```
CLEAR STORAGE 1     ,008015,022026,030037,044,049,053053N000000N00001026                                  1
CLEAR STORAGE 2     L068116,105106,110117B101/I9I#071029C029056B026/B001/0991,001/001117I0?                2
BOOTSTRAP           ,008015,022029,036040,047054,061068,072/061039             ,0010011040                3

                         FORTRAN COMPILER -- ARITH PHASE FIVE -- PHASE 37                          PAGE    1

 SEQ PG LIN  LABEL  OP    OPERANDS                                              SFX CT  LOCN  INSTRUCTION TYPE  CARD

 101               JOB   FORTRAN COMPILER -- ARITH PHASE FIVE -- PHASE 37
 102               CTL   6611
 103         *
 104         * IF STATEMENT EXITS AND STRINGS FOR EXPONENTIATION ARE CREATED.
 105         *
 106         X1    EQU   89                                                            0089
 107         X2    EQU   94                                                            0094
 108         X3    EQU   99                                                            0099
 109         *
 110         * STUFF IN THE RESIDENT AREA
 111         *
 112         PHASID EQU  110  PHASE ID, FOR SNAPSHOT DUMPS                            0110
 113         SERIES EQU  117  NEED SERIES ROUTINE IF NO WM                            0117
 114         LOGF   EQU  119  SAW LOGF IF NO WM                                       0119
 115         EXPF   EQU  120  SAW EXPF IF NO WM                                       0120
 116         XFIXF  EQU  124  SAW XFIXF IF NO WM                                      0124
 117         FLOATF EQU  125  SAW FLOATF IF NO WM                                     0125
 118         NEGAR3 EQU  157  LOOKS LIKE NEGARY -- SEE PHASE 20                       0157
 119         ARYSIZ EQU  160  TOTAL ARRAY SIZE & 2                                    0160
 120         GLOBER EQU  184  GLOBAL ERROR FLAG -- WM MEANS ERROR                     0184
 121         SNAPSH EQU  333  CORE DUMP SNAPSHOT                                      0333
 122         LOADNX EQU  700  LOAD NEXT OVERLAY                                       0700
 123         CLEARL EQU  707  CS AT START OF OVERLAY LOADER                           0707
 124         *
 125         * RUNTIME ADDRESSES
 126         *
 127         ARITF  EQU  700                                                          0700
 128         *
 129               ORG   838                                                               0838
 130         LOADDD EQU  *&1          LOAD ADDRESS                                    0838
 131    838  BEGINN BCE  DONE,X2,.  DONE?                                        8   0838  B U99 094 .          4
 132    846         C    0&X2                                                    4   0846  C 0!0                4
 133    850         SAR  X2                                                      4   0850  Q 094                4
 134    854         SBR  SX2                                                     4   0854  H O89                4
 135    858         C    0&X1                                                    4   0858  C 0|0                4
 136    862         SAR  X1                                                      4   0862  Q 089                4
 137    866  LOOP   MCW  0&X1,SEQNO                                              7   0866  M 0|0 O86            4
 138    873         MCW                                                         1   0873  M                    5
 139    874         BCE  ARIF,CODE,E  IF STATEMENT                              8   0874  B 894 O83 E          5
 140    882         BCE  ARIF,CODE,R  ARITHMETIC ASSIGNMENT STATEMENT           8   0882  B 894 O83 R          5
 141    890         B    ALMOST                                                 4   0890  B U78                5
 142    894  ARIF   LCA  0&X1,0&X2  MOVE UP PREFIX                              7   0894  L 0|0 0!0            5
 143    901         SAR  X1                                                     4   0901  Q 089                5
 144    905         C    0&X2                                                   4   0905  C 0!0                5
 145    909         SAR  X2                                                     4   0909  Q 094                6
 146    913         LCA  1&X2,2&X2  MOVE UP GMWM?                               7   0913  L 0!1 0!2            6
 147    920         SBR  X2                                                     4   0920  H 094                6
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SEQ PG LIN  LABEL   OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD
148    924          CW    PARITY                                            4  0924  ) O90               6
149    928          BCE   IFSTMT,2&X1,E  IF STATEMENT                      8  0928  B V22 0|2 E         6
150          *
151          * ASSIGNMENT STATEMENT
152          *
153    936   ASGSTM LCA   0&X1,0&X2                                         7  0936  L 0|0 0!0           6
154    943          SAR   X1                                                4  0943  Q 089               6
155    947          C     0&X2                                              4  0947  C 0!0               7
156    951          SAR   X2                                                4  0951  Q 094               7
157    955          SBR   X3,0&X1                                           7  0955  H 099 0|0           7
158    962          SBR   SX1                                               4  0962  H O93               7
159    966          BCE   ENDSTM,0&X1,}                                     8  0966  B U21 0|0 } GMARK   7
160    974   GETOP  MN    0&X3,LOOKOP&7                                     7  0974  D 0?0 999           7
161    981          MZ    0&X3,LOOKOP&7                                     7  0981  Y 0?0 999           8
