IDENTIFICATION

Product Code:	DEC-08-AFC1-LA
Prodcut Name:	Fortran Compiler
Date Created:	September 13, 1967
Maintainer:	Software Services Group
Author:	John Wyatt

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                        /PDP-8 FORTRAN COMPILER
                        /PAGE 0 CONTAINS 12 BIT ADDRESSES
                        /TEMPORARY LOCATIONS, AND FREQUENTLY
                        /REFERENCED CONSTANTS AND ROUTINES
     0003               *3
0003 0163               TTT1,   DNM1
0004 0164               TTT2,   DNM2
0005 0364               DECT,   NOTP    /NO TAPE
0006 7451                       7451
0007 0364                       NOTP    /NO TAPE


                        /CODES AND PRECEDENCES
0010 0000               PCMA,   0000
0011 0603               PMPY,   0603
0012 0604               PDVD,   0604
0013 0501               PADD,   0501
0014 0510               PEQL,   0510
0015 0107               PPAR,   0107
0016 1106               PPAL,   1106
0017 0705               PLF,    0705
0020 0502               PMNS,   0502
0021 1020               PUMS,   1020
0022 5535               READ,   REED
0023 5535                       REED
0024 5154                       RED
0025 0000               CKSM,   0
0026 0600               END,    600
0027 0600               TAB,    600
0030 3314               ERR,    DIAG
0031 0600               POIN,   600
0032 0000               STMT,   0       /STATEMENTS SINCE LAST NUMBERED
0033 7522               DEC,    7522
0034 1000               PYMB,   PROG
0035 1000               SYMB,   PROG    /STATEMT. NUMBER TABLE
0036 0000               PCNT,   0
0037 1174               SEND,   1174    /END OF TABLE
0040 0000               RSSY,   0
0041 0000               FCOM,   0
0042 5600               CTRL,   CNTL
0043 0000               FEQL,   0       /FLAGS AND COUNTS
0044 0000               FLPA,   0
0045 0000               FRPA,   0
0046 4400               DOUT,   SLAP    /OUTPUT DIAGS
0047 0000               FUNT,   0       /NON 0 WHEN "GET" FINDS FUNCTION
0050 1733               IFAL,   B1      /ALPHA?
0051 1753               IFNM,   B2
0052 4000               LDFX,   4000
0053 5000               LDFL,   5000
0054 0377               RBT,    0377
0055 0000               BEGN,   0       /ADDR OF 1ST CHAR
0056 0000               FLOT,   0       /ADDR OF DECIMAL
0057 0000               ALF,    0
0060 0000               NUM,    0
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```
0061 0000          DCML,   0
                   FIXT,   0          /0 = FIXED
0062 0000
0063 4001          CKE,    4001
0064 0000          CLCW,   0
0065 7576          CLC,    7576       /POINTS TO ADDRESS OF LAST DATA ASSIGNED
0066 0000          INX,    0          /SET BY CHAR, 1 = INDEXED, 0 NOT
0067 0000          FORF,   0          /STACK MODE, SET BY LOAD, 1 = FIXED, 0 = OFF
0070 2115          DGB,    DBUF       /DIAGS STORED HERE
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0071  2115          DIAB,   DBUF
0072  0000          SFLG,   0       /SET TO NON-0 BY "(S", TO 0 BY ")"
0073  0000          FULL,   0
0074  7763          FILL,   7763
0075  5200          GENS,   5200
0076  5200          GEN,    5200
0077  0000          GENW,   0
0100  3200          OBOT,   ATOR
0101  3240          OP,     SAND
0102  3240          POP,    SAND
0103  0000          LUK1,   0
0104  0000          LUK2,   0
0105  0000          LUK3,   0
0106  0000          LUK4,   0
0107  0000          MODE,   0       /TO DETECT U MINUS
0110  0000          OFF,    0       /0 = FOUND SYMBOL IN.TABLE
0111  0000          CONT,   0       /NUMBER WRDS IN DATA BUFF
0112  0000          DAT1,   0
0113  0000          DAT2,   0
0114  0000          DAT3,   0
0115  2600          IADR,   ADR
0116  7576          VARS,   7576
0117  4233          ORGN,   ORGP
0120  7576          CCS,    7576
0121  0152          PRE,    PREV
0122  3200          PREP,   ATOR
0123  7777          AOA,    7777

0124  0000          MNOP,   0       /DECREMENT OPERAND POINTER
0125  1101                  TAD Z OP
0126  7041                  CIA
0127  7040                  CMA
0130  3101                  DCA Z OP
0131  5524                  JMP I MNOP

0132  0600          BF,     600
0133  0000          CNT,    0
0134  0000          LAST,   0
0135  5750          NEXL,   REST
0136  0077          R6,     0077
0137  1154          ADOV,   TAD DADR        /0014
0140  4430                  JMS I ERR
0141  5535                  JMP I NEXL

0142  0000          FRST,   0       /INITIALIZATION FOR NEW STATEMENT
0143  7200                  CLA
0144  3066                  DCA Z INX
0145  3057                  DCA Z ALF
0146  3060                  DCA Z NUM
0147  3061                  DCA Z DCML
0150  5542                  JMP I FRST

0151  5766          NEWL,   NEW
0152  3200          PREV,   ATOR
0153  0000          IN,     0
```

```
0154  0014          DADR,   0014
0155  7200          REFS,   FWRF
0156  7467          IT,     7467
0157  7461          NT,     7461
0160  2600          TADR,   ADR
```

```
0161  0326          SWH,    SWCH
0162  0000          DEBG,   0
0163  0000          DNM1,   0
0164  0000          DNM2,   0
0165  7034                  SWHH+2
0166  1777                  1777
0167  0000          DINX,   0
0170  0000          CKKR,   0       /CALLED AT END OF COMPILATION BY CHECKSUM ROUTINE


0171  1025                  TAD Z CKSM
0172  3176                  DCA Z SVCK
0173  1025                  TAD Z CKSM
0174  5570                  JMP I CKKR
0175  4216          POOPZZ, POPZ    /(SWITCH OPTION MECHANISM)

0176  0000          SVCK,   0
      0177          *177
0177  0000                  0       /USED AS A ONE DEEP PUSHDOWN FOR MODE OF STACK
                    /NON -DECTAPE COMPILER STARTS HERE BY READING SWITCHES
                    /FOR DYNAMIC ERROR CORRECTION
      0200          *200
0200  5603                  JMP I .+3       /INITIAL START

0201  5602                  JMP I .+1       /INITIALIZE EVERYTHING (RESTART)
0202  5677                  INIT
0203  0600                  BUFF
0204  4422          FILB,   JMS I Z READ    /READ ONE CHARACTER IGNORING SPACES FORM FEEDS, ETC
0205  3312                  DCA CHARX               /RETURN WITH CHARACTER IN AC
0206  1312                  TAD CHARX               /TEST FOR SPECIAL OPERATORS;SET SWITCHES
0207  1314                  TAD ASTR                /* TEST FOR EXPONENTATION,REPLACE WITH AS SINGLE OPERATO
TOR
0210  7640                  SZA CLA
0211  5352                  JMP TOSW
0212  2315                  ISZ ASTS                /2ND * ?
0213  5330                  JMP CHG         /CHG * * 70 , SW OFF
0214  5275                  JMP STOR
0215  1312                  TAD CHARX
0216  1316                  TAD COMA                /,
0217  7640                  SZA CLA
0220  5223                  JMP .+3
0221  2041                  ISZ Z FCOM      /FLAG ,
0222  5275                  JMP STOR
0223  1312                  TAD CHARX
0224  1317                  TAD EQL         /=
0225  7640                  SZA CLA
0226  5231                  JMP .+3
0227  2043                  ISZ FEQL
0230  5275                  JMP STOR
0231  1312                  TAD CHARX
0232  1320                  TAD PARL                /(
0233  7640                  SZA CLA
0234  5237                  JMP .+3
0235  2044                  ISZ Z FLPA      /FLAG (
0236  5275                  JMP STOR
0237  1312                  TAD CHARX
```

```
0240  1321          TAD PARR                /)
0241  7640          SZA CLA
0242  5245          JMP .+3
0243  2045          ISZ Z FRPA      /FLAG )
0244  5275          JMP STOR
0245  1312          TAD CHARX
0246  1322          TAD TABU                /TABULATION
0247  7640          SZA CLA
```

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0250  5254                    JMP .+4
0251  1031                    TAD Z POIN
0252  3027                    DCA Z TAB       /SET POINTER TO RIGHT OF TAB
0253  5204                    JMP FILB
0254  1312                    TAD CHARX
0255  1324                    TAD LF
0256  7650                    SNA CLA
0257  5204                    JMP FILB
0260  1312                    TAD CHARX
0261  1323                    TAD CR
0262  7640                    SZA CLA
0263  5266                    JMP .+3
0264  3431                    DCA I Z POIN
0265  5356                    JMP NUL         /PROCESS THE STATEMENT
0266  1325                    TAD CONT                /1
0267  1312                    TAD CHARX
0270  7640                    SZA CLA
0271  5275                    JMP STOR
0272  4422                    JMS I Z READ    /SKIP CR
0273  7200                    CLA     /FOR HI READ TO PREVENT ILL. CHAR.
0274  5204                    JMP FILB
0275  1312              STOR, TAD CHARX       /PLACE CHAR IN STATEMENT BUFFER, INCREMENT COUNTS AND POINTERS
0276  2133                    ISZ Z CNT
0277  3431                    DCA I Z POIN
0300  1031                    TAD Z POIN
0301  3134                    DCA Z LAST
0302  2031                    ISZ Z POIN      /FIX POINTER
0303  1310                    TAD CHK
0304  1133                    TAD Z CNT
0305  7700                    SMA CLA         /STATEMENT TOO BIG?
0306  5335                    JMP OVFL
0307  5204                    JMP FILB
0310  7600              CHK,  7600            /MAX STATEMENT 128DECIMAL
0311  0400              DOIT, PROC
0312  0000              CHARX, 0
0313  7540              SPAC, 7540
0314  7526              ASTR, 7526
0315  7777              ASTS, 7777
0316  7524              COMA, 7524
0317  7503              EQL,  7503
0320  7530              PARL, 7530
0321  7527              PARR, 7527
0322  7505              TABU, 7505    /; SEMI COLON
0323  7563              CR,   7563
0324  7566              LF,   7566
0325  7531              CONT, 7531
0326  7777              SWCH, 7777
0327  0247              INVL, 0247    /SINGLE QUOTE
0330  1326              CHG,  TAD SWCH
0331  3315                    DCA ASTS
0332  1327                    TAD INVL
0333  3534                    DCA I Z LAST    /REPLACE * * WITH *
0334  5204                    JMP FILB
0335  1355              OVFL, TAD TOSW+3              /ERROR DIAGNOSTIC #16 SIGNIFIES STATMNT TOO LONG
0336  2032                    ISZ Z STMT
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```
0337  4430                JMS I Z ERR
0340  4422          ZOOP, JMS I Z READ    /SPACE OVER REMAINDER OF
0341  3312                DCA CHARX
0342  1312                TAD CHARX       /THIS STATEMENT
0343  1323                TAD CR
0344  7640                SZA CLA
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```
0345  5551                JMP I Z NEWL
0346  7640                SZA CLA
0347  5340                JMP ZOOP
0350  4422                JMS I Z READ    /CONTINUED, SKIP CR
0351  5340                JMP ZOOP
0352  1326          TDSW, TAD SWCH
0353  3315                DCA ASTS
0354  5215                JMP FILB+11
0355  0016                0016
0356  1026          NUL,  TAD Z END       /TEST FOR NULL STATEMENT
0357  7041                CIA
0360  1031                TAD Z POIN
0361  7640                SZA CLA
0362  4711                JMS I DOIT
0363  5551                JMP I Z NEWL    /IGNORE NULL STATEMENT
                    /COME HERE TO DIAGNOSE USE OF DECTAPE BEFORE
                    /S,A. 600 HAS BEEN USED (ERR 24)
0364  1367          NOTP, TAD .+3
0365  4430                JMS I Z ERR
0366  5535                JMP I Z NEXL
0367  0024                0024
                    /AT THIS POINT AN ENTIRE STATEMENT IS IN THE BUFFER.
                    /DETERMINE IF IT IS AN ARITHMETIC OR CONTROL STATEMENT
                    /BY LOOKING AT SWITCHES SET BY #FILB# ALSO DISCARDS
                    /COMMENTS AND SAVES STATEMENT NOS.
      0400          *400
0400  0000          PROC, 0
0401  1026                TAD Z END
0402  7041                CIA
0403  1027                TAD Z TAB
0404  7650                SNA CLA
0405  5306                JMP JUMP
0406  1426                TAD I Z END
0407  7041                CIA
0410  1327                TAD CS          /COMMENT?
0411  7650                SNA CLA
0412  5551                JMP I Z NEWL    /YES
0413  7040                CMA
0414  3032                DCA Z STMT      /MUST BE STATEMNT NUMBER
0415  4217                JMS P3
0416  5252                JMP X3
0417  0000          P3,   0
0420  1027                TAD Z TAB
0421  7041                CIA
0422  3027                DCA Z TAB
0423  3333                DCA T1
0424  3334                DCA T2
0425  1426          X2,   TAD I Z END
0426  1374                TAD CRY+4             /-260
0427  1334                TAD T2
0430  3334                DCA T2
0431  2026                ISZ Z END
0432  1026                TAD Z END
0433  1027                TAD Z TAB
0434  7650                SNA CLA
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0435  5617                    JMP I P3
0436  1335                    TAD L1
0437  3336                    DCA SHFT
0440  7100          X1,       CLL
0441  1334                    TAD T2
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```
0442  7004                    RAL
0443  3334                    DCA T2
0444  1333                    TAD T1
0445  7004                    RAL
0446  3333                    DCA T1
0447  2336                    ISZ SHFT
0450  5240                    JMP X1
0451  5225                    JMP X2
0452  1333              X3,   TAD T1
0453  3163                    DCA Z DNM1
0454  1334                    TAD T2
0455  3164                    DCA Z DNM2
0456  4341                    JMS ISIT
0457  7650                    SNA CLA
0460  5264                    JMP .+4
0461  1330                    TAD SVN
0462  4430                    JMS I Z ERR
0463  5306                    JMP JUMP
0464  1037                    TAD Z SEND
0465  7041                    CIA
0466  1035                    TAD Z SYMB
0467  7710                    SPA CLA /MAKE 21 WORK
0470  5274                    JMP .+4
0471  1340                    TAD LVEN+1
0472  4430                    JMS I Z ERR
0473  5535                    JMP I Z NEXL
0474  1333                    TAD T1
0475  3435                    DCA I Z SYMB
0476  2035                    ISZ Z SYMB
0477  1334                    TAD T2
0500  3435                    DCA I Z SYMB
0501  2035                    ISZ Z SYMB
0502  1076                    TAD Z GEN
0503  3435                    DCA I Z SYMB
0504  2035                    ISZ Z SYMB
0505  2036                    ISZ Z PCNT
0506  2032              JUMP, ISZ Z STMT
0507  7000                    NOP
0510  1044                    TAD Z FLPA              /TEST FOR UNEQUAL NUMBER OF OPEN AND CLOSED PARENS.
