      75
744  2 825  KPLUS   DCW   @&@                                                 1  2806                      76
745  2 828  W3B     DCW   #3                                                  3  2809                      76
746  2 829  SAVTAG  DCW   #1  TYPE TAG ZONE                                   1  2810                      76
747  2 867  ERR46   DCW   @ERROR 46 - MIXING IN ARITH, STATEMENT @           38  2848                      77
748  2 868  KN      DCW   @N@                                                 1  2849                      77
749  2 870  W2      DCW   #2                                                  2  2851                      78
750  2 882  USRCOD  DCW   @RUPWYZKJLMDH@  CODES FOR USER FUNCTIONS           12  2863                      78
751  2 884  KAX     DCW   @AX@                                               2  2865                      78
752  2 885  KLPAR   DCW   @%@                                                 1  2866                      78
753  2 920  ERR24   DCW   @ERROR 24 - SYSTEM ERROR, STATEMENT @             35  2901                      79
754  2 960  ERR26   DCW   @ERROR 26 - EXCESS OF # SIGNS, STATEMENT @        40  2941                      81
755  3 000  ERR32   DCW   @ERROR 32 - MULTIPLE EXPONENT, STATEMENT @        40  2981                      83
756  3 040  ERR16   DCW   @ERROR 16 - PARENTHESIS ERROR, STATEMENT @        40  3021                      85
757  3 080  ERR25   DCW   @ERROR 25 - LEFT SIDE INVALID, STATEMENT @        40  3061                      87
758  3 081  KEQ     DCW   @#@                                                 1  3062                      87
759  3 091  GMWM    DCW   @}@                                                 1  3063            GMARK     87
760                 XFR   BEGN34                                                    B 838                 88   838
761          CLRME  CLRA  BEGN34,GMWM,C                                                    MACRO
             *      CLRA  CLRBOT,CLRTOP[,SS,HERE,GWMAD]                                    GEN
             *                                                                            GEN
             * CLEAR CORE AFTER A PHASE USING THE CLRTOP ADDRESS                          GEN
             *                                                                            GEN
762                 ORG   201                                                       0201
             *                                                                          GEN
             * CLEAR DOWN TO CLRBOT & X00 THE EASY WAY                                  GEN
             *                                                                          GEN
763          CLRME  EQU   *&1                                                  0201      GEN
764                 BSS   SNAPSH,C                                            5  0201  B 333 C     GEN     89   333
765          )0J005 CS    GMWM         CLEAR FROM CLRTOP                       4  0206  / ?63       GEN     89  3063
766                 SBR   )0J005&3                                            4  0210  H 209       GEN     89   209
767                 SBR   )0L005&6                                            4  0214  H 255       GEN     89   255
768                 C     )0J005&3,)0M005   DOWN TO CLRBOT & X00?             7  0218  C 209 266   GEN     89   209     266
769                 BU    )0J005                                              5  0225  B 206 /     GEN     89   206
             *                                                                          GEN
             * NOW CLEAR DOWN TO CLRBOT THE HARD WAY                                    GEN
             *                                                                          GEN
770          )0K005 C     )0L005&6,)0N005                                     7  0230  C 255 269   GEN     89   255     269
771                 BU    )0L005                                              5  0237  B 249 /     GEN     90   249
772                 CS    LOADNX,)0Q005  LOAD THE NEXT BLOCK AT 1             7  0242  / 700 276   GEN     90   700     276
773          )0L005 LCA   )0P005,0-0     CLEAR WITH BLANK AND WORD MARK      7  0249  L 270 000   GEN     90   270     000
774                 SBR   )0L005&6                                            4  0256  H 255       GEN     90   255
775                 B     )0K005                                              4  0260  B 230       GEN     90   230
776          )0M005 DSA   )0R005         CLRBOT & X00 - 1                    3  0266  899         GEN     90   899
777          )0N005 DSA   BEGN34         CLRBOT                              3  0269  838         GEN     90   838
778          )0P005 DCW   #1                                                  1  0270              GEN     91
```

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

779               DC    @CLRA @     IDENTIFY IN A DECK, TAPE, OR DUMP          5  0275              GEN     91
780          )0Q005 DCW   @}@                                                   1  0276              GEN     91
781               ORG   BEGN34&X00                                                    0900
782          )0R005 EQU   *           CLRBOT & X00 - 1                              0899              GEN
783               XFR   CLRME                                                       B 201               92   201
```

SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS
)0J003	0207: 0	)0J004	0207: 0	)0J005	0206: 0	)0K005	0230: 0	)0L005	0249: 0	)0M005	0266: 0
)0N005	0269: 0	)0P005	0270: 0	)0Q005	0276: 0	)0R005	0899: 0	)1J003	0250: 0	)1J004	0243: 0
)6J003	0110: 0	)6K003	0700: 0	)6K004	0700: 0	)6L003	0704: 0	)6L004	0704: 0	)6M003	0728: 0
)6M004	0728: 0	)8J003	0257: 0	)8J004	0250: 0	)8K003	0273: 0	)8K004	0266: 0	)9J003	0281: 0
)9R003	0287: 0	)9R004	0271: 0	ACHARS	2804: 0	ALMOST	2519: 0	BEGIN3	0838: 0	BEGN34	0838: 0
CDOVLY	0700: 0	CH	2553: 0	CHARS	2623: 0	CHKX2	2728: 0	CHNUM	2801: 0	CLRL	0929: 0
CLRME	0201: 0	CLRX	0953: 0	COUNT	1573: 0	COUNTX	1599: 0	CURR	2796: 0	DONE	2547: 0
END1	2223: 0	ERR16	3021: 0	ERR2	2783: 0	ERR24	2901: 0	ERR25	3061: 0	ERR26	2941: 0
ERR28	2612: 0	ERR32	2981: 0	ERR46	2848: 0	ERRFIN	2447: 0	FIVE	1981: 0	FIVEA	2055: 0
FIVEB	2117: 0	FIVEC	2175: 0	FIVED	2207: 0	FIVEF	2003: 0	FOUR	1948: 0	GET00	0878: 0
GETB	1228: 0	GLOBER	0184: 0	GM	2554: 0	GMWM	3063: 0	GOT00	0913: 0	GOTB	1244: 0
HALT	1217: 0	HUNT	1291: 0	HUNTL	1303: 0	HUNTX	1343: 0	IFSTMT	1221: 0	IXTOP	2736: 0
IXTSAV	2739: 0	K00	2730: 0	K1	2805: 0	KAX	2865: 0	KB12	2795: 0	KBRACK	2743: 0
KEQ	3062: 0	KLPAR	2866: 0	KN	2849: 0	KPLUS	2806: 0	KR	2744: 0	LINK	2493: 0
LOADAD	0838: 0	LOADNX	0700: 0	LOCBRK	1179: 0	LOOK	1516: 0	LOOK2	1528: 0	LOOK3	1562: 0
LOOKCH	1539: 0	LOOP	1060: 0	MIXED	1852: 0	MORE	0961: 0	MOVEUP	1257: 0	MOVEUX	1287: 0
MSG16	2375: 0	MSG24	2261: 0	MSG25	2413: 0	MSG26	2299: 0	MSG28	2223: 0	MSG32	2337: 0
ONE	1618: 0	PART2	0201: 0	PHAS34	0201: 0	PHASLD	0381: 0	PREV	2797: 0	READY	1153: 0
RESTRT	2508: 0	SAVTAG	2810: 0	SEQNO	2742: 0	SKPSUB	1347: 0	SNAPEX	0564: 0	SNAPSH	0333: 0
SUBBAK	1761: 0	SUBTWO	1890: 0	SX2	2726: 0	SX3	0981: 0	SX3B	2747: 0	TABLE	2624: 0
TAG1	2552: 0	THREE	2458: 0	TOP3	2600: 0	TPERR	0728: 0	TPREAD	0704: 0	TWO	1659: 0
TWOA	1836: 0	USRCOD	2863: 0	USRFNC	2099: 0	W2	2851: 0	W3	2800: 0	W3B	2809: 0
WHEW	1381: 0	X1	0089: 0	X2	0094: 0	X2P99	2733: 0	X3	0099: 0	ZERO	1603: 0

UNREFERENCED SYMBOLS

PHASLD SNAPEX TOP3 TPERR TPREAD