162    988          SAR   X3                                                4  0988  Q 099               8
163    992   LOOKOP BCE   GOTOP,OPS,0  &-@*.#                              8  0992  B |09 O99 0          8
164  1 000          CHAIN 5                                                                 MACRO
165                 BCE                                                   1  1000  B           GEN     8
166                 BCE                                                   1  1001  B           GEN     8
167                 BCE                                                   1  1002  B           GEN     8
168                 BCE                                                   1  1003  B           GEN     8
169                 BCE                                                   1  1004  B           GEN     9
170  1 005          B     GETOP                                             4  1005  B 974               9
171  1 009   GOTOP  BCE   EXPON,1&X3,.  EXPONENTIALTION                    8  1009  B /09 0?1 .         9
172  1 017          MZ    4&X3,SAVZON  TYPE OF LHS IF SUBSCRIPT             7  1017  Y 0?4 P00           9
173  1 024          BCE   SUBS,2&X3,$                                       8  1024  B /90 0?2 $         9
174  1 032          MZ    3&X3,SAVZON  TYPE OF LHS IF NO SUBSCRIPT          7  1032  Y 0?3 P00           9
175  1 039   OUTER  SBR   X3,4&X3                                           7  1039  H 099 0?4          10
176  1 046   INNER  C     X3,SX1                                            7  1046  C 099 O93          10
177  1 053          BE    GETASG                                            5  1053  B S16 S            10
178  1 058          SBR   X3,1&X3                                           7  1058  H 099 0?1          10
179  1 065          BCE   *&13,0&X3,F                                       8  1065  B |85 0?0 F        10
180  1 073          BCE   *&5,0&X3,X                                       8  1073  B |85 0?0 X        11
181  1 081          B     INNER                                             4  1081  B |46              11
182  1 085          BW    EVEN,PARITY                                       8  1085  V /01 O90 1        11
183  1 093          SW    PARITY                                            4  1093  , O90              11
184  1 097          B     INNER                                             4  1097  B |46              11
185  1 101   EVEN   CW    PARITY                                            4  1101  ) O90              11
186  1 105          B     INNER                                             4  1105  B |46              11
187          *
188          * EXPONENTIATION
189          *
190  1 109   EXPON  SBR   SX3&6,0&X3                                        7  1109  H /41 0?0          12
191  1 116          BCE   EXPON2,0&X3,$                                    8  1116  B /54 0?0 $        12
192  1 124          SBR   X3                                                4  1124  H 099              12
193  1 128   EXPONL MZ    0&X3,SAVZON                                       7  1128  Y 0?0 P00          12
194  1 135   SX3    SBR   X3,0                                             7  1135  H 099 000          12
195  1 142          BCE   SUBS,2&X3,$                                       8  1142  B /90 0?2 $        13
196  1 150          B     OUTER                                             4  1150  B |39              13
197  1 154   EXPON2 C     0&X3,W8                                           7  1154  C 0?0 Q66          13
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SEQ PG LIN  LABEL   OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD
198  1 161          SAR   X3                                            4  1161  Q 099               13
199  1 165          BCE   EXPONL,0&X3,$                                 8  1165  B /28 0?0 $         13
200  1 173          B                                                   1  1173  B                   13
201  1 174          B                                                   1  1174  B                   13
202  1 175          C     0&X3,W6                                       7  1175  C 0?0 Q72           14
203  1 182          SAR   X3                                            4  1182  Q 099               14
204  1 186          B     EXPONL                                        4  1186  B /28               14
205           *
206           * SUBSCRIPT -- SKIP IT
207           *
208  1 190  SUBS    SBR   X3,12&X3                                      7  1190  H 099 0A2           14
209  1 197          BCE   INNER,0&X3,$                                 8  1197  B |46 0?0 $         14
210  1 205          SBR   X3,6&X3                                       7  1205  H 099 0?6           14
211  1 212          B     INNER                                         4  1212  B |46               15
212           *
213           * GET DOWN TO ASSIGNMENT OPERATOR
214           *
215  1 216  GETASG BCE   GOTASG,0&X3,#                                  8  1216  B S32 0?0 #         15
216  1 224          SBR   X3                                            4  1224  H 099               15
217  1 228          B     GETASG                                        4  1228  B S16               15
218  1 232  GOTASG MCW   0&X3,W18A                                     7  1232  M 0?0 P18           15
219  1 239          BCE   SUBLFT,2717,$  SUBSCRIPT BEFORE EQUAL       8  1239  B O57 P17 $         15
220  1 247          MZ    W18A-2,LSTYPE  TYPE TAG FOR LHS              7  1247  Y P16 P19           16
221  1 254  SBLBAK BWZ   LFIX,LSTYPE,S  BACK HERE AFTER SUBSCRIPT      8  1254  V T40 P19 S         16
222  1 262          BWZ   LFIX,LSTYPE,K                                8  1262  V T40 P19 K         16