0511  7041                    CIA
0512  1045                    TAD Z FRPA
0513  7650                    SNA CLA
0514  5320                    JMP .+4
0515  1337                    TAD LVEN                /0011, UNEQL (AND)
0516  4430                    JMS I Z ERR
0517  5535                    JMP I Z NEXL
0520  1043                    TAD Z FEQL              /NO = MEANS A CONTROL STATEMENT
0521  7650                    SNA CLA
0522  5442                    JMP I Z CTRL
0523  1041                    TAD Z FCOM              /OR = BUT NO, MEANS AN ARITHMETIC STATEMENT
0524  7640                    SZA CLA
0525  5442                    JMP I Z CTRL
0526  5731                    JMP I ARTC      /ARITHMETIC STATEMNT
0527  0303              CS,   303
0530  0014              SVN,  0014
```

```
0531  2000          ARTC,   ARTH
0532  0000          ZIP,    0
0533  0000          T1,     0
0534  0000          T2,     0
0535  7772          L1,     7772
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```
0536  0000          SHFT,   0
0537  0011          LVEN,   0011
0540  0021                  0021
0541  0000          ISIT,   0               /SEARCH STATEMENT NUMBER TABLE
0542  1036                  TAD Z PCNT
0543  7040                  CMA
0544  3332                  DCA ZIP
0545  1034                  TAD Z PYMB
0546  3035                  DCA Z SYMB
0547  2332          SIGH,   ISZ ZIP
0550  5352                  JMP .+2
0551  5741                  JMP I ISIT        /NOT IN TABLE
0552  1435                  TAD I Z SYMB
0553  7041                  CIA
0554  1333                  TAD T1
0555  7640                  SZA CLA
0556  5370                  JMP CRY
0557  2035                  ISZ Z SYMB
0560  1334                  TAD T2
0561  7041                  CIA
0562  1435                  TAD I Z SYMB
0563  7640                  SZA CLA
0564  5371                  JMP .+5
0565  2035                  ISZ Z SYMB
0566  1435                  TAD I Z SYMB
0567  5741                  JMP I ISIT
0570  2035          CRY,    ISZ Z SYMB
0571  2035                  ISZ Z SYMB
0572  2035                  ISZ Z SYMB
0573  5347                  JMP SIGH
0574  7520                  7520

                    /STATEMENT BUFFER
      0600          *600
0600  7000          BUFF,   NOP
                    /THIS IS ONCE ONLY CODE AND IS OVERLAID WHEN A STATEMENT IS READ IN.
                    /SWITCH OPTION
                            /BIT 0 SWITCH UP INDICATES DECTAPE
                            /BIT 1 SWITCH UP INDICATES HIREAD
                            /BIT 2 UP INDICATES HI SPEED PUNCH
                            /BIT 11 UP INDICATES DYNAMIC ERROR CORRECTION
0601  7300                  CLA CLL
0602  7604                  LAS
0603  3276                  DCA SWITCH
0604  1276                  TAD SWITCH
0605  7700                  SMA CLA /DECTAPE SWITCH SET (BIT 0)
0606  5225                  JMP HIREAD
0607  1220                  TAD XXXX          /MAKE DECTAPE VISIBLE
0610  3075                  DCA Z GENS        /SETUP NEW POINTER
0611  1221                  TAD XXXX+1
0612  3622                  DCA I XXXX+2
0613  1223                  TAD XXXX+3
0614  3005                  DCA Z DECT        /TAKE AWAY NOTP
0615  1224                  TAD XXXX+4
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0616  3007                    DCA Z DECT+2    /TAKE AWAY NOTP
0617  5225                    JMP HIREAD

0620  6000              XXXX, 6000    /DECTAPE CONSTANTS
0621  7652                    7652
0622  0310                    CHK
0623  0726                    TPIN
0624  0736                    TPOT

0625  7300              HIREAD, CLA CLL /HI SPEED READER?
0626  1276                    TAD SWITCH      /SWITCH (BIT 1)
0627  7004                    RAL
0630  7700                    SMA CLA
0631  5244                    JMP HIPNCH      /NO
0632  1301                    TAD RDIOT1      /CHANGE IOT'S
0633  3672                    DCA I READ1A
0634  1302                    TAD RDIOT2
0635  3673                    DCA I READ1B
0636  1303                    TAD RDIOT3
0637  3711                    DCA I INIOT1    /THIS IOT INITIALIZES READER, REPLACES KRB
0640  1301                    TAD RDIOT1
0641  3674                    DCA I READ1C
0642  1302                    TAD RDIOT2
0643  3675                    DCA I READ1D
0644  7300              HIPNCH, CLA CLL       /HI SPEED PUNCH
0645  1276                    TAD SWITCH
0646  7006                    RTL
0647  7700                    SMA CLA
0650  5257                    JMP ISDYNM      /NO
0651  1304                    TAD PNIOT1      /YES CHANGE IOTS AT 4224+5
0652  3707                    DCA I PNCH1A
0653  1305                    TAD PNIOT2
0654  3710                    DCA I PNCH1B
0655  1306                    TAD PNIOT3
0656  3712                    DCA I INIOT2    /THIS IOT INITIALIZES PUNCH, REPLACES TPC
0657  7300              ISDYNM, CLA CLL
0660  1200                    TAD BUFF        /ERROR PROOFS
0661  3671                    DCA I ERPROF    /RESTART @ 200

0662  1276                    TAD SWITCH      /DYNAMIC SWITCH
0663  7012                    RTR     /BIT (11)
0664  7700                    SMA CLA
0665  5713                    JMP I TRAVEL
0666  1123                    TAD AOA
0667  3162                    DCA Z DEBG
0670  5713                    JMP I TRAVEL

                        /TABLE OF CONSTANTS AND POINTERS
0671  0200              ERPROF, 200
0672  5536              READ1A, REED+1
0673  5540              READ1B, REED+3
0674  5155              READ1C, RED+1
0675  5157              READ1D,  RED+3
0676  0000              SWITCH, 0
0677  4523              DYMPNT, POOP
0700  4365              TYPNTR, TYPE
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0701  6011          RDIOT1, RSF
0702  6016          RDIOT2, RRB RFC
0703  6014          RDIOT3, RFC
0704  6026          PNIOT1, PLS
0705  6021          PNIOT2, PSF
0706  6026          PNIOT3, PLS
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0707  4224              PNCH1A, POPZ+6
0710  4225              PNCH1B, POPZ+7
0711  5727              INIOT1, JIGGLE  /INIOT MEANS INITIAL IOTS
0712  5735              INIOT2, JIGGLE+6        /JIGGLE MEANS TO JIGGLE THE FLAG (CLEAR IT)
0713  5677              TRAVEL, INIT


                        /READ - WRITE DECTAPE
                        /ACCEPT UNIT, BLOCK, FORMAT, NO., LIST
      0726              *726
0726  1333              TPIN,   TAD .+5
```

```
0727  4770                    JMS I PCHH      /PUNCH READ DECTAPE
0730  1334                    TAD .+4
0731  4767                    JMS I HOPP
0732  5343                    JMP TPOT+5
0733  0054                    0054
0734  0004                    0004
0735  0005                    0005
0736  1335              TPOT, TAD .-1         /SKIP "WRITE"
0737  4767                    JMS I HOPP
0740  1333                    TAD .-5
0741  7001                    IAC
0742  4770                    JMS I PCHH      /PUNCH WRITE DECTAPE
0743  4346                    JMS JAM         /GET UNIT NO.
0744  4346                    JMS JAM         /GET BLOCK NO.
0745  5766                    JMP I GEOU
0746  0000              JAM,  0
0747  4771                    JMS I GGET
0750  1057                    TAD Z ALF
0751  7640                    SZA CLA
0752  5357                    JMP .+5         /SYMBOLIC?
0753  4776                    JMS I DECB      /CONSTANT
0754  7120                    CLL CML
0755  4775                    JMS I DECB-1
0756  5363                    JMP GEOU-3
0757  4772                    JMS I GGET+1
0760  4773                    JMS I GGET+2
0761  4774                    JMS I GGET+3
0762  1501                    TAD I Z OP
0763  4770                    JMS I PCHH      /PUNCH ADDRESS OF VARIABLE OR CONSTANT
0764  4771                    JMS I GGET
0765  5746                    JMP I JAM
0766  6614              GEOU, OUTP+5
0767  6024              HOPP, OVER
0770  4200              PCHH, PCH
0771  1200              GGET, GET
0772  7115                    LAP+1
0773  2200                    STBL
0774  7134                    DOG
0775  2700                    DATA
0776  5017              DECB, BIN

                        /STATEMENT NUMBER TABLE
                        /CONTAINS 3 WORDS PER ENTRY, WHERE 1ST WORD IS HIGH ORDER 2
                        /DIGITS OF NUMBER (RIGHTMOST 6 BITS), 2ND WORD IS LOW ORDER
                        /DIGITS OF NUMBER, AND 3RD WORD IS ADDRESS OF THIS
                        /STATEMENT AT RUN TIME
      1000              *1000

1000  7777              PROG, 7777
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                    /THIS ROUTINE PICKS THE NEXT ENTITY FROM THE STATEMENT BUFFER BY SCANNING
                    /A CHARACTER AT A TIME FROM LEFT TO RIGHT, AFTER EACH CHARACTER CONTROL
                    /PASSES TEMPORARILY TO ARND WHICH LOOKS AHEAD AT NEXT CHARACTER TO SEE
                    /IF IT TERMINATES CURRENT ENTITY OR IS AN INGREDIENT. THIS ROUTINE IS
                    /ENTERED WITH END POINTING TO 1ST CHARACTER, EXITS WITH BEGN POINTING TO 1
                    /1ST CHAR, END POINTING TO LAST
                    /IN ADDITION CERTAIN SWITCHES ARE SET TO INDICATE CHARACTERISTICS
                    /OF THIS ENTITY, NAMELY IS IT NUMERIC, ALPHABETIC, ALPHANUMERIC,
                    /DOES IT COMTAIN A DECIMAL POINT (IS IT A FLPT CONSTANT?)
                    /WHEN THIS ROUTINE EXITS, OPERATORS (+,-,ETC)
                    /HAVE BEEN REPLACED IN THE INPUT BUFFER BY A WORD CONTAINING A CODE FOR
                    /THE OPERATOR TYPE IN THE RIGHT HALF, AND A PRECEDENCE NUMBER IN THE
                    /LEFT HALF FOR USE BY THE CODE GENERATION ALGORITHM.
     1200           *1200
1200 0000           GET,    0       /INITIALIZE FOR NEW ENTITY
1201 4142                   JMS Z FRST
1202 1026                   TAD Z END
1203 3055                   DCA Z BEGN      /SAVE ADDR 1ST CHAR
1204 1426                   TAD I Z END
1205 4450                   JMS I Z IFAL    /ALPHA?
1206 5210                   JMP .+2         /YES
1207 5212                   JMP .+3         /NO
1210 2057                   ISZ Z ALF
1211 5375                   JMP GOP
1212 1426                   TAD I Z END
1213 4451                   JMS I Z IFNM
1214 5216                   JMP .+2         /YES
1215 5220                   JMP .+3
1216 2060                   ISZ Z NUM
1217 5375                   JMP GOP
1220 1033                   TAD Z DEC       /7522
1221 1426                   TAD I Z END
1222 7640                   SZA CLA
1223 5230                   JMP NOTD
1224 2061                   ISZ Z DCML      /DECIMAL POINT
1225 1026                   TAD Z END
1226 3056                   DCA Z FLOT      /POINT TO DEC PT
1227 5375                   JMP GOP
1230 1426           NOTD,   TAD I Z END
1231 7640                   SZA CLA         /CR OPERATOR?