223  1 270          BWZ   LFRF,SAVZON,2                                8  1270  V T16 P00 2         16
224  1 278          BWZ   LFRF,SAVZON,B                                8  1278  V T16 P00 B         16
225  1 286          BW    ENDEXP,PARITY  LEFT FLOAT RIGHT FIXED        8  1286  V T82 O90 1         17
226  1 294  LFRX    MCW   FCODE,0&X2                                   7  1294  M P20 0!0           17
227  1 301          SBR   X2                                            4  1301  H 094               17
228  1 305          CW    1&X2,FLOATF    NEED FLOATF                   7  1305  ) 0!1 125           17
229  1 312          B     ENDEXP                                        4  1312  B T82               17
230  1 316  LFRF    BW    LFRX,PARITY    LEFT FLOAT RIGHT FLOAT        8  1316  V S94 O90 1         17
231  1 324          B     ENDEXP                                        4  1324  B T82               18
232  1 328  LXRX    BW    LXRF,PARITY    LEFT FIX RIGHT FIX            8  1328  V T64 O90 1         18
233  1 336          B     ENDEXP                                        4  1336  B T82               18
234  1 340  LFIX    BWZ   LXRX,SAVZON,S  LEFT SIDE IS FIXED POINT      8  1340  V T28 P00 S         18
235  1 348          BM    LXRX,SAVZON                                   8  1348  V T28 P00 K         18
236  1 356          BW    ENDEXP,PARITY                                 8  1356  V T82 O90 1         19
237  1 364  LXRF    MCW   XCODE,0&X2     LEFT FIX RIGHT FLOAT          7  1364  M P21 0!0           19
238  1 371          SBR   X2                                            4  1371  H 094               19
239  1 375          CW    1&X2,XFIXF     NEED XFIXF                    7  1375  ) 0!1 124           19
240  1 382  ENDEXP SBR   X3,0&X1                                       7  1382  H 099 0|0           19
241  1 389  ENDEX2 BCE   EXPON3,0&X1,.  EXPONENTIATION                 8  1389  B Y08 0|0 .         20
242  1 397          BCE   DIVOP,0&X1,@                                  8  1397  B U63 0|0 @         20
243  1 405          BCE   ENDSTM,0&X1,}                                 8  1405  B U21 0|0 } GMARK   20
244  1 413          SBR   X1                                            4  1413  H 089               20
245  1 417          B     ENDEX2                                        4  1417  B T89               20
246           *
247           * END OF IF OR ASSIGNMENT STATEMENT
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SEQ PG LIN  LABEL  OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD

248         *
249  1 421  ENDSTM LCA   0&X3,0&X2                                          7  1421  L 0?0 0!0           20
250  1 428         SAR   X3                                                4  1428  Q 099               21
251  1 432         C     0&X2                                              4  1432  C 0!0               21
252  1 436         SAR   X2                                                4  1436  Q 094               21
253  1 440         BCE   FINSTM,1&X3,}                                     8  1440  B U52 0?1 } GMARK   21
254  1 448         B     ENDSTM                                            4  1448  B U21               21
255  1 452  FINSTM SBR   X1,0&X3                                           7  1452  H 089 0?0           21
256  1 459         B     LOOP                                              4  1459  B 866               21
257         *
258         * DIVIDE OPERATOR -- TURN IT BACK TO SLASH
259         *
260  1 463  DIVOP  MCW   SLASH,0&X1                                        7  1463  M P22 0|0           22
261  1 470         SBR   X1                                                4  1470  H 089               22
262  1 474         B     1389                                              4  1474  B T89               22
263         *
264         * ALMOST DONE
265         *
266  1 478  ALMOST SBR   X1,5&X1                                           7  1478  H 089 0|5           22
267  1 485         MCW   SX2,X3                                            7  1485  M O89 099           22
268  1 492         SBR   X3,2&X3                                           7  1492  H 099 0?2           22
269         *
270  1 499  DONE   BSS   SNAPSH,C                                         5  1499  B 333 C             23
271  1 504         SBR   CLEARL&3,GMWM                                     7  1504  H 710 Q73           23
272  1 511         LCA   ARITH6,PHASID                                     7  1511  L P28 110           23
273  1 518         B     LOADNX                                            4  1518  B 700               23
274         *
275         * IF STATEMENT
276         *
277  1 522  IFSTMT C     0&X1                                              4  1522  C 0|0               23
278  1 526         SAR   X1                                                4  1526  Q 089               23
279  1 530         MCW   9&X1,LABNEG  NEGATIVE BRANCH                      7  1530  M 0|9 N08           23
280  1 537         MCW   6&X1,LABZRO  ZERO BRANCH                         7  1537  M 0|6 N00           24
281  1 544         MCW   3&X1,LABPOS  POSITIVE BRANCH                     7  1544  M 0|3 M92           24
282  1 551         MZ    X2ZONE,LABNEG-1                                   7  1551  Y P29 N07           24
283  1 558         MZ    X2ZONE,LABZRO-1                                   7  1558  Y P29 M99           24
284  1 565         MZ    X2ZONE,LABPOS-1                                   7  1565  Y P29 M91           24
285  1 572         MCW   LABPOS,UNCOND                                     7  1572  M M92 M88           25
286  1 579         LCA   KB20,W20                                          7  1579  L P49 M84           25
287  1 586         SBR   X3,RECMRK                                        7  1586  H 099 M64           25
288  1 593         C     LABPOS,LABZRO                                     7  1593  C M92 N00           25
289  1 600         BE    POSZRO  POSITIVE AND ZERO THE SAME LABEL          5  1600  B X79 S             25
290  1 605         C     LABZRO,LABNEG                                     7  1605  C N00 N08           26
291  1 612         BE    ZEQNEG  NEGATIVE AND ZERO THE SAME LABEL          5  1612  B W42 S             26
292  1 617         SBR   X3,8&X3                                          7  1617  H 099 0?8           26
293  1 624         MCW   BRZERO                                            4  1624  M N04               26
294  1 628         MCW                                                     1  1628  M                   26
295  1 629         LCA                                                     1  1629  L                   26
296  1 630         C     LABPOS,LABNEG                                     7  1630  C M92 N08           26
297  1 637         BE    POSNEG  POSITIVE AND NEGATIVE THE SAME LABEL      5  1637  B W62 S             27
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SEQ PG LIN  LABEL   OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD
298  1 642  ZEQNEG SBR   X3,8&X3                                               7  1642  H 099 0?8           27
299  1 649         MCW   BRPOS                                                 4  1649  M M96               27
300  1 653         MCW                                                        1  1653  M                   27
301  1 654         LCA                                                        1  1654  L                   27
302  1 655         MCW   LABNEG,UNCOND                                        7  1655  M N08 M88           27
303  1 662  POSNEG MCW   X3,SX1                                               7  1662  M 099 O93           27
304  1 669         BWZ   *&5,SEQNO,2                                          8  1669  V W81 O86 2         28
305  1 677         B     *&9                                                  4  1677  B W89               28
306  1 681         BWZ   *&15,SEQNO-2,2                                      8  1681  V X03 O84 2         28
307  1 689         MCW   SEQNO,X3  ADDRESS OF SEQUENCE NUMBER IF ZONES       7  1689  M O86 099           28
308  1 696         MCW   0&X3,SEQNO                                           7  1696  M 0?0 O86           28
309  1 703         A     KP1,SEQNO                                            7  1703  A P50 O86           29
310  1 710         MCW   UNCOND,X3                                            7  1710  M M88 099           29
311  1 717         C     0&X3,SEQNO                                           7  1717  C 0?0 O86           29
312  1 724         MCW   SX1,X3                                               7  1724  M O93 099           29
313  1 731         BE    MOVEUP                                               5  1731  B X48 S             29
314  1 736  POSN2  SBR   X3,4&X3                                              7  1736  H 099 0?4           30
315  1 743         MCW   UNCOND                                              4  1743  M M88               30
316  1 747         LCA                                                        1  1747  L                   30
317  1 748  MOVEUP LCA   0&X3,0&X2  MOVE UP GENERATED CODE                    7  1748  L 0?0 0!0           30
318  1 755         SAR   X3                                                   4  1755  Q 099               30
319  1 759         C     0&X2                                                 4  1759  C 0!0               30
320  1 763         SAR   X2                                                   4  1763  Q 094               30
321  1 767         BCE   ASGSTM,0&X3,|                                       8  1767  B 936 0?0 |         31
322  1 775         B     MOVEUP                                               4  1775  B X48               31
323  1 779  POSZRO C     LABPOS,LABNEG                                        7  1779  C M92 N08           31
324  1 786         BE    POSN2  ALL THE SAME LABEL                            5  1786  B X36 S             31
325  1 791         SBR   X3,8&X3                                              7  1791  H 099 0?8           31
326  1 798         MCW   BRNEG                                               4  1798  M N12               31
327  1 802         MCW                                                        1  1802  M                   31
328  1 803         LCA                                                        1  1803  L                   32
329  1 804         B     POSNEG                                               4  1804  B W62               32
330          *
331          * EXPONENTIATION OPERATOR
332          *
333  1 808  EXPON3 SW    1&X1                                                 4  1808  , 0|1               32
334  1 812         BCE   ESUBR,1&X1,$                                        8  1812  B N13 0|1 $         32
335  1 820         LCA   3&X1,W17A                                           7  1820  L 0|3 P67           32
336  1 827         MZ    2&X1,EXPRT                                           7  1827  Y 0|2 P68           32
337  1 834         SBR   SX1P3,3&X1                                           7  1834  H P71 0|3           32
338  1 841         C     SX1P3,X3                                             7  1841  C P71 099           33
339  1 848         BE    EXPON5                                               5  1848  B Y80 S             33
340  1 853         SW    4&X1                                                 4  1853  , 0|4               33
341  1 857  EXPON4 LCA   0&X3,0&X2                                           7  1857  L 0?0 0!0           33