1232 5235                   JMP .+3         /NP
1233 3107                   DCA Z MODE      /EXIT MODE OFF
1234 5244                   JMP RET+2
1235 1355                   TAD CMMA                / 7524
1236 1426                   TAD I Z END
1237 7640                   SZA CLA
1240 5246                   JMP .+6
1241 1010                   TAD Z PCMA
1242 3426           RET,    DCA I Z END
1243 2107                   ISZ Z MODE      /0021
1244 2026                   ISZ Z END
1245 5600                   JMP I GET
1246 1426                   TAD I Z END
1247 1356                   TAD MULT                /* 7526
1250 7640                   SZA CLA
```

```
1251  5254          JMP .+3
1252  1011          TAD Z PMPY      /0603
1253  5242          JMP RET
1254  1426          TAD I Z END
1255  1357          TAD DIVD                /7521
```

```
1256  7640                SZA CLA
1257  5262                JMP .+3
1260  1012                TAD Z PDVD      /0604
1261  5242                JMP RET
1262  1426                TAD I Z END
1263  1360                TAD ADD         /+7525
1264  7640                SZA CLA
1265  5270                JMP .+3
1266  1013                TAD Z PADD      /0501
1267  5242                JMP RET
1270  1426                TAD I Z END
1271  1361                TAD EQUL                /=7503
1272  7640                SZA CLA
1273  5276                JMP .+3
1274  1014                TAD Z PEQL      /0510
1275  5242                JMP RET
1276  1426                TAD I Z END
1277  1362                TAD RPAR                /) 7527
1300  7640                SZA CLA
1301  5306                JMP .+5
1302  1015                TAD Z PPAR      /0107
1303  3426                DCA I Z END
1304  3107                DCA Z MODE
1305  5244                JMP RET+2
1306  1426                TAD I Z END
1307  1345                TAD LPAR                /(
1310  7640                SZA CLA
1311  5314                JMP .+3
1312  1016                TAD Z PPAL      /1106
1313  5242                JMP RET
1314  1426                TAD I Z END
1315  1363                TAD APOS        /7531(')
1316  7640                SZA CLA
1317  5322                JMP .+3
1320  7000                NOP
1321  5326                JMP .+5
1322  1426                TAD I Z END
1323  7500                SMA             /FUNCTION OR SUBSCRIPTING
1324  5331                JMP .+5         /HIGH BIT WILL BE ON
1325  5242                JMP RET
1326  3072                DCA Z SFLG      /SET FLAG FOR INVOLUTION
1327  1017                TAD Z PLF       /CLEARED WHEN PRODUCTION OCCURS
1330  5242                JMP RET
1331  7041                CIA
1332  1347                TAD MINS                /0255
1333  7640                SZA CLA
1334  5364                JMP ILL
1335  1107                TAD Z MODE
1336  7640                SZA CLA
1337  5342                JMP .+3
1340  1020                TAD Z PMNS      /0502
1341  5242                JMP RET
1342  3107                DCA Z MODE
1343  1021                TAD Z PUMS      /1020
1344  5242                JMP RET
```

```
1345  7530              LPAR,   7530
1346  7445              ALPL,   7445
1347  0255              MINS,   0255
1350  7477              ALPH,   7477
1351  1400              SKIP,   ARND
1352  7506              NUMB,   7506
1353  0012              NINE,   0012
1354  0256              DECL,   0256
1355  7524              CMMA,   7524
1356  7526              MULT,   7526
1357  7521              DIVD,   7521
1360  7525              ADD,    7525
1361  7503              EQUL,   7503
1362  7527              RPAR,   7527
1363  7531              APOS,   7531
                        /REPLACE AN ILLEGAL CHARACTER WITH 3777
1364  1377              ILL,    TAD M3777               /3777
1365  1426                      TAD I Z END
1366  7650                      SNA CLA
1367  5244                      JMP RET+2       /HAS ALREADY BEEN DETECTED
1370  1353                      TAD NINE
1371  4430                      JMS I Z ERR     /ISSUE DIAG
1372  1377                      TAD M3777
1373  3426                      DCA I Z END
1374  5244                      JMP RET+2
1375  3107              GOP,    DCA Z MODE
1376  5751                      JMP I SKIP
1377  3777              M3777,  3777
                        /CALLED BY GET LOOKS AT ONE CHARACTER AHEAD OF POINTER TO SEE IF IT
                        /IS A VALID CONSTITUENT OF AN ENTITY OR MUST TERMINATE AN ENTITY;
                        /EXITS WITH ORIGINAL POINTER RESTORED FOR CONSTITUENT OF AN ENTITY
                        /(SYMBOL,CONSTANT,ETC) OR WITH POINTER ADVANCED FOR AN OPERATOR.
      1400              *1400
1400  1426              ARND,   TAD I Z END
1401  3301                      DCA ISE
1402  2026                      ISZ Z END
1403  1426                      TAD I Z END
1404  4450                      JMS I Z IFAL
1405  5704                      JMP I NEXT      /YES, ALPHA
1406  1426                      TAD I Z END
1407  4451                      JMS I Z IFNM
1410  5704                      JMP I NEXT      /YES, NUMERIC
1411  1426                      TAD I Z END
1412  1033                      TAD Z DEC
1413  7650                      SNA CLA
1414  5704                      JMP I NEXT      /DECIMAL POINT
1415  1426                      TAD I Z END
1416  7450                      SNA
1417  5707                      JMP I DONE
1420  7041                      CIA
1421  1311                      TAD XEQL                /=
1422  7650                      SNA CLA
1423  5707                      JMP I DONE      /EXIT ON OP
1424  1426                      TAD I Z END
1425  7041                      CIA
```

```
1426  1310          TAD SLSH
1427  7650          SNA CLA
1430  5707          JMP I DONE
1431  1426          TAD I Z END
1432  7041          CIA
```

```
1433  1303                    TAD LEFT                /(
1434  7650                    SNA CLA
1435  5317                    JMP LKUP
1436  1426                    TAD I Z END
1437  7041                    CIA
1440  1302                    TAD PS                  /CHECK FOR E
1441  7450                    SNA
1442  5264                    JMP ETST
1443  7001                    IAC
1444  7001                    IAC
1445  7650                    SNA CLA
1446  5264                    JMP ETST
1447  1426            NOTE,   TAD I Z END
1450  1277                    TAD LOWR                /-247
1451  7710                    SPA CLA
1452  5257                    JMP NG                  /ILLEGAL
1453  1426                    TAD I Z END
1454  1300                    TAD UPPR                /-255
1455  7750                    SPA SNA CLA
1456  5707                    JMP I DONE              /OPERATOR
1457  7350            NG,     STA CLL RAR             /3777
1460  3426                    DCA I Z END
1461  1367                    TAD PUT+1
1462  4430                    JMS I Z ERR
1463  5704                    JMP I NEXT
1464  1301            ETST,   TAD ISE
1465  1276                    TAD ES
1466  7640                    SZA CLA
1467  5247                    JMP NOTE
1470  1060                    TAD Z NUM
1471  7650                    SNA CLA
1472  5247                    JMP NOTE
1473  2026                    ISZ Z END
1474  3057                    DCA Z ALF
1475  5704                    JMP I NEXT

1476  7473            ES,     7473
1477  7531            LOWR,   7531
1500  7522            UPPR,   7522
1501  0000            ISE,    0
1502  0253            PS,     253
1503  0250            LEFT,   250
1504  1204            NEXT,   GET+4
1505  1663            NOOK,   COOK
1506  0000            SRCH,   0
1507  1245            DONE,   RET+3
1510  0257            SLSH,   0257
1511  0275            XEQL,   0275
1512  1653            SOBG,   TOBG
1513  1622            BOOK,   LOOK
1514  0000            MOVE,   0

1515  7773            MFOR,   7773
1516  0000            FOUR,   0
```

```
                /SOME SYMBOL IS FOLLOWED BY A LEFT PAREN, THIS ROUTINE SEARCHES TO SEE
                /IF THE SYMBOL IS A FUNCTION NAME (SINF, COSF,ETC) IF NOT ASSUMES IT
                /TO BE A SUBSCRIPTED VARIABLE NAME.
1517  1315      LKUP,   TAD MFOR
1520  3316              DCA FOUR
1521  1366              TAD PUT
1522  3314              DCA MOVE
1523  3103              DCA Z LUK1
1524  3104              DCA Z LUK2
1525  3105              DCA Z LUK3
1526  3106              DCA Z LUK4
1527  1055              TAD Z BEGN
1530  3306              DCA SRCH
1531  1706      LUPE,   TAD I SRCH
1532  7041              CIA
1533  1063              TAD Z CKE
1534  7640              SZA CLA
1535  5346              JMP GOOD
1536  2306              ISZ SRCH
1537  1306              TAD SRCH
1540  7041              CIA
1541  1026              TAD Z END
1542  7640              SZA CLA
1543  5331              JMP LUPE
1544  4713              JMS I BOOK
1545  5705              JMP I NOOK
1546  2316      GOOD,   ISZ FOUR
1547  5351              JMP .+2
1550  5712              JMP I SOBG      /MORE THAN 4 CHARS. MUST
1551  7100              CLL             /BE A SUBSCRIPT, NOT FUNCT.
1552  1706              TAD I SRCH
1553  3714              DCA I MOVE
1554  2314              ISZ MOVE
1555  2306              ISZ SRCH
1556  1306              TAD SRCH
1557  7041              CIA
1560  1026              TAD Z END
1561  7640              SZA CLA
1562  5331              JMP LUPE
1563  4713              JMS I BOOK
1564  5765              JMP I PAGE
1565  1663      PAGE,   COOK
1566  0103      PUT,    LUK1
1567  0012              0012

      1600              *1600
                        /FUNCTION SYMBOL TABLE
1600  2311      WRD1,   2311
1601  0317              0317
1602  2321              2321
1603  1417              1417
1604  0530              0530
1605  0124              0124
1606  5113      OBJT,   5113
1607  5114              5114
```

```
1610  5112                        5112
1611  5116                        5116
1612  5111                        5111
1613  5115                        5115
1614  1606              WRD2,     1606
```

```
1615  2306                      2306
1616  2406                      2406
1617  0706                      0706
1620  2006                      2006
1621  1606            TABL,     1606
1622  0000            LOOK,     0         /THIS ROUTINE PACKS THE SYMBOL BEING EXAMINED INTO
                                          /SAME 2-WORD FORMAT AS FUNCTION NAME IN FUNCTION
                                          /SYMBOL TABLE
1623  7100                      CLL
1624  1103                      TAD Z LUK1
1625  0251                      AND SEVN                  /0077
1626  7006                      RTL
1627  7006                      RTL
1630  7006                      RTL
1631  3103                      DCA Z LUK1
1632  1104                      TAD Z LUK2
1633  0251                      AND SEVN
1634  1103                      TAD Z LUK1
1635  3103                      DCA Z LUK1
1636  1105                      TAD Z LUK3
1637  0251                      AND SEVN
1640  7006                      RTL
1641  7006                      RTL
1642  7006                      RTL
1643  3105                      DCA Z LUK3
1644  1106                      TAD Z LUK4
1645  0251                      AND SEVN
1646  1105                      TAD Z LUK3
1647  3104                      DCA Z LUK2
1650  5622                      JMP I LOOK
1651  0077            SEVN,     0077
1652  5117            SBSC,     5117
                      /COMES HERE FROM LKUP WHEN SYMBOL IS TOO BIG TO BE A FUNCTION NAME.
1653  7001            TOBG,     IAC               /INDICATES INDEXED
1654  3066                      DCA Z INX
1655  1252                      TAD SBSC
1656  3426                      DCA I Z END       /REPLACE ( WITH SUBSCRIPT
1657  7001                      IAC
1660  3072                      DCA Z SFLG
1661  5662                      JMP I .+1
1662  1245                      RET+3
                      /SEARCH FUNCTION TABLE
1663  1323            COOK,     TAD SIX
1664  3324                      DCA THRU
1665  1327                      TAD MAC2
1666  3331                      DCA BOO
1667  1326                      TAD MAC1
1670  3330                      DCA PEEK
1671  1325                      TAD REPL
1672  3332                      DCA GOTO
1673  1103            CHEK,     TAD Z LUK1
1674  7041                      CIA
1675  1730                      TAD I PEEK
1676  7640                      SZA CLA
1677  5314                      JMP OER
```

```
1700  110₄      TAD 7 LUK2
1701  7041      CIA
1702  1731      TAD I BOO
1703  7640      SZA CLA
1704  5314      JMP OER
```

```
1705  1732                TAD I GOTO      /FOUND MATCH
1706  3426                DCA I Z END
1707  2047                ISZ Z FUNT
1710  1026                TAD Z END
1711  3055                DCA Z BEGN
1712  5713                JMP I .+1
1713  1243                RET+1
1714  2324          OER,  ISZ THRU
1715  5317                JMP .+2
1716  5253                JMP TOBG            /NO MATCH
1717  2330                ISZ PEEK
1720  2331                ISZ BOO
1721  2332                ISZ GOTO
1722  5273                JMP CHEK
1723  7772          SIX,  7772
1724  0000          THRU, 0
1725  1606          REPL, OBJT
1726  1600          MAC1, WRD1
1727  1614          MAC2, WRD2
1730  0000          PEEK, 0
1731  0000          BOO,  0
1732  0000          GOTO, 0
                    /CHARACTER TESTS, RETURN TRU TO CALL+1,
                    /FALSE TO CALL+2

1733  0000          B1,   0             /ALPHA TEST, 301-332
1734  3350                DCA TEM3
1735  1350                TAD TEM3
1736  1346                TAD LESS
1737  7710                SPA CLA
1740  5344                JMP YYY
1741  1350                TAD TEM3
1742  1347                TAD MORE
1743  7700                SMA CLA
1744  2333          YYY,  ISZ B1
1745  5733                JMP I B1
1746  7477          LESS, 7477
1747  7445          MORE, 7445
1750  0000          TEM3, 0
1751  7520          LOW,  7520
1752  7506          HIGH, 7506
1753  0000          B2,   0             /NUMERIC TEST
1754  3350                DCA TEM3
1755  1350                TAD TEM3
1756  1351                TAD LOW
1757  7710                SPA CLA
1760  5364                JMP DDD
1761  1350                TAD TEM3
1762  1352                TAD HIGH
1763  7700                SMA CLA
1764  2353          DDD,  ISZ B2
1765  5753                JMP I B2

                    PAUSE
```

```
                    /ARITHMETIC COMPILER CONTROL, COMES HERE FROM PROC FOR ARITHMETIC
                    /STATEMENTS. DIRECTS COMPILATION OF ARITH. STATEMENTS BY CALLING
                    /#GET# MAKING SYMBOL TABLE ENTRIES AND SEARCHES, CALLING PRODUCTION
                    /ALGORITH WHEN AN OPERATOR IS ENCOUNTERED, ENTERING VARIABLE AND
                    /CONSTANT DESCRIPTORS IN OPERAND TABLE WITH HI-ORDER BITS SET TO
                    /INDICATE FIXED OR FL PT., INDEXED OR NOT, AND WITH 10 BIT RUN
                    /TIME DATA ADDRESS

      2000          *2000

2000  7200  ARTH,   CLA                 /INITIALIZATION
2001  3057          DCA Z ALF
2002  3060          DCA Z NUM
2003  3061          DCA Z DCML
2004  3047          DCA Z FUNT
2005  4660  FTCH,   JMS I GETI          /GET CHAR
2006  1047          TAD Z FUNT
2007  7640          SZA CLA
2010  5222          JMP .+12
2011  1061          TAD Z DCML
2012  7640          SZA CLA
2013  5275          JMP FLTS+14
2014  1057          TAD Z ALF
2015  7640          SZA CLA
2016  5225          JMP FIXD              /SYMBOL FIXED OR FLOAT
2017  1060          TAD Z NUM
2020  7640          SZA CLA
2021  5261          JMP FLTS              /CONSTANT, FIXED OR FLOAT
2022  4710          JMS I ALGR            /MUST BE OPERATOR
2023  5200          JMP ARTH                    /NORMAL RETURN
2024  5551          JMP I Z NEWL          /END STATEMENT RETURN
2025  1055  FIXD,   TAD Z BEGN           /VARIABLE, SEE IF FX-FL
2026  3307          DCA STEP
2027  1707          TAD I STEP
2030  1063          TAD Z CKE             /4001 (-3777)
2031  7640          SZA CLA
2032  5235          JMP .+3               /NOT ILLEGAL
2033  2307          ISZ STEP
2034  5227          JMP FIXD+2
2035  1707          TAD I STEP
2036  1305          TAD ITST                    /7467
2037  7700          SMA CLA
2040  5246          JMP .+6               /FIXED VAR?