342  1 864         SAR   X3                                                   4  1864  Q 099               33
343  1 868         C     0&X2                                                 4  1868  C 0!0               33
344  1 872         SAR   X2                                                   4  1872  Q 094               33
345  1 876         CW    1&X2                                                 4  1876  ) 0!1               34
346  1 880  EXPON5 C     0&X1,KB4                                             7  1880  C 0|0 P75           34
347  1 887         SAR   X1                                                   4  1887  Q 089               34
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SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD
348  1 891          BCE   ESUBL,3&X1,$                                        8  1891  B N78 0|3 $          34
349  1 899          MZ    2&X1,EXPLT                                          7  1899  Y 0|2 P76            34
350  1 906          SW    1&X1                                                4  1906  , 0|1                34
351  1 910  EXPON6  LCA   3&X1,W17B                                          7  1910  L 0|3 P93            35
352  1 917          SAR   X1                                                  4  1917  Q 089                35
353  1 921          BWZ   ERX,EXPRT,S                                         8  1921  V !77 P68 S          35
354  1 929          BWZ   ERX,EXPRT,K                                         8  1929  V !77 P68 K          35
355  1 937          CW    LOGF,EXPF  NEED LOGF AND EXPF                       7  1937  ) 119 120            35
356  1 944          CW    SERIES       AND SERIES                             4  1944  ) 117                35
357  1 948          BWZ   ERFLF,EXPLT,2                                       8  1948  V !32 P76 2          36
358  1 956          BWZ   ERFLF,EXPLT,B                                       8  1956  V !32 P76 B          36
359  1 964          BWZ   *&5,SEQNO,2                                         8  1964  V Z76 O86 2          36
360  1 972          B     *&9                                                 4  1972  B Z84                36
361  1 976          BWZ   MSG30,SEQNO-2,2  SEQUENCE NUMBER IF NO ZONES        8  1976  V Z98 O84 2          36
362  1 984          MCW   SEQNO,X3  ADDRESS OF SEQUENCE NUMBER                7  1984  M O86 099            37
363  1 991          MCW   0&X3,SEQNO                                          7  1991  M 0?0 O86            37
364  1 998  MSG30   CS    332                                                 4  1998  / 332                37
365  2 002          CS                                                        1  2002  /                    37
366  2 003          SW    GLOBER                                              4  2003  , 184                37
367  2 007          MN    SEQNO,244                                           7  2007  D O86 244            37
368  2 014          MN                                                        1  2014  D                    37
369  2 015          MN                                                        1  2015  D                    38
370  2 016          MCW   ERR30                                               4  2016  M Q34                38
371  2 020          W                                                         1  2020  2                    38
372  2 021          BCV   *&5                                                 5  2021  B !30 @              38
373  2 026          B     *&3                                                 4  2026  B !32                38
374  2 030          CC    1                                                   2  2030  F 1                  38
375  2 032  ERFLF   LCA   ECODE,0&X2  BOTH OPERANDS FLOAT                     7  2032  L Q35 0!0            38
376  2 039          LCA   W17A                                                4  2039  L P67                39
377  2 043          LCA   KGSTAR  G*                                          4  2043  L Q37                39
378  2 047          SBR   X2                                                  4  2047  H 094                39
379  2 051          CW    3&X2,1&X1                                           7  2051  ) 0!3 0|1            39
380  2 058          LCA   W17B,0&X2                                          7  2058  L P93 0!0            39
381  2 065          SBR   X2                                                  4  2065  H 094                39
382  2 069          CW    1&X2                                                4  2069  ) 0!1                39
383  2 073          B     ENDEXP                                              4  2073  B T82                40
384          *
385          * RIGHT OPERAND OF EXPONENTIATION IS FIXED POINT
386          *
387  2 077  ERX     BWZ   GETFUN,EXPRT,K                                      8  2077  V K54 P68 K          40
388  2 085          BCE   GETFUN,W17A-2,<                                     8  2085  B K54 P65 <          40
389  2 093          MCW   W17A,X3                                             7  2093  M P67 099            40
390  2 100          MA    ARYSIZ,X3                                           7  2100  # 160 099            40
391  2 107          C     K3,0&X3                                             7  2107  C Q38 0?0            41
392  2 114          BH    GETFUN                                              5  2114  B K54 U              41
393  2 119          LCA   W17B,0&X2                                          7  2119  L P93 0!0            41
394  2 126          LCA   KSTAR                                               4  2126  L Q39                41
395  2 130          SBR   X2                                                  4  2130  H 094                41