2041  4711  AOD,    JMS I SYM             /SYMBOL TABLE CHECK
2042  7420          SNL
2043  7020          CML
2044  4657          JMS I GETI-1          /ENTER IN OPERAND STACK
2045  5200          JMP ARTH
2046  1707          TAD I STEP
2047  1306          TAD NTST                    /7461
2050  7700          SMA CLA
2051  5241          JMP AOD               /FLOATING VARIABLE
2052  7001          IAC
2053  4711          JMS I SYM             /FIXED, 0001 TELLS SYM
2054  7100          CLL
```

```
2055  4657                    JMS I GETI-1    / WILL ENTER IN OPERAND STACK
2056  5200                    JMP ARTH
2057  3000                    OPER
2060  1200              GETI, GET
```

```
2061  4713          FLTS,   JMS I DECF-1
2062  7120                  CLL CML
2063  4704                  JMS I DOTA      /CREATE OUTPUT, RETURN WITH ADDRESS
2064  7100                  CLL
2065  4657                  JMS I GETI-1
2066  1112                  TAD Z DAT1
2067  1123                  TAD Z AOA
2070  7640                  SZA CLA
2071  5200                  JMP ARTH
2072  1312                  TAD SYM+1
2073  3501                  DCA I Z OP              /ONE
2074  5200                  JMP ARTH
2075  3057                  DCA Z ALF
2076  4714                  JMS I DECF      /FLOATING
2077  7100                  CLL
2100  4704                  JMS I DOTA
2101  7120                  CLL CML
2102  4657                  JMS I GETI-1
2103  5200                  JMP ARTH
2104  2700          DOTA,   DATA
2105  7467          ITST,   7467
2106  7461          NTST,   7461
2107  0000          STEP,   0
2110  3027          ALGR,   AGOR
2111  2200          SYM,    STBL
2112  1577                  1577
2113  5017                  BIN
2114  5200          DECF,   FINK
2115  0000          DBUF,   0

      2200                *2200
                          /VARIABLE SYMBOL TABLE SEARCH INITIALIZATION
2200  0000          STBL,   0
2201  3324                  DCA S1
2202  3110                  DCA Z OFF
2203  1335                  TAD SYM1        /SET UP POINTERS TO STEP THRU SYMBOL TABLE
2204  3321                  DCA IHOR
2205  1336                  TAD SYM2
2206  3322                  DCA ILOR
2207  1334                  TAD LOC1
2210  3323                  DCA PADR
2211  1325                  TAD PINT
2212  3326                  DCA DEPS
2213  1330                  TAD CHRS
2214  3327                  DCA RUND
2215  3104                  DCA Z LUK2
2216  3105                  DCA Z LUK3
2217  3106                  DCA Z LUK4
2220  1426                  TAD I Z END
2221  7000                  NOP
2222  7200                  CLA
                          /THIS ROUTINE PACKS SYMBOL PRIOR TO TABLE SEARCH
2223  1026          ABC,    TAD Z END       /TEST FOR END OF SYMBOL
2224  7041                  CIA
2225  1055                  TAD Z BEGN
```

```
2226  7650          SNA CLA
2227  5246          JMP SCH         /END OF SYMBOL, GO TO SEARCH
2230  1455          TAD I Z BEGN
2231  1063          TAD Z CKE       /-37777 (4001)
2232  7640          SZA CLA
```

```
2233  5236                    JMP .+3          /O.K.
2234  2055                    ISZ Z BEGN
2235  5223                    JMP ABC
2236  1455                    TAD I Z BEGN
2237  3726                    DCA I DEPS
2240  2326                    ISZ DEPS
2241  2327                    ISZ RUND
2242  5244                    JMP .+2
2243  5246                    JMP .+3
2244  2055                    ISZ Z BEGN
2245  5223                    JMP ABC
2246  1332          SCH,      TAD ENDS
2247  7040                    CMA
2250  3331                    DCA CNTS
2251  4720                    JMS I GOOK       /4 CHARS OR END OF SYMBOL
2252  2331                    ISZ CNTS
2253  5255                    JMP .+2
2254  5275                    JMP BUT          /FELL OFF END, ENTER SYMBOL
2255  1103                    TAD Z LUK1
2256  7041                    CIA
2257  1721                    TAD I IHOR
2260  7640                    SZA CLA
2261  5271                    JMP FSIT
2262  1104                    TAD Z LUK2
2263  7041                    CIA
2264  1722                    TAD I ILOR
2265  7640                    SZA CLA
2266  5271                    JMP FSIT
2267  1723                    TAD I PADR       /MATCH, GET TABLE ADDRESS
2270  5600                    JMP I STBL
2271  2321          FSIT,     ISZ IHOR
2272  2322                    ISZ ILOR
2273  2323                    ISZ PADR
2274  5252                    JMP SCH+4
2275  2332          BUT,      ISZ ENDS         /COUNT ENTRIES
2276  1332                    TAD ENDS
2277  7040                    CMA
2300  1333                    TAD SIZE
2301  7700                    SMA CLA
2302  5306                    JMP .+4
2303  1337                    TAD SYM2+1
2304  4430                    JMS I Z ERR      /ERROR DIAGNOSTIC # 07
2305  5446                    JMP I Z DOUT
2306  2110                    ISZ Z OFF
2307  1103                    TAD Z LUK1
2310  3721                    DCA I IHOR
2311  1104                    TAD Z LUK2
2312  3722                    DCA I ILOR
2313  1324                    TAD S1           /S1 TELLS FIX OR FLOAT
2314  7110                    CLL RAR          /1 = FIXED
2315  4717                    JMS I DOT        /CREATE ACTUAL DATA
2316  5600                    JMP I STBL

2317  2700          DOT,      DATA
2320  1622          GOOK,     LOOK
```

```
2321  2400          IHDR,   HRD
2322  2500          ILDR,   LRD
2323  2600          PADR,   ADR
2324  0000          S1,     0
2325  0103          PINT,   LUK1
```

```
2326  0000              DEPS,   0
2327  0000              RUND,   0
2330  7774              CHRS,   7774
2331  0000              CNTS,   0
2332  0000              ENDS,   0
2333  0101              SIZE,   0101
2334  2600              LOC1,   ADR
2335  2400              SYM1,   HRD
2336  2500              SYM2,   LRD
2337  0007                      0007

      2400              *2400
                        /ACTUAL SYMBOL TABLE
2400  0000              HRD,    0               /HI-ORDER 2 LETTERS

      2500              *2500
2500  0000              LRD,    0               /LOW ORDER 2 LETTERS

      2600              *2600
2600  0000              ADR,    0               /ADDRESS TABLE
                        /ROUTINES TO STORE VARIABLES OR CONSTANTS, FIXED PT NUMBER WILL BE DAT1
                        /DAT2, DAT3 FOR VARIABLES, CONTENTS OF DAT1,DAT2,DAT3 ARE STORED ONLY
                        /TO RESERVE SPACE IN BUFFER. IF LINK IS ON, DATA TO BE STORED IN BUFFER
                        /IS FIXED POINT.

      2700              *2700
2700  0000              DATA,   0
2701  7420                      SNL
2702  5321                      JMP ST3
2703  1112                      TAD Z DAT1      /THIS IS FIXED POINT DATA
2704  4343                      JMS VARI
2705  4351                      JMS CLCS
2706  1057                      TAD Z ALF
2707  7640                      SZA CLA
2710  5313                      JMP .+3         /SYMBOL
2711  1065                      TAD Z CLC       /CONSTANT
2712  5700                      JMP I DATA
2713  1065                      TAD Z CLC
2714  3515                      DCA I Z IADR
2715  2115                      ISZ Z IADR
2716  5311                      JMP .-5
2717  4233              ORGG,   ORGP
2720  4251              POWZ,   PCHZ
2721  1114              ST3,    TAD Z DAT3      /STORE DATA IN BUFFER(FLOATING POINT)
2722  4343                      JMS VARI
2723  1113                      TAD Z DAT2
2724  4343                      JMS VARI
2725  1112                      TAD Z DAT1
2726  4343                      JMS VARI
2727  4351                      JMS CLCS        /DECREMENT DATA LOCATION COUNTER(DATA IS STORED
                                    /FROM HI ADDRESS DOWN AT RUN-TIME
2730  4351                      JMS CLCS
2731  4351                      JMS CLCS
2732  1116                      TAD Z VARS
2733  1342                      TAD LMIT
```

```
/734  7700        SMA CLA
/735  5306        JMP DATA+6
/736  4356        JMS CLRB
/737  1076        TAD Z GEN
/740  4717        JMS I ORGG
```

```
2741  5306          JMP DATA*6
2742  0277    LMIT, 0277
2743  0000    VARI, 0         /DEPOSIT DATA, DECREMENT BUFFER POINTER
2744  3516          DCA I Z VARS
2745  1116          TAD Z VARS
2746  1123          TAD Z AOA
2747  3116          DCA Z VARS
2750  5743          JMP I VARI
2751  0000    CLCS, 0         /DECREMENT DATA LOCATION COUNTER
2752  1065          TAD Z CLC
2753  1123          TAD Z AOA
2754  3065          DCA Z CLC
2755  5751          JMP I CLCS
                    /DATA BUFFER IS FULL; THIS ROUTINE PUNCHES A DATA ORIGIN AND THE CONTENTS
                    /OF THE DATA BUFFER, FOLLOWED BY THE ORIGIN FOR COMPILER GENERATED CODE
2756  0000    CLRB, 0
2757  1065          TAD Z CLC
2760  4717          JMS I ORGG
2761  2116          ISZ Z VARS
2762  1120          TAD Z CCS
2763  7040          CMA
2764  3377          DCA TRCK
2765  1516          TAD I Z VARS
2766  4720          JMS I POWZ
2767  2116          ISZ Z VARS
2770  1116          TAD Z VARS
2771  1377          TAD TRCK
2772  7640          SZA CLA
2773  5365          JMP .-6
2774  1120          TAD Z CCS
2775  3116          DCA Z VARS
2776  5756          JMP I CLRB
2777  0000    TRCK, 0
                    /ENTERS DATA ADDRESS IN OPERAND STACK
                    /LINK ON = FLOAT, OFF = FIX WHEN ROUTINE IS CALLED

      3000          *3000
3000  0000    OPER, 0
3001  0355          AND FOOR*1          /1777
3002  3342          DCA WAIT            /MAKE A 10 BIT DATA ADDRESS
3003  2101          ISZ Z OP
3004  7010          RAR                 /PICK UP FIX-FLOAT BIT
3005  1342          TAD WAIT
3006  3342          DCA WAIT
3007  1066          TAD Z INX           /PICK UP INDEXED BIT
3010  7640          SZA CLA
3011  1344          TAD NOTI
3012  1342          TAD WAIT
3013  3501          DCA I Z OP          /DEPOSIT DATA ADDRESS IN OPERAND STACK
3014  3066          DCA Z INX           /ZERO INDEXED SWITCH
3015  1101          TAD Z OP
3016  7041          CIA
3017  1346          TAD RTOP
3020  7640          SZA CLA
3021  5600          JMP I OPER          /TEST FOR OPERAND STACK OVERFLOW
```

```
3022  1356                    TAD FOOR+2
3023  4430                    JMS I Z ERR             /ERROR DIAGNOSTIC # 22
3024  4626                    JMS I REP
3025  5535                    JMP I Z NEXL
3026  3305              REP,  REPR
```

```
                        /PRODUCTION ALGORITHM THIS ROUTINE IS CALLED BY #  # WHENEVER AN
                        /OPERATOR IS SEEN, IT EITHER ENTERS IT AT THE TOP OF THE STACK, OR
                        /DEPENDING UPON ITS PRECEDENCE RELATIVE TO THE PREVIOUS ENTRY, MAY
                        /FORCE THE PRODUCTION OF CODE FOR PREVIOUS ENTRIES.
                        /NEW OPERATOR PREC. LESS OR EQL PREV., PRODUCE
3027  0000  AGOR,  0                 /ALGORITHM
3030  1455        TAD I Z BEGN
3031  1063        TAD Z CKE
3032  7640        SZA CLA
3033  5236        JMP .+3
3034  2055        ISZ Z BEGN
3035  5230        JMP .-5           /IGNORE ILLEGAL CHARACTERS
3036  1455        TAD I Z BEGN
3037  1343        TAD SBCK                  /-4217, TO SET (S
3040  7650        SNA CLA           /TO AVOID A MIXED MODE DIAGNOSTIC
3041  2072        ISZ Z SFLG
3042  1552  LEAV, TAD I Z PREV
3043  7640        SZA CLA           /LOOK FOR ZERO OPERATOR FOR END OF STATEMENT,
3044  5253        JMP AND6          /WILL FORCE GENERATION OF ENTIRE STACK TO GO TO PRECEDENCE TEST
3045  1455        TAD I Z BEGN
3046  7640        SZA CLA
3047  5253        JMP AND6
3050  4626        JMS I REP         /END OF STATEMENT SINCE CURRENT AND PREVIOUS OPERATOR ARE BOTH Z
H ZERO
3051  2227        ISZ AGOR
3052  5627        JMP I AGOR        /END RETURN
3053  1455  AND6, TAD I Z BEGN
3054  0351        AND HSIX                  /LOOK AT PRECEDENCE
3055  7041        CIA
3056  3345        DCA TX
3057  1552        TAD I Z PREV
3060  0351        AND HSIX
3061  1345        TAD TX
3062  7700        SMA CLA
3063  5301        JMP PROD          /NEW OP PREC. PREV., GO TO PRODUCTION ROUTINE
3064  1455        TAD I Z BEGN
3065  5266        JMP QUE /NO PRODUCTION REQ#D, ENTER NEW OP ON STACK
3066  2152  QUE,  ISZ Z PREV
3067  3552        DCA I Z PREV
3070  1152        TAD Z PREV
3071  7041        CIA
3072  1347        TAD OTOP
3073  7640        SZA CLA
3074  5627        JMP I AGOR
3075  1354        TAD FOOR                  /OPERATOR TABLE OV. FL.