396  2 134          SBR   SX2B                                                4  2134  H Q42                41
397  2 138          CW    1&X2,2&X2                                           7  2138  ) 0!1 0!2            41
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SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD
398  2 145          LCA   W17B,0&X2                                    7  2145  L P93 0!0           42
399  2 152          SBR   X2                                           4  2152  H 094               42
400  2 156          CW    1&X2                                         4  2156  ) 0!1               42
401  2 160          BCE   ERX2,0&X3,0                                  8  2160  B K18 0?0 0         42
402  2 168          BCE   ERX3,0&X3,1                                  8  2168  B K36 0?0 1         42
403  2 176          BCE   ENDEXP,0&X3,2                                8  2176  B T82 0?0 2         42
404  2 184          LCA   KSTAR,0&X2                                   7  2184  L Q39 0!0           43
405  2 191          SBR   X2                                           4  2191  H 094               43
406  2 195          CW    1&X2                                         4  2195  ) 0!1               43
407  2 199          LCA   W17B,0&X2                                   7  2199  L P93 0!0           43
408  2 206          SBR   X2                                           4  2206  H 094               43
409  2 210          CW    1&X2                                         4  2210  ) 0!1               43
410  2 214          B     ENDEXP                                       4  2214  B T82               43
411          *
412  2 218  ERX2    MCW   SX2B,X3                                     7  2218  M Q42 099           44
413  2 225          MCW   SLASH,1&X3                                  7  2225  M P22 0?1           44
414  2 232          B     ENDEXP                                       4  2232  B T82               44
415          *
416  2 236  ERX3    MCW   SX2B,X2                                     7  2236  M Q42 094           44
417  2 243          SBR   X2,1&X2                                     7  2243  H 094 0!1           44
418  2 250          B     ENDEXP                                       4  2250  B T82               44
419          *
420  2 254  GETFUN  CW    LOGF,EXPF  NEED LOGF AND EXPF                7  2254  ) 119 120           45
421  2 261          CW    SERIES,FLOATF                                7  2261  ) 117 125           45
422  2 268          BWZ   GETFF1,EXPLT,2  LEFT IS FLOAT                8  2268  V L21 P76 2         45
423  2 276          BWZ   GETFF1,EXPLT,B  LEFT IS FLOAT                8  2276  V L21 P76 B         45
424  2 284          LCA   XCODE,0&X2  XFIXF CODE                       7  2284  L P21 0!0           45
425  2 291          SBR   X2                                           4  2291  H 094               46
426  2 295          CW    0&X2,XFIXF                                   7  2295  ) 0!0 124           46
427  2 302          LCA   NEGAR3,0&X2                                  7  2302  L 157 0!0           46
428  2 309          LCA   KPLUS                                        4  2309  L Q43               46
429  2 313          SBR   X2                                           4  2313  H 094               46
430  2 317          CW    2&X2                                         4  2317  ) 0!2               46
431  2 321  GETFF1  LCA   ECODE,0&X2                                   7  2321  L Q35 0!0           46
432  2 328          LCA   KFLESS  F*<4?                                4  2328  L Q48               47
433  2 332          LCA   W17A                                         4  2332  L P67               47
434  2 336          SBR   X2                                           4  2336  H 094               47
435  2 340          CW    1&X2                                         4  2340  ) 0!1               47
436  2 344          C     0&X1,KB4                                     7  2344  C 0|0 P75           47
437  2 351          SAR   X3                                           4  2351  Q 099               47
438  2 355          BCE   SUBFUN,3&X3,$                                8  2355  B O23 0?3 $         47
439  2 363  SUBFUB  SW    1&X3                                         4  2363  , 0?1               48
440  2 367          LCA   0&X1,0&X2                                   7  2367  L 0|0 0!0           48
441  2 374          SAR   X1                                           4  2374  Q 089               48
442  2 378          C     0&X2                                         4  2378  C 0!0               48
443  2 382          SAR   X2                                           4  2382  Q 094               48
444  2 386          CW    1&X2                                         4  2386  ) 0!1               48
445  2 390          LCA   KGRM  G|                                     4  2390  L Q50               48
446  2 394          SBR   X2                                           4  2394  H 094               49
447  2 398          BWZ   GETFF2,EXPLT,2  LEFT IS FLOAT                8  2398  V M25 P76 2         49
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SEQ PG LIN  LABEL   OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD
448  2 406          BWZ   GETFF2,EXPLT,B  LEFT IS FLOAT                      8  2406  V M25 P76 B         49
449  2 414          LCA   FCODE,0&X2                                         7  2414  L P20 0!0           49
450  2 421          SBR   X2                                                4  2421  H 094               49
451  2 425  GETFF2  LCA   W17B,0&X2                                         7  2425  L P93 0!0           49
452  2 432          LCA   KL4  <4?#                                        4  2432  L Q54               50