3076  4430        JMS I Z ERR               /ERROR DIAGNOSTIC # 04
3077  4626        JMS I REP
3100  5535        JMP I Z NEXL      /DELETE LINE
3101  1552  PROD, TAD I Z PREV              /INTERPRET OP CODE
3102  0352        AND BREP
3103  1316        TAD BUMP
3104  3315        DCA TAKE
3105  1715        TAD I TAKE
3106  3315        DCA TAKE
3107  4715        JMS I TAKE        /GO TO ROUTINE FOR PROPER CODE GENERATION BY DISPATCHING ON OP C
ODE
3110  1152        TAD Z PREV
```

```
3111  7041                CIA
3112  7040                CMA
3113  3152                DCA 7 PREV
3114  5242                JMP LEAV
3115  0000          TAKE, 0
```

```
3116  3117          BUMP,   OPTB            /DISPATCH TABLE FOR OPERATORS
3117  3400          OPTB,   TEND            /0000
3120  3402                  TADD
3121  3420                  TSUB
3122  3445                  TMPY
3123  3472                  TDIV
3124  4600                  TPWR
3125  3600                  TLPR
3126  3637                  TRPR
3127  3642                  TEQL
3130  4044                  TEXP
3131  4652                  TSQR
3132  4657                  TSIN
3133  4664                  TCOS
3134  4671                  TART
3135  4676                  TLOG
3136  4000                  TSCR            /SUBSCRIPT
3137  3737                  TUMN
3140  3732                  TCMA            /COMMA
3141  0003          TREE,   0003
3142  0000          WAIT,   0
3143  2661          SBCK,   2661
3144  2000          NOTI,   2000
3145  0000          TX,     0
3146  3304          RTOP,   REPR-1
3147  3240          OTOP,   RAND-1
3150  0000          NOW,    0
3151  3700          HSIX,   3700
3152  0077          BREP,   0077
3153  7767          ELEV,   7767
3154  0004          FOOR,   0004
3155  1777                  1777
3156  0022                  0022

      3200          *3200           /OPERATOR STACK
3200  0000          ATOR,   0

      3240          *3240                   /OPERAND STACK
3240  0000          SAND,   0               /"SAND" ALWAYS 0 TO
3241  0000          RAND,   0               /INDICATE BOTTOM

      3300          *3300
3300  3240          RBOT,   SAND
3301  0163          TT1,    DNM1
3302  0164          TT2,    DNM2
3303  0000          TYP,    0
3304  0360                  0360

3305  0000          REPR,   0       /RESET STACK AT END OF STATEMENT
3306  7200                  CLA
3307  1300                  TAD RBOT
3310  3101                  DCA Z OP
3311  1100                  TAD Z OBOT
3312  3521                  DCA I Z PRE
3313  5705                  JMP I REPR
```

```
3314  0000          DIAG,   0
3315  3303                  DCA TYP         /SAVE ERROR TYPE
3316  2073                  ISZ Z FULL      /DIAGS FULL?
3317  5321                  JMP GO
```

```
3320  5371                    JMP DBGG          /DIAGS FULL
3321  1701          GO,       TAD I TT1         /GET STATEMENT NUMBER
3322  3470                    DCA I Z DGB
3323  2070                    ISZ Z DGB
3324  1702                    TAD I TT2
3325  3470                    DCA I Z DGB
3326  1032                    TAD Z STMT
3327  2070                    ISZ Z DGB
3330  3470                    DCA I Z DGB       /SAVE COUNT SINCE LAST STATEMENT NUMBER
3331  1303                    TAD TYP
3332  2070                    ISZ Z DGB
3333  3470                    DCA I Z DGB
3334  2070                    ISZ Z DGB
3335  1162                    TAD Z DEBG
3336  7001                    IAC
3337  7640                    SZA CLA
3340  5714                    JMP I DIAG
3341  3073                    DCA Z FULL              /DYNAMIC DEBUGGING
3342  1071                    TAD Z DIAB
3343  3764                    DCA I DBUG+2
3344  1304                    TAD TYP+1               /SKIP 16 FRAMES
3345  4766                    JMS I DBUG+4
3346  1365                    TAD DBUG+3
3347  4766                    JMS I DBUG+4      /PCH CR
3350  1367                    TAD DBUG+5
3351  4766                    JMS I DBUG+4      /PCH LF
3352  4762                    JMS I DBUG              /PRINT DIAG
3353  6032                    6032
3354  1071                    TAD Z DIAB
3355  3070                    DCA Z DGB
3356  1074                    TAD Z FILL
3357  3073                    DCA Z FULL
3360  7402                    HLT
3361  5714                    JMP I DIAG
3362  4434          DBUG,     DYNM
3363  7774                    7774
3364  4525                    USME
3365  0215                    0215
3366  4216                    POPZ
3367  0212                    0212
3370  4400                    SLAP
3371  7040          DBGG,     CMA               /PUT -1 INTO FULL
3372  3073                    DCA Z FULL
3373  5770                    JMP I DBUG+6
                  /FOLLOWING ROUTINES GENERATE CODE, THEY FREQUENTLY CALL #LOST# (LOAD
                  /THE RUN TIME DATA STACK) WHICH LOOKS FOR A ZERO ON THE COMPILE TIME
                  /OPERAND STACK TO SEE IF THE CURRENT OPERAND HAS ALREADY BEEN LOADED.

      3400        *3400
3400  0000          TEND,   0
3401  5600                  JMP I TEND
3402  0000          TADD,   0
3403  4617                  JMS I LOAD              /LOAD OPERAND
3404  4124                  JMS Z MNOP
3405  4617                  JMS I LOAD
```

```
3406  5327                    JMP CHNG1
3407  1123          RETRN2,   TAD Z AOA
3410  7640                    SZA CLA
3411  1215                    TAD ADFL              /FLOATING ADD
3412  7001          RETRN1,   IAC                   /FIXED ADD
3413  4671                    JMS I PNCH
3414  5602                    JMP I TADD
3415  0011          ADFL,     0011
3416  4777          STKI,     4777
3417  4113          LOAD,     LOST
3420  0000          TSUB,     0
3421  4617                    JMS I LOAD            /SUBTRACTION, THERE ARE TWO TYPES NORMAL AND REVISED
3422  4124                    JMS MNOP              /TO AVOID CHANGING THE RELATIVE POSITION OF THE OPERANDS
3423  1501                    TAD I Z OP            /ON THE STACK

3424  7650                    SNA CLA
3425  7001                    IAC
3426  3244                    DCA COMU              /SET SWITCH FOR SUBTRACT REVERSE
3427  1501                    TAD I Z OP
3430  7640                    SZA CLA
3431  4617                    JMS I LOAD
3432  5334                    JMP CHNG2
3433  1123          RETRN4,   TAD Z AOA
3434  7640                    SZA CLA
3435  1243                    TAD SBFL              /FLOAT
3436  1242          RETRN3,   TAD SBFX              /FIXED
3437  1244                    TAD COMU              /ADD IN SUBTRACT REVERSE SWITCH
3440  4671                    JMS I PNCH
3441  5620                    JMP I TSUB
3442  0002          SBFX,     0002
3443  0011          SBFL,     0011
3444  0000          COMU,     0
3445  0000          TMPY,     0
3446  4262                    JMS STAK              /COMMON ROUTINE TO CALL #LOST#
3447  5341                    JMP CHNG4
3450  1123          RETRN6,   TAD Z AOA
3451  7650                    SNA CLA
3452  5256                    JMP .+4
3453  1260                    TAD MYFL
3454  4671                    JMS I PNCH
3455  5645                    JMP I TMPY
3456  1261          RETRN5,   TAD MYFX
3457  5254                    JMP .-3
3460  0015          MYFL,     0015
3461  0004          MYFX,     0004
3462  0000          STAK,     0
3463  4617                    JMS I LOAD
3464  4124                    JMS Z MNOP
3465  1501                    TAD I Z OP
3466  7640                    SZA CLA
3467  4617                    JMS I LOAD
3470  5662                    JMP I STAK

3471  4200          PNCH,     PCH
3472  0000          TDIV,     0
3473  4617                    JMS I LOAD
```

```
3474  4124        JMS MNOP
3475  1501        TAD I Z OP
3476  7650        SNA CLA
3477  7001        IAC
3500  3244        DCA COMU
3501  4617        JMS I LOAD
```

```
3502  5346                    JMP  CHNG3
3503  7041          RETRN8,   CIA
3504  7040                    CMA
3505  7650                    SNA  CLA
3506  5313                    JMP  .+5
```

```
3507  1315                TAD DVFL
3510  1244                TAD COMU
3511  4671                JMS I PNCH
3512  5672                JMP I TDIV
3513  1316          RETRN7, TAD DVFX
3514  5310                JMP .-4
3515  0016          DVFL,   0016
3516  0005          DVFX,   0005
3517  0000          FORM,   0
3520  1426                TAD I Z END
3521  7640                SZA CLA
3522  5717                JMP I FORM
3523  1326                TAD ERROR
3524  4430                JMS I Z ERR
3525  5535                JMP I Z NEXL
3526  0013          ERROR,  0013
3527  1072          CHNG1,  TAD Z SFLG
3530  7640                SZA CLA
3531  5212                JMP RETRN1
3532  1067                TAD FORF
3533  5207                JMP RETRN2
3534  1072          CHNG2,  TAD Z SFLG
3535  7640                SZA CLA
3536  5236                JMP RETRN3      /SUBTRACT FLAG IS ON, MUST BE INTEGER ARITHMETIC
3537  1067                TAD FORF
3540  5233                JMP RETRN4
3541  1072          CHNG4,  TAD Z SFLG
3542  7640                SZA CLA
3543  5256                JMP RETRN5
3544  1067                TAD FORF
3545  5250                JMP RETRN6
3546  1072          CHNG3,  TAD Z SFLG
3547  7640                SZA CLA
3550  5313                JMP RETRN7
3551  1067                TAD FORF
3552  5303                JMP RETRN8
      3600          *3600
3600  0000          TLPR,   0       /LEFT PAREN. PROCESSOR THIS IS A PRE-PRECENCE OPERATOR.
                              /IE. FIRST ATTEMPT TO
3601  1552                TAD I Z PREV    /CAUSE A PRODUCTION CHANGES PRECEDENCE
3602  1241                TAD CHGD
3603  7640                SZA CLA
3604  5213                JMP .+7
3605  1552                TAD I Z PREV    /PREPREC, NOT YET CHANGED
3606  0234                AND LBIT                /0077
3607  1235                TAD FRS         /0400
3610  3552                DCA I Z PREV
3611  2152                ISZ Z PREV
3612  5600                JMP I TLPR      /EXIT WITH PRE-PREC. CHANGED TO TRUE PREC.
3613  1455                TAD I Z BEGN
3614  1370                TAD SPCX+7
3615  7640                SZA CLA
3616  5226                JMP .+10        /GO BUILD ERROR DIAG. (PRE-PRECEDENCE PROBLEMS)
3617  1633                TAD I PRIO      /PREV
3620  7041                CIA
```

```
3621  7040                CMA
3622  3633                DCA I PRIO      /REMOVE (
3623  1636                TAD I AL                /AGOR
3624  3232                DCA WORK
3625  5632                JMP I WORK      /SKIP OVER )
3626  7001                IAC
3627  7001                IAC
```

```
3630  4430                    JMS I Z ERR             /ERROR DIAGNOSTIC # 02
3631  5535                    JMP I Z NEXL            /COMPILE AND CHECK PARENTHESIS
3632  0000          WORK,     0
3633  0152          PRIO,     PREV
3634  0077          LBIT,     0077
3635  0400          FRS,      0400
3636  3027          AL,       AGOR
3637  0000          TRPR,     0
3640  5637                    JMP I TRPR      /)
3641  6672          CHGD,     6672
3642  0000          TEQL,     0       /ALSO A PRE-PRECEDENCE OPERATOR WILL GENERATE
                                      /MODE CHANGE IF FIX-FLOAT OR FLOAT-FIX.
3643  1552                    TAD I Z PREV
3644  1321                    TAD MY          /-0510 (7270
3645  7640                    SZA CLA
3646  5253                    JMP .+5
3647  1322                    TAD SAVS                /= WITH NEW PREC. 0310
3650  3552                    DCA I Z PREV
3651  2152                    ISZ Z PREV
3652  5642                    JMP I TEQL
3653  4723                    JMS I LDSS
3654  1101                    TAD Z OP
3655  7041                    CIA
3656  7140                    CMA CLL
3657  3101                    DCA Z OP
3660  1501                    TAD I Z OP
3661  7710                    SPA CLA
3662  7020                    CML
3663  7010                    RAR
3664  3327                    DCA LINK
3665  1067                    TAD Z FORF
3666  1123                    TAD Z AOA
3667  3237                    DCA TRPR
3670  1327                    TAD LINK
3671  7104                    RAL CLL
3672  1237                    TAD TRPR
3673  7640                    SZA CLA
3674  5315                    JMP NOTX
3675  1324                    TAD FXFL                /FIXED STACK
3676  7430                    SZL
3677  4725                    JMS I PUN
3700  1327                    TAD LINK
3701  7004                    RAL
3702  7210          NOTT,     CLA RAR
3703  7012                    RTR
3704  1326                    TAD  SSFX               /"LINK" WILL PROVIDE FIX OR FLOAT
3705  3327                    DCA LINK
3706  1501                    TAD I Z OP
3707  0330                    AND BIT8                /INDEXED?
3710  1327                    TAD LINK
3711  4725                    JMS I PUN
3712  1501                    TAD I Z OP
3713  4725                    JMS I PUN
3714  5642                    JMP I TEQL
3715  1331          NOTX,     TAD FLFX                /FLOATING STACK
```

```
3716  7420          SNL
3717  4725          JMS I PUN
3720  5302          JMP NOTT
```

```
3721  7270              MY,     7270
3722  0310              SAVS,   0310
3723  4113              LDSS,   LDST
3724  0010              FXFL,   0010
3725  4200              PUN,    PCH
3726  4400              SSFX,   4400
3727  0000              LINK,   0
3730  2000              BIT8,   2000
3731  0011              FLFX,   0011

3732  0000              TCMA,   0
3733  1336                      TAD INER
3734  4430                      JMS I Z ERR             /ERROR DIAGNOSTIC # 03
3735  5535                      JMP I Z NEXL
3736  0003              INER,   0003

3737  0000              TUMN,   0               /UNARY MINUS
3740  1501                      TAD I Z OP
3741  7650                      SNA CLA
3742  5344                      JMP .+2         /OPERAND ON STACK
3743  4723                      JMS I LDSS      /OPERAND NOT ON STACK
3744  1067                      TAD Z FORF
3745  7041                      CIA
3746  7040                      CMA
3747  7650                      SNA CLA
3750  5354                      JMP .+4         /FIXED
3751  1356                      TAD UMFL                /FLOATING
3752  4725                      JMS I PUN
3753  5737                      JMP I TUMN
3754  1357                      TAD UMFX
3755  5352                      JMP .-3
3756  0035              UMFL,   0035
3757  0033              UMFX,   0033
3760  0240              TSPC,   0240

3761  0000              SPCX,   0
3762  1360                      TAD TSPC
3763  4767                      JMS I .+4
3764  1360                      TAD TSPC
3765  4767                      JMS I .+2
3766  5761                      JMP I SPCX
3767  4216                      POPZ
3770  7671                      7671

      4000              *4000
                        /SUBSCRIPTING, MUST CHG P.P. TO PREC,, REMOVE)
                        /CALLED BY OCCURANCE OF SUBSCRIPT OPERATOR, WHICH WAS INITIALLY A LEFT PAREN
                        /PRECEDED BY A VARIABLE NAME.

4000  0000              TSCR,   0
4001  1552                      TAD I Z PREV    /PRE-P. TEST
4002  0237                      AND PROP
4003  1236                      TAD TST2
4004  7650                      SNA CLA
4005  5212                      JMP .+5
```

```
4006  1235          TAD NEWS
4007  3552          DCA I Z PREV
4010  2152          ISZ Z PREV
4011  5600          JMP I TSCR
4012  3072          DCA Z SFLG      /SFLG OFF
```

```
4013  1067                    TAD Z FORF
4014  3241                    DCA T7
4015  3067                    DCA Z FORF
4016  4313                    JMS LOST
4017  4774                    JMS I DSIX+1
4020  3067                    DCA Z FORF
4021  1242                    TAD IXSK                /YES, GENERATE A STORE ON INDEX STACK
4022  4643                    JMS I PUNH
4023  1455                    TAD I Z BEGN
4024  7650                    SNA CLA
4025  5600                    JMP I TSCR
4026  1152                    TAD Z PREV              /REMOVE (
4027  7041                    CIA
4030  7040                    CMA
4031  3152                    DCA Z PREV
4032  1640                    TAD I AGO               /RETURN, REMOVE )
4033  3241                    DCA T7
4034  5641                    JMP I T7
4035  0217            NEWS,   0217
4036  7600            TST2,   7600
4037  3700            PROP,   3700
4040  3027            AGO,    AGOR
4041  0000            T7,     0
4042  4777            IXSK,   4777                    /OPERAND MUST BE FIXED POINT NON INDEXED
4043  4200            PUNH,   PCH
                      /FUNCTIONS
4044  0000            TEXP,   0
4045  1310                    TAD CEXP
4046  3311                    DCA BOX /ROUTINE IS CALLED BY ANY TRIG FUNCT,SAVES CALLING OPERATOR FOR USE LATE
ERR
4047  1552                    TAD I Z PREV
4050  0237                    AND PROP
4051  1236                    TAD TST2
4052  7650                    SNA CLA
4053  5261                    JMP .+6
4054  1552                    TAD I Z PREV
4055  1376                    TAD DSIX+3
4056  3552                    DCA I Z PREV
4057  2152                    ISZ Z PREV
4060  5707                    JMP I SAP+3
4061  1501                    TAD I Z OP
4062  7640                    SZA CLA
4063  5275                    JMP ZAP                 /NOT ON STACK
4064  1067                    TAD Z FORF
4065  7450                    SNA
4066  5304                    JMP SAP                 /MODE OK
4067  7041                    CIA
4070  7040                    CMA
4071  7640                    SZA CLA
4072  5304                    JMP SAP                 /MODE OK
4073  4430                    JMS I Z ERR                     /ERROR DIAGNOSTIC # 00
4074  5535                    JMP I Z NEXL
4075  1501            ZAP,    TAD I Z OP
4076  7710                    SPA CLA
4077  5303                    JMP .+4
4100  1312                    TAD BOX+1
```

```
4101  4430                    JMS I Z ERR             /ERROR DIAGNOSTIC # 05
4102  5535                    JMP I Z NEXL
4103  4313                    JMS LDST
4104  1311              SAP,  TAD BOX           /CONTAINS FUNCTION
4105  4643                    JMS I PUNH
```

```
4106  5226                    JMP NEWS-7
4107  3110                    PROD+7
4110  0030          CEXP,     0030
4111  0000          BOX,      0
4112  0005                    0005

4113  0000          LDST,     0
4114  1501                    TAD I Z OP
4115  7450                    SNA
4116  5713                    JMP I LDST      /ALREADY ON STACK
4117  7710                    SPA CLA
4120  7001                    IAC
4121  7001                    IAC
4122  3177                    DCA Z 177
4123  1501                    TAD I Z OP
4124  7700                    SMA CLA
4125  5345                    JMP ITFX
4126  7000                    NOP
4127  1067                    TAD Z FORF      /LOADING A FL. PT. OPERAND, SEE IF STACK MODE IS FLOATI
4130  7450                    SNA
4131  5337                    JMP .+6
4132  7041                    CIA
4133  7040                    CMA
4134  7650                    SNA CLA
4135  5357                    JMP MXER                /MIXED MODE
4136  5341                    JMP .+3
4137  2067                    ISZ Z FORF
4140  2067                    ISZ Z FORF      /SET STACK MODE FLAGS, 0001=FIXED,0002=FLOATING,0000=OF
4141  1501                    TAD I Z OP
4142  0372                    AND SXBT
4143  1053                    TAD Z LDFL
4144  5365                    JMP GOD
4145  1067          ITFX,     TAD Z FORF
4146  7450                    SNA
4147  5361                    JMP MFIX
4150  7041                    CIA
4151  7040                    CMA
4152  7650                    SNA CLA
4153  5362                    JMP MFIX+1      /FIXED
4154  1072                    TAD Z SFLG
4155  7640                    SZA CLA
4156  5362                    JMP MFIX+1
4157  4430          MXER,     JMS I Z ERR             /ERROR DIAGNOSTIC # 00
4160  5535                    JMP I Z NEXL
4161  2067          MFIX,     ISZ Z FORF
4162  1501                    TAD I Z OP
4163  0372                    AND SXBT                /2377
4164  1052                    TAD Z LDFX
4165  4643          GOD,      JMS I PUNH
4166  1501                    TAD I Z OP
4167  4643                    JMS I PUNH
4170  3501                    DCA I Z OP
4171  5713                    JMP I LDST
4172  2000          SXBT,     2000
4173  0006          DSIX,     0006
```

```
4174  0124                    MNOP
4175  3100                    3100
4176  3100                    3100

                PAUSE
```

```
      4200                    *4200
4200  0000    PCH,    0       /PUNCH ROUTINE
4201  3215            DCA OUT
4202  2076            ISZ Z GEN       /INCREMENT CURRENT LOC COUNTER
4203  1215            TAD OUT
4204  7012            RTR
4205  7012            RTR
4206  7012            RTR
4207  0231            AND RGHT                /0077
4210  4216            JMS POPZ        /PUNCH HI ORDER SIX BITS
4211  1215            TAD OUT
4212  0231            AND RGHT
4213  4216            JMS POPZ        /PUNCH LOW ORDER SIX BITS
4214  5600            JMP I PCH
4215  0000    OUT,    0
4216  0000    POPZ,   0
4217  3232            DCA RGHT+1
4220  1025            TAD Z CKSM      /ADD CURRENT FRAME TO CHECKSUM
4221  1232            TAD RGHT+1
4222  3025            DCA Z CKSM
4223  1232            TAD RGHT+1
4224  6046            TLS
4225  6041            TSF
4226  5225            JMP .-1
4227  7200            CLA
4230  5616            JMP I POPZ
4231  0077    RGHT,   0077
4232  0000            0
4233  0000    ORGP,   0               /PUNCH AN ORIGIN (CHANNEL 7 PUNCHED)
4234  3215            DCA OUT
4235  1215            TAD OUT
4236  7012            RTR
4237  7012            RTR
4240  7012            RTR
4241  0231            AND RGHT
4242  1250            TAD OZ          /0100, TO PLACE A HOLE IN CHANNEL 7
4243  4216            JMS POPZ
4244  1215            TAD OUT
4245  0231            AND RGHT
4246  4216            JMS POPZ
4247  5633            JMP I ORGP
4250  0100    OZ,     0100
                      /PUNCH CONSTANTS, NOT CHG CODING LOC. CNTR.
4251  0000    PCHZ,   0
4252  3215            DCA OUT
4253  1251            TAD PCHZ
4254  3200            DCA PCH
4255  5203            JMP PCH+3
                      /END OF COMPILATION; CLEAN UP, GO
                      /TO BEGINNING IF CONTINUE DEPRESSED
4256  1261    MEND,   TAD .+3
4257  4200            JMS PCH
4260  5262            JMP .+2
4261  0042            0042
4262  1116            TAD Z VARS
```

```
4263  1350                TAD TWO*1
4264  7640                SZA CLA
4265  4754          ADDP, JMS I CLBF
4266  7000                NOP
```

```
                        /PUNCH FWD REFERENCE TABLE
4267  7100              FWDR,   CLL     /TEST FOR OVERLAP
4270  1065                      TAD Z CLC
4271  7041                      CIA
4272  1076                      TAD Z GEN
4273  7620                      SNL CLA
4274  5301                      JMP .+5
4275  7001                      IAC             /BRING IN LINK TO FORM DIAG NO. 10
4276  7000                      NOP
4277  7006                      RTL
4300  4430                      JMS I Z ERR     /ERROR DIAG. # 10
4301  1364                      TAD MELL+5
4302  4216                      JMS POPZ
4303  1155                      TAD Z REFS
4304  3353                      DCA CCCC
4305  1153                      TAD Z IN
4306  7450                      SNA
4307  5746                      JMP I TWO-1
4310  7040                      CMA
4311  3352                      DCA FOOP
4312  2352              AB,     ISZ FOOP
4313  5315                      JMP .+2
4314  5746                      JMP I TWO-1
4315  1753                      TAD I CCCC
4316  3760                      DCA I MELL+1
4317  2353                      ISZ CCCC
4320  1753                      TAD I CCCC
4321  3761                      DCA I MELL+2
4322  2353                      ISZ CCCC
4323  4757                      JMS I MELL
4324  7450                      SNA
4325  5333                      JMP UDEF        /ENTRY IN FWD. REF TABLE HAS ZERO ADDRESS, IS UNDEFINED
4326  4251                      JMS PCHZ        /SUPPRESSION OF GEN FOR SYMBOL PRINT(NC)***(F)
4327  1753                      TAD I CCCC
4330  4200                      JMS PCH
4331  2353                      ISZ CCCC
4332  5312                      JMP AB
4333  3162              UDEF,   DCA Z DEBG
4334  1362                      TAD MELL+3
4335  3032                      DCA Z STMT
4336  1760                      TAD I MELL+1
4337  3163                      DCA Z DNM1
4340  1761                      TAD I MELL+2
4341  3164                      DCA Z DNM2
4342  1356                      TAD TWO6+1
4343  4430                      JMS I Z ERR             /ERROR DIAGNOSTIC # 20
4344  2353                      ISZ CCCC
4345  5312                      JMP AB
4346  4400                      SLAP
4347  0200              TWO,    0200
4350  0202                      0202
4351  7600              ONE7,   7600
4352  0000              FOOP,   0
4353  0000              CCCC,   0
4354  2756              CLBF,   CLRB
```

```
4355  2600              TWO6,   2600
4356  0020                      0020
4357  0541              MELL,   ISIT
4360  0533                      T1
4361  0534                      T2
4362  0377                      0377
4363  7777                      7777
4364  0300                      0300
      4365              *4365
4365  0000              TYPE,   0               /TYPEOUT ROUTINE FOR DIAG8
4366  6046                      TLS
4367  6041                      TSF
4370  5367                      JMP .-1
4371  7200                      CLA
4372  1376                      TAD CHNG        /GET ADDRESS FOR SPACE ROUTINE
4373  3775                      DCA I SPCE      /GO TO SPACE ROUTINE
4374  5765                      JMP I TYPE

4375  3767              SPCE,   SPCX+6
4376  4365              CHNG,   TYPE
```

```
                        /PRINT DIAGS,
     4400               *4400
4400 1324               SLAP,   TAD SUMZ        /PUNCH OUT CHECKSUM INDICATOR
4401 4575                       JMS I Z POOPZZ  /(MECHANISM FOR SWITCH OPTION)
4402 4170                       JMS Z CKKR
4403 7012                       RTR
4404 7012                       RTR
4405 7012                       RTR
4406 0136                       AND Z R6                /0077
4407 4575                       JMS I Z POOPZZ  /2000, CKSUM BIT
4410 1176                       TAD Z SVCK
4411 0136                       AND Z R6
4412 4575                       JMS I Z POOPZZ
4413 4331                       JMS LDLP                /LEADER LOOP
4414 1071                       TAD Z DIAB
4415 3325                       DCA USME
4416 1326               ZOTZ,   TAD CRED                /CR
4417 4723                       JMS I POOP
4420 1327                       TAD LFED                /LF
4421 4723                       JMS I POOP
4422 1074                       TAD Z FILL      /ANY DIAGS?