453  2 436          SBR   X2                                                4  2436  H 094               50
454  2 440          CW    5&X2                                              4  2440  ) 0!5               50
455  2 444          C     0&X1,BARITF&3                                     7  2444  C 0|0 Q58           50
456  2 451          BE    ENDEXP                                            5  2451  B T82 S             50
457  2 456          CW    1&X2                                              4  2456  ) 0!1               50
458  2 460          B     ENDEXP                                            4  2460  B T82               50
459          *
460  2 464  RECMRK  DCW   @|@                                              1  2464                      51
461  2 484  W20     DCW   #20                                              20  2484                      51
462  2 485          B                                                      1  2485  B                   51
463  2 488  UNCOND  DCW   #3                                               3  2488                      51
464  2 489          BWZ                                                    1  2489  V                   51
465  2 492  LABPOS  DCW   #3  POSITIVE BRANCH FROM ARITHMETIC IF           3  2492                      51
466  2 495          DSA   277&X3                                           3  2495  2G7                 51
467  2 496  BRPOS   DC    @B@                                              1  2496                      51
468  2 497          B                                                      1  2497  B                   52
469  2 500  LABZRO  DCW   #3  ZERO BRANCH FROM ARITHMETIC IF              3  2500                      52
470  2 503          DSA   280                                              3  2503  280                 52
471  2 504  BRZERO  DC    0                                                1  2504                      52
472  2 505          BWZ                                                    1  2505  V                   52
473  2 508  LABNEG  DCW   #3  NEGATIVE BRANCH FROM ARITHMETIC IF           3  2508                      52
474  2 511          DSA   277&X3                                           3  2511  2G7                 52
475  2 512  BRNEG   DC    @K@                                              1  2512                      52
476          *
477          * RIGHT OPERAND OF EXPONENTIATION OPERATOR IS SUBSCRIPTED
478          *
479  2 513  ESUBR   MZ    3&X1,EXPRT                                       7  2513  Y 0|3 P68           52
480  2 520          SBR   X1,11&X1                                         7  2520  H 089 0/1           53
481  2 527          BCE   *&8,0&X1,$                                      8  2527  B N42 0|0 $         53
482  2 535          SBR   X1,6&X1                                         7  2535  H 089 0|6           53
483  2 542          C     X1,X3                                            7  2542  C 089 099           53
484  2 549          BE    *&5                                              5  2549  B N58 S             53
485  2 554          SW    1&X1                                             4  2554  , 0|1               53
486  2 558          LCA   0&X1,W17A                                        7  2558  L 0|0 P67           54
487  2 565          SAR   X1                                               4  2565  Q 089               54
488  2 569          BE    EXPON5                                           5  2569  B Y80 S             54
489  2 574          B     EXPON4                                           4  2574  B Y57               54
490          *
491          * LEFT OPERAND OF EXPONENTIATION OPERATOR IS SUBSCRIPTED
492          *
493  2 578  ESUBL   C     0&X1,W8                                          7  2578  C 0|0 Q66           54
494  2 585          SAR   X3                                               4  2585  Q 099               54
495  2 589          BCE   *&12,1&X3,$                                      8  2589  B O08 0?1 $         54
496  2 597          C     0&X3,W6                                          7  2597  C 0?0 Q72           55
497  2 604          SAR   X3                                               4  2604  Q 099               55
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SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD

498  2 608         MZ    3&X3,EXPLT                                          7  2608  Y 0?3 P76           55
499  2 615         SW    1&X3                                                4  2615  , 0?1               55
500  2 619         B     EXPON6                                              4  2619  B Z10               55
501         *
502         * SUBSCRIPT AFTER ???
503         *
504  2 623  SUBFUN C     0&X3,W8                                             7  2623  C 0?0 Q66           55
505  2 630         SAR   X3                                                  4  2630  Q 099              55
506  2 634         BCE   SUBFUB,1&X3,$                                       8  2634  B L63 0?1 $        56
507  2 642         C     0&X3,W6                                             7  2642  C 0?0 Q72          56
508  2 649         SAR   X3                                                  4  2649  Q 099              56
509  2 653         B     SUBFUB                                              4  2653  B L63              56
510         *
511         * SUBSCRIPT ON LEFT OF EQUAL SIGN
512         *
513  2 657  SUBLFT MZ    W18A-9,LSTYPE  TYPE TAG FOR LHS                     7  2657  Y P09 P19          56
514  2 664         BCE   SBLBAK,W18A-11,$                                    8  2664  B S54 P07 $        56
515  2 672         MZ    W18A-15,LSTYPE  TYPE TAG FOR LHS                    7  2672  Y P03 P19          57