4423 7041                       CIA
4424 1073                       TAD Z FULL
4425 7650                       SNA CLA
4426 5310                       JMP WOW         /ALL DONE
4427 4234                       JMS DYNM
4430 1073                       TAD Z FULL
4431 1123                       TAD Z AOA
4432 3073                       DCA Z FULL
4433 5216                       JMP ZOTZ

4434 0000               DYNM,   0       /ERROR TYPEOUT ROUTINE
4435 4314                       JMS ROT
4436 0136                       AND Z R6
4437 1313                       TAD NUMS                /0200
4440 4723                       JMS I POOP
4441 1725                       TAD I USME
4442 0136                       AND Z R6
4443 1313                       TAD NUMS
4444 4723                       JMS I POOP
4445 2325                       ISZ USME
4446 4314                       JMS ROT
4447 0136                       AND Z R6
4450 1313                       TAD NUMS
4451 4723                       JMS I POOP
4452 1725                       TAD I USME
4453 0136                       AND Z R6
4454 1313                       TAD NUMS
4455 4723                       JMS I POOP
4456 4743                       JMS I SPCC              /SKIP 2 SPACES
4457 2325                       ISZ USME
4460 1725                       TAD I USME      /PRINT INCREMENT
4461 7012                       RTR
4462 7010                       RAR
4463 0322                       AND TOY         /0007
```

```
4464  1313        TAD NUMS
4465  4723        JMS I POOP
4466  1725        TAD I USME
4467  0322        AND TOY
4470  1313        TAD NUMS
```

```
4471  4723                    JMS I POOP
4472  2325                    ISZ USME
4473  4743                    JMS I SPCC
4474  1725                    TAD I USME
4475  7012                    RTR
4476  7010                    RAR
4477  0322                    AND TOY
4500  1313                    TAD NUMS
4501  4723                    JMS I POOP
4502  1725                    TAD I USME
4503  2325                    ISZ USME
4504  0322                    AND TOY
4505  1313                    TAD NUMS
4506  4723                    JMS I POOP
4507  5634                    JMP I DYNM

4510  4331          WOW,      JMS LDLP                /TRAILER LOOP
4511  7402                    HLT
4512  5730                    JMP I T06
4513  0260          NUMS,     0260
4514  0000          ROT,      0
4515  1725                    TAD I USME
4516  7012                    RTR
4517  7012                    RTR
4520  7012                    RTR
4521  5714                    JMP I ROT
4522  0007          TOY,      0007
4523  4365          POOP,     TYPE
4524  0340          SUMZ,     0340
4525  0000          USME,     0
4526  0215          CRED,     0215
4527  0212          LFED,     0212
4530  0200          T06,      0200

4531  0000          LDLP,     0                 /PUNCH LEADER-TRAILER
4532  1341                    TAD LTEN                /-144
4533  3342                    DCA IX
4534  1330                    TAD T06
4535  4575                    JMS I POOPZZ
4536  2342                    ISZ IX
4537  5334                    JMP .-3
4540  5731                    JMP I LDLP
4541  7744          LTEN,     7744
4542  0000          IX,       0
4543  3761          SPCC,     SPCX
4544  7000                    NOP

4545  0000          ALLS,     0       /INITIALIZATION COMMON TO BEGINNING OF COMPILATION,
                                      /NEW LINE, ERROR RECOVERY
4546  3041                    DCA Z FCOM
4547  1023                    TAD Z READ+1
4550  3022                    DCA Z READ
4551  3043                    DCA Z FEQL
4552  1344                    TAD SPCC+1
4553  3551                    DCA I Z NEWL
```

```
4554  3044          DCA Z FLPA
4555  3045          DCA Z FRPA
4556  3133          DCA Z CNT
4557  1132          TAD Z BF
4560  3031          DCA Z POIN
```

```
4561  1132                    TAD Z BF
4562  3026                    DCA Z END
4563  1132                    TAD Z BF
4564  3027                    DCA Z TAB
4565  3067                    DCA Z FORF
4566  3047                    DCA Z FUNT
4567  1102                    TAD Z POP
4570  3101                    DCA Z OP
4571  1123                    TAD Z AOA
4572  3561                    DCA I Z SWH
4573  3072                    DCA Z SFLG
4574  1122                    TAD Z PREP
4575  3152                    DCA Z PREV
4576  3552                    DCA I Z PREV
4577  5745                    JMP I ALLS

      4600          *4600

4600  0000          TPWR,     Ø
4601  1067                    TAD Z FORF
4602  3247                    DCA TEMB
4603  3251                    DCA INVT
4604  3067                    DCA Z FORF
4605  7000                    NOP
4606  7000                    NOP
4607  2251                    ISZ INVT                /THE OPERAND IS ALREADY ON THE STACK
4610  4650                          JMS I ALOD        /LOAD 1ST OPERAND ON STACK
4611  1067                    TAD Z FORF      /USE TRUE MODE IF OPERATOR WAS
4612  7450                    SNA             /ALREADY ON STACK
4613  1177                    TAD Z 177
4614  1123                    TAD Z AOA       /MODE IS IN AC, SUBTRACT ONE
4615  7640                    SZA CLA
4616  1245                    TAD TO          /MODE WAS FLOATING
4617  1244                    TAD XFX         /MODE WAS FIXED
4620  3246                    DCA TEM7
4621  4124                    JMS Z MNOP
4622  1501                    TAD I Z OP
4623  7650                    SNA CLA
4624  3251                    DCA INVT
4625  3067                    DCA Z FORF      /TURN STACK MODE OFF
4626  4650                    JMS I ALOD
4627  1246                    TAD TEM7
4630  1251                    TAD INVT
4631  4643                    JMS I BNCH
4632  1245                    TAD TO          /STACK MODE MUST BE FLOATING
4633  3067                    DCA Z FORF
4634  3177                    DCA Z 177
4635  3072                    DCA Z SFLG
4636  5600                    JMP I TPWR
4637  7640                    SZA CLA
4640  5600                    JMP I TPWR
4641  4430                    JMS I Z ERR
4642  5535                    JMP I NEXL

4643  4200          BNCH,     PCH
```

```
4644  0036                XFX,    0036
4645  0002                TO,     0002
4646  0000                TEM7,   0
4647  0000                TEM8,   0
4650  4113                ALOD,   LDST
4651  0000                INVT,   0
                          /FUNCTIONS, COME FROM DISPATCH ON OPERATOR, PICK UP CODE ...
                          /AND GO TO COMMON ROUTINE "TEXP"
4652  0000                TSQR,   0
4653  1256                        TAD CSQR
```

```
4654  5703                      JMP I TEX
4655  5652                      JMP I TSQR
4656  0032            CSQR,     0032
4657  0000            TSIN,     0
4660  1263                      TAD CSIN
4661  5703                      JMP I TEX
4662  5657                      JMP I TSIN
4663  0025            CSIN,     0025
4664  0000            TCOS,     0
4665  1270                      TAD CCOS
4666  5703                      JMP I TEX
4667  5664                      JMP I TCOS
4670  0026            CCOS,     0026
4671  0000            TART,     0
4672  1275                      TAD CART
4673  5703                      JMP I TEX
4674  5671                      JMP I TART
4675  0031            CART,     0031
4676  0000            TLOG,     0
4677  1302                      TAD CLOG
4700  5703                      JMP I TEX
4701  5676                      JMP I TLOG
4702  0027            CLOG,     0027
4703  4046            TEX,      TEXP+2
                      /FOLLOWING ROUTINES DO CONVERSION OF FLOATING POINT CONSTANTS

      4707            *4707
4707  0000            FLNR,     0                 /NORMALIZE FLOATING INPUT
4710  7300                      CLA CLL
4711  3341                      DCA AMT
4712  1113                      TAD Z DAT2
4713  7640                      SZA CLA
4714  5320                      JMP .+4
4715  1114                      TAD Z DAT3
4716  7650                      SNA CLA
4717  5342                      JMP EXFX
4720  1113                      TAD Z DAT2
4721  7104            LOP,      RAL CLL
4722  7710                      SPA CLA
4723  5334                      JMP EXPN
4724  1114                      TAD Z DAT3
4725  7004                      RAL
4726  3114                      DCA Z DAT3
4727  1113                      TAD Z DAT2
4730  7004                      RAL
4731  3113                      DCA Z DAT2
4732  2341                      ISZ AMT
4733  5320                      JMP LOP-1
4734  1341            EXPN,     TAD AMT
4735  7041                      CIA
4736  1112                      TAD Z DAT1
4737  3112                      DCA Z DAT1
4740  5707                      JMP I FLNR
4741  0000            AMT,      0
4742  3112            EXFX,     DCA Z DAT1
```

```
4743  5707                    JMP I FLNR
4744  0000          FGET,     0
4745  1744                    TAD I FGET
4746  3341                    DCA AMT
4747  1741                    TAD I AMT
```

```
4750  3112                    DCA Z DAT1
4751  2341                    ISZ AMT
4752  1741                    TAD I AMT
4753  3113                    DCA Z DAT2
4754  2341                    ISZ AMT
4755  1741                    TAD I AMT
4756  3114                    DCA Z DAT3
4757  2344                    ISZ FGET
4760  5744                    JMP I FGET

4761  0000          FPUT,     0
4762  1761                    TAD I FPUT
4763  2361                    ISZ FPUT
4764  3341                    DCA AMT
4765  1112                    TAD Z DAT1
4766  3741                    DCA I AMT
4767  2341                    ISZ AMT
4770  1113                    TAD Z DAT2
4771  3741                    DCA I AMT
4772  2341                    ISZ AMT
4773  1114                    TAD Z DAT3
4774  3741                    DCA I AMT
4775  5761                    JMP I FPUT
      5000          *5000
5000  0000          FBIN,     0
5001  1026                    TAD Z END
5002  7041                    CIA
5003  1055                    TAD Z BEGN
5004  7640                    SZA CLA
5005  5211                    JMP .+4
5006  1243                    TAD CHRC+1
5007  3642                    DCA I CHRC
5010  5600                    JMP I FBIN      /ANSWER WILL BE IN DAT1
5011  1455                    TAD I Z BEGN
5012  2055                    ISZ Z BEGN
5013  3642                    DCA I CHRC
5014  1642                    TAD I CHRC
5015  2200                    ISZ FBIN
5016  5600                    JMP I FBIN
5017  0000          BIN,      0
5020  7300                    CLA CLL
5021  3112                    DCA Z DAT1
5022  4200                    JMS FBIN
5023  5617                    JMP I BIN
5024  1241                    TAD MBR
5025  3237                    DCA SAV2
5026  1112                    TAD Z DAT1
5027  7106                    RTL CLL
5030  7004                    RAL
5031  3240                    DCA SAVZ
5032  1112                    TAD Z DAT1
5033  7004                    RAL
5034  1240                    TAD SAVZ
5035  1237                    TAD SAV2
5036  5221                    JMP BIN+2
```

```
5037  0000          SAV2,   0
5040  0000          SAV2,   0
5041  7520          MBR,    7520
5042  5333          CHRC,   CHR
5043  0301                  301
```

```
                        /FLOATING POINT MULTIPLY ROUTINE
                        /OPERANDS IN DAT1, OP1
5044  0000              FLMY,   0
5045  1256                      TAD OP10
5046  1112                      TAD Z DAT1
5047  7001                      IAC
5050  3112                      DCA Z DAT1
5051  7100                      CLL
5052  5261                      JMP DMUL
5053  4655              FMYR,   JMS I FNOR
5054  5644                      JMP I FLMY
5055  4707              FNOR,   FLNR
5056  0000              OP10,   0
5057  0000              OP20,   0
5060  0000              OP30,   0

5061  1113              DMUL,   TAD Z DAT2
5062  3350                      DCA MP2
5063  1260                      TAD OP30
5064  4317                      JMS MP4
5065  3351                      DCA C
5066  1344                      TAD MP5
5067  3352                      DCA D
5070  1257                      TAD OP20
5071  3350                      DCA MP2
5072  1114                      TAD Z DAT3
5073  4317                      JMS MP4
5074  1351                      TAD C
5075  3351                      DCA C
5076  7004                      RAL
5077  1344                      TAD MP5
5100  1352                      TAD D
5101  3352                      DCA D
5102  7004                      RAL
5103  3353                      DCA KEEP
5104  1113                      TAD Z DAT2
5105  3350                      DCA MP2
5106  1257                      TAD OP20
5107  4317                      JMS MP4
5110  1352                      TAD D
5111  3114                      DCA Z DAT3
5112  7004                      RAL
5113  1344                      TAD MP5
5114  1353                      TAD KEEP
5115  3113                      DCA Z DAT2
5116  5253                      JMP FMYR
5117  0000              MP4,    0
5120  3345                      DCA MP1
5121  3344                      DCA MP5
5122  1347                      TAD THIR
5123  3346                      DCA MP3
5124  1345                      TAD MP1
5125  7010                      RAR
5126  3345                      DCA MP1
5127  1344                      TAD MP5
```

```
5130  7420        SNL
5131  5334        JMP .+3
5132  7100        CLL
5133  1350        TAD MP2
5134  7010        RAR
```

```
5135  3344                    DCA MP5
5136  2346                    ISZ MP3
5137  5324                    JMP MP4+5
5140  1345                    TAD MP1
5141  7010                    RAR
5142  7100                    CLL
5143  5717                    JMP I MP4
5144  0000              MP5,  0
5145  0000              MP1,  0
5146  0000              MP3,  0
5147  7764              THIR, 7764
5150  0000              MP2,  0
5151  0000              C,    0
5152  0000              D,    0
5153  0000              KEEP, 0

5154  0000              RED,  0       /READ ROUTINE FOR TEXT MODE INPUT
5155  6031                    KSF
5156  5355                    JMP .-1
5157  6036                    6036
5160  3351                    DCA C
5161  1351                    TAD C
5162  7041                    CIA
5163  1054                    TAD Z RBT       /IGNORE RUBOUT
5164  7650                    SNA CLA
5165  5355                    JMP RED+1

5166  1351                    TAD C
5167  1376                    TAD .+7 /TEST FOR A QUOTE TO INDICATE INPUT OVER.