516  2 679         B     SBLBAK                                              4  2679  B S54              57
517         *
518         * DATA
519         *
520  2 683  CODE   DCW   #1  STATEMENT CODE                                  1  2683                     57
521  2 686  SEQNO  DCW   #3  SEQUENCE NUMBER OR                             3  2686                     57
522  2 689  SX2    DCW   #3                                                  3  2689                     57
523  2 690  PARITY DCW   #1  OF LOOP IN ASSIGNMENT STATEMENT PROCESSING      1  2690                     57
524  2 693  SX1    DCW   #3                                                  3  2693                     57
525  2 699  OPS    DCW   @&-@*.#@                                            6  2699                     58
526  2 700  SAVZON DCW   #1                                                  1  2700                     58
527  2 718  W18A   DCW   #18                                                18  2718                     58
528  2 719  LSTYPE DCW   #1  TYPE ZONE FOR LHS                              1  2719                     58
529  2 720  FCODE  DCW   @F@  FIX-TO-FLOAT (FLOATF) CODE                    1  2720                     58
530  2 721  XCODE  DCW   @X@  FLOAT-TO-FIX (XFIXF) CODE                     1  2721                     58
531  2 722  SLASH  DCW   @/@                                                1  2722                     58
532  2 728  ARITH6 DCW   @ARITH6@                                           6  2728                     59
533  2 729  X2ZONE DCW   @K@                                                1  2729                     59
534  2 749  KB20   DCW   #20                                               20  2749                     59
535  2 750  KP1    DCW   &1                                                 1  2750                     59
536  2 767  W17A   DCW   #17                                               17  2767                     60
537  2 768  EXPRT  DCW   #1  TYPE TAG OF RIGHT OPERAND OF EXPONENTIATION    1  2768                     60
538  2 771  SX1P3  DCW   #3                                                  3  2771                     60
539  2 775  KB4    DCW   #4  USED IN COMPARE TO DECREMENT INDEX              4  2775                     60
540  2 776  EXPLT  DCW   #1  TYPE TAG OF LEFT OPERAND OF EXPONENTIATION     1  2776                     60
541  2 793  W17B   DCW   #17                                               17  2793                     61
542  2 834  ERR30  DCW   @ERROR 30 - FIX TO FLOAT POWER, STATEMENT @       41  2834                     63
543  2 835  ECODE  DCW   @E@   CODE FOR EXPONENTIAL                         1  2835                     63
544  2 837  KGSTAR DCW   @G*@  CODE FOR LOGARITHM                           2  2837                     63
545  2 838  K3     DCW   3                                                   1  2838                     63
546  2 839  KSTAR  DCW   @*@                                                1  2839                     63
547  2 842  SX2B   DCW   #3                                                  3  2842                     64
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SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD
548  2 843  KPLUS  DCW   @&@                                                   1  2843                      64
549  2 848  KFLESS DCW   @F*<4?@                                              5  2848                      64
550  2 850  KGRM   DCW   @G|@                                                 2  2850                      64
551  2 854  KL4    DCW   @<4?#@                                               4  2854                      64
552  2 855  BARITF B     ARITF                                               4  2855  B 700               64
553  2 866  W8     DCW   #8  USED IN COMPARE TO DECREMENT INDEX              8  2866                      64
554  2 872  W6     DCW   #6  USED IN COMPARE TO DECREMENT INDEX              6  2872                      65
555  2 873  GMWM   DCW   @}@                                                 1  2873            GMARK   65
556                ORG   201                                                       0201
557    203         DSA   LOADDD    LOAD ADDRESS FOR CARD-TO-TAPE PROGRAM     3  0203  838                 66
558                EX    BEGINN                                                    B 838               67
559                END                                                             / 000 080
```

SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS
ALMOST	1478	ARIF	894	ARITF	700	ARITH6	2728	ARYSIZ	160	ASGSTM	936	BARITF	2855
BEGINN	838	BRNEG	2512	BRPOS	2496	BRZERO	2504	CLEARL	707	CODE	2683	DIVOP	1463
DONE	1499	ECODE	2835	ENDEX2	1389	ENDEXP	1382	ENDSTM	1421	ERFLF	2032	ERR30	2834
ERX	2077	ERX2	2218	ERX3	2236	ESUBL	2578	ESUBR	2513	EVEN	1101	EXPF	120
EXPLT	2776	EXPON	1109	EXPON2	1154	EXPON3	1808	EXPON4	1857	EXPON5	1880	EXPON6	1910
EXPONL	1128	EXPRT	2768	FCODE	2720	FINSTM	1452	FLOATF	125	GETASG	1216	GETFF1	2321
GETFF2	2425	GETFUN	2254	GETOP	974	GLOBER	184	GMWM	2873	GOTASG	1232	GOTOP	1009
IFSTMT	1522	INNER	1046	K3	2838	KB20	2749	KB4	2775	KFLESS	2848	KGRM	2850
KGSTAR	2837	KL4	2854	KP1	2750	KPLUS	2843	KSTAR	2839	LABNEG	2508	LABPOS	2492
LABZRO	2500	LFIX	1340	LFRF	1316	LFRX	1294	LOADDD	838	LOADNX	700	LOGF	119
LOOKOP	992	LOOP	866	LSTYPE	2719	LXRF	1364	LXRX	1328	MOVEUP	1748	MSG30	1998
NEGAR3	157	OPS	2699	OUTER	1039	PARITY	2690	PHASID	110	POSN2	1736	POSNEG	1662
POSZRO	1779	RECMRK	2464	SAVZON	2700	SBLBAK	1254	SEQNO	2686	SERIES	117	SLASH	2722
SNAPSH	333	SUBFUB	2363	SUBFUN	2623	SUBLFT	2657	SUBS	1190	SX1	2693	SX1P3	2771
SX2	2689	SX2B	2842	SX3	1135	UNCOND	2488	W17A	2767	W17B	2793	W18A	2718
W20	2484	W6	2872	W8	2866	X1	89	X2	94	X2ZONE	2729	X3	99
XCODE	2721	XFIXF	124	ZEQNEG	1642								