5170  7640                    SZA CLA
5171  5374                    JMP .+3
5172  1023                    TAD Z READ+1    /CHANGE POINTER TO READ ROUTINE TO CALL NORMAL ROUTINE
5173  3022                    DCA Z READ      /WHICH ACCEPTS ALL LEGAL CHARACTERS
5174  1351                    TAD C
5175  5777                    JMP I .+2
5176  7536                    7536
5177  0276                    STOR+1
      5200              *5200
5200  0000              FINK, 0       /PART OF FLOATING CONSTANT CONVERSION
5201  7240                    CLA CMA
5202  3320                    DCA PRSW
5203  4711                    JMS I DPC
5204  7200                    CLA
5205  1333                    TAD CHR
5206  1317                    TAD PER
5207  7640                    SZA CLA
5210  5217                    JMP FK1
5211  1320                    TAD PRSW
5212  7650                    SNA CLA
5213  5221                    JMP FK2
5214  3334                    DCA DPN
5215  3320                    DCA PRSW
5216  5762                    JMP I DPS
5217  1320              FK1,  TAD PRSW
5220  7650                    SNA CLA
```

```
5221  1334          FK2,    TAD DPN
5222  7041                  CIA
5223  3321                  DCA SEXP
5224  4344                  JMS MSGN
5225  7200          FK3,    CLA
```

```
5226  1316                TAD C27
5227  3335                DCA BEXP
5230  4724                JMS I GETZ      /LOAD FLOATING AC
5231  5335                BEXP
5232  4726                JMS I NORZ      /NORMALIZE
5233  1333                TAD CHR
5234  1315                TAD E
5235  7440                SZA
5236  5262                JMP CVRT
5237  4711                JMS I DPC
5240  4344                JMS MSGN
5241  1336                TAD HIC
5242  7510                SPA
5243  7001                IAC
5244  7440                SZA
5245  5252                JMP EXTO
5246  1337                TAD LWC
5247  1321                TAD SEXP
5250  3321                DCA SEXP
5251  5262                JMP CVRT
5252  7200          EXTO, CLA
5253  1322                TAD C377
5254  3112                DCA Z DAT1
5255  1323                TAD C200
5256  3113                DCA Z DAT2
5257  1342                TAD LORD
5260  3114                DCA Z DAT3
5261  5600                JMP I FINK
5262  7200          CVRT, CLA
5263  1321                TAD SEXP
5264  7450                SNA
5265  5600                JMP I FINK
5266  7700                SMA CLA
5267  5300                JMP CVR1
5270  4725                JMS I PUTZ
5271  5056                OP10
5272  4724                JMS I GETZ
5273  5330                TENZ            /MPY BY TENTH
5274  4727                JMS I MPYZ
5275  2321                ISZ SEXP
5276  5262                JMP CVRT
5277  5600                JMP I FINK
5300  4725          CVR1, JMS I PUTZ
5301  5056                OP10
5302  4724                JMS I GETZ
5303  5312                TEN
5304  4727                JMS I MPYZ
5305  7240                CLA CMA
5306  1321                TAD SEXP
5307  3321                DCA SEXP
5310  5262                JMP CVRT
5311  5400          DPC,  DPCV
5312  0004          TEN,  4
5313  2400                2400
5314  0000                0000
```

```
5315  7473              E,      7473
5316  0027              C27,    27
5317  7522              PER,    7522
5320  0000              PRSW,   0
5321  0000              SEXP,   0
```

```
5322  3777              C377,   3777
5323  2000              C200,   2000
5324  4744              GETZ,   FGET
5325  4761              PUTZ,   FPUT
5326  4707              NORZ,   FLNR
5327  5044              MPYZ,   FLMY
5330  7775              TENZ,   7775
5331  3146                      3146
5332  3150                      3150
5333  0000              CHR,    0
5334  0000              DPN,    0
5335  0000              BEXP,   0
5336  0000              HIC,    0
5337  0000              LWC,    0
5340  0000              EXP,    0
5341  0000              HORD,   0
5342  0000              LORD,   0
5343  0000              SGN,    0
5344  0000              MSGN,   0       /DOUBLE PRECISION NEGATION
5345  7300                      CLA CLL
5346  1343                      TAD SGN
5347  7700                      SMA CLA
5350  5744                      JMP I MSGN
5351  1337                      TAD LWC
5352  7041                      CIA
5353  3337                      DCA LWC
5354  1336                      TAD HIC
5355  7040                      CMA
5356  7430                      SZL
5357  7001                      IAC
5360  3336                      DCA HIC
5361  5744                      JMP I MSGN
5362  5421              DPS,    DPCS
      5400              *5400
5400  0000              DPCV,   0       /MORE FLOATING POINT CONVERSION
5401  7200                      CLA
5402  3702                      DCA I HICZ
5403  3703                      DCA I LWCZ
5404  3704                      DCA I SGNZ
5405  3705                      DCA I DPNZ
5406  3306                      DCA NUMI
5407  4707                      JMS I IXCH
5410  7000                      NOP
5411  1310                      TAD PLUS
5412  7450                      SNA
5413  5221                      JMP DPCS
5414  1311                      TAD POVE
5415  7440                      SZA
5416  5223                      JMP DPCS+2
5417  7240                      CLA CMA
5420  3704                      DCA I SGNZ
5421  4707              DPCS,   JMS I IXCH
5422  5600                      JMP I DPCV
5423  7200                      CLA
5424  1701                      TAD I CHRZ
```

```
5425  1312          TAD MNIN
5426  7500          SMA
5427  5600          JMP I DPCV
5430  1313          TAD MNPO
5431  7510          SPA
```

```
5432  5600                    JMP I DPCV
5433  3314                    DCA MTDG
5434  1702                    TAD I HICŻ
5435  0315                    AND MSKŻ
5436  7440                    SZA
5437  5221                    JMP DPCS
5440  2306                    ISZ NUMI
5441  2705                    ISZ I DPNŻ
5442  4244                    JMS MT10
5443  5221                    JMP DPCS
5444  0000              MT10, 0
5445  1703                    TAD I LWCŻ
5446  3317                    DCA TWC
5447  1702                    TAD I HICŻ
5450  3316                    DCA TIC
5451  3300                    DCA REM
5452  4264                    JMS MTRL
5453  4264                    JMS MTRL
5454  4320                    JMS MTAD
5455  4264                    JMS MTRL
5456  1314                    TAD MTDG
5457  3317                    DCA TWC
5460  3316                    DCA TIC
5461  4320                    JMS MTAD
5462  1300                    TAD REM
5463  5644                    JMP I MT10
5464  0000              MTRL, 0
5465  7300                    CLL CLA
5466  1703                    TAD I LWCŻ
5467  7004                    RAL
5470  3703                    DCA I LWCŻ
5471  1702                    TAD I HICŻ
5472  7004                    RAL
5473  3702                    DCA I HICŻ
5474  1300                    TAD REM
5475  7004                    RAL
5476  3300                    DCA REM
5477  5664                    JMP I MTRL
5500  0000              REM,  0
5501  5333              CHRŻ, CHR
5502  5336              HICŻ, HIC
5503  5337              LWCŻ, LWC
5504  5343              SGNŻ, SGN
5505  5334              DPNŻ, DPN
5506  0000              NUMI, 0
5507  5000              IXCH, FBIN
5510  7525              PLUS, 7525
5511  7776              POVE, 7776
5512  7506              MNIN, 7506
5513  0012              MNPO, 12
5514  0000              MTDG, 0
5515  7400              MSKŻ,7400
5516  0000              TIC,  0
5517  0000              TWC,  0
```

```
5520  0000          MTAD,   0
5521  7300                  CLL CLA
5522  1703                  TAD I LWCZ
5523  1317                  TAD TWC
5524  3703                  DCA I LWCZ
```

```
5525  7004                RAL
5526  1702                TAD I HIC#
5527  1316                TAD TIC
5530  3702                DCA I HIC#
5531  7004                RAL
5532  1300                TAD REM
5533  3300                DCA REM
5534  5720                JMP I MTAD

5535  0000          REED, 0       /READ ROUTINE FOR ALL INPUT EXCEPT TEXT MODE
5536  6031                KSF
5537  5336                JMP .-1
5540  6036                6036
5541  7450                SNA
5542  5336                JMP REED+1
5543  3372                DCA SOOK
5544  1372                TAD SOOK
5545  1373                TAD SOOK+1      /"
5546  7450                SNA
5547  5336                JMP REED+1
5550  1374          XFM,  TAD SOOK+2      /SPACE
5551  7650                SNA CLA
5552  5336                JMP REED+1
5553  1372                TAD SOOK
5554  1376                TAD SOOK+4
5555  7640                SZA CLA
5556  5361                JMP .+3
5557  1024                TAD Z READ+2    /SET UP CALL FOR TEXT MODE INPUT.
5560  3022                DCA Z READ
5561  1372                TAD SOOK
5562  1375                TAD SOOK+3
5563  7450                SNA             /FORM FEED
5564  5336                JMP REED+1
5565  1377                TAD SOOK+5
5566  7650                SNA CLA         /200?
5567  5336                JMP REED+1
5570  1372                TAD SOOK
5571  5735                JMP I REED
5572  0000          SOOK, 0
5573  7540                7540
5574  7641                7641
5575  7564                7564
5576  7536                7536
5577  0014                0014

      5600          *5600
                    /CONTROL STATEMENT COMPILER, LOOK AT 1ST WORD OF STATEMENT TO DISPATCH

5600  1026          CNTL, TAD Z END
5601  3276                DCA FINP
5602  1676                TAD I FINP
5603  1260                TAD ISI /7467
5604  7450                SNA
5605  5663                JMP I DISP      /IF
5606  1262                TAD ISI+2
```

```
5607  7450          SNA
5610  5664          JMP I DISP+1     /GOTO
5611  7001          IAC
5612  7450          SNA
5613  5665          JMP I DISP+2     /FORMAT
```

```
5614  7001                    IAC
5615  7450                    SNA
5616  5666                    JMP I DISP+3    /END
5617  7001                    IAC
5620  7450                    SNA
5621  5252                    JMP DOO
5622  7001                    IAC
5623  7450                    SNA
5624  5667                    JMP I DISP+4    /CONTINUE
5625  1262                    TAD ISI+2
5626  7650                    SNA CLA
5627  5670                    JMP I DISP+5    /ACCEPT
5630  1426                    TAD I Z END
5631  1006                    TAD Z DECT+1    /WRITE?
5632  7450                    SNA
5633  5407                    JMP I Z DECT+2
5634  1261                    TAD ISI+1       /TYPE?
5635  7450                    SNA
5636  5671                    JMP I DISP+6    /TYPE
5637  7001                    IAC
5640  7450                    SNA
5641  5672                    JMP I DISP+7    /STOP
5642  7001                    IAC
5643  7450                    SNA
5644  5405                    JMP I Z DECT    /READ DECTAPE?
5645  1262                    TAD ISI+2               /0002
5646  7650                    SNA CLA
5647  5673                    JMP I DISP+10   /PAUSE
5650  5651                    JMP I .+1
5651  3523                    FORM .+4        /ERROR
5652  2276            DOO,    ISZ FINP
5653  1676                    TAD I FINP
5654  1260                    TAD ISI
5655  7650                    SNA CLA
5656  5674                    JMP I DISP+11   /DIMENSION
5657  5675                    JMP I DISP+12   /DO
5660  7467            ISI,    7467
5661  0003                    0003
5662  0002                    0002
5663  7000            DISP,   IF
5664  6047                    GOO
5665  6674                    FMAT
5666  4256                    MEND            /END STATEMENT
5667  6000                    UE
5670  6600                    INPT
5671  6607                    OUTP
5672  6006                    STP
5673  6154                    PAV
5674  6450                    DIM
5675  6270                    DO
5676  0000            FINP,   0

                    /INITIALIZE ENTIRE COMPILER
5677  7201            INIT,   CLA IAC
5700  3110                    DCA Z OFF
```

```
5701  1075        TAD I GENS
5702  3076        DCA I GEN
5703  1075        TAD I GENS
5704  3077        DCA I GENW
5705  1074        TAD I FILL
```

```
5706  3073                    DCA Z FULL
5707  1071                    TAD Z DIAB
5710  3070                    DCA Z DGB
5711  1034                    TAD Z PYMB
5712  3035                    DCA Z SYMB
5713  1120                    TAD Z CCS
5714  7001                    IAC
5715  3065                    DCA Z CLC
5716  1120                    TAD Z CCS
5717  3116                    DCA Z VARS
5720  7040                    CMA
5721  3032                    DCA Z STMT
5722  3403                    DCA I Z TTT1
5723  3404                    DCA I Z TTT2
5724  1160                    TAD Z TADR
5725  3115                    DCA Z IADR
5726  3107                    DCA Z MODE
5727  6036              JIGGLE, 6036
5730  7200                    CLA
5731  3746                    DCA I LEAD+1
5732  3111                    DCA Z CCNT
5733  3036                    DCA Z PCNT
5734  3153                    DCA Z IN
5735  6044                    6044
5736  4745                    JMS I LEAD        /PUNCH LEADER
5737  3025                    DCA Z CKSM
5740  1075                    TAD Z GENS        /ORIGIN
5741  4747                    JMS I OR
5742  4776                    JMS I  ZERO
5743  5744                    JMP I .+1
5744  0204                    FILB
5745  4531              LEAD, LDLP
5746  2332                    ENDS
5747  4233              OR,   ORGP
                        /DELETE CURRENT STATEMENT, RESTORING CONDITIONS AS OF END OF PREV, STATEMENT
5750  1064              REST, TAD Z CLCW
5751  3065                    DCA Z CLC
5752  1354                    TAD .+2
5753  3366                    DCA NEW
5754  7000                    NOP
5755  1077                    TAD Z GENW
5756  3076                    DCA Z GEN
5757  1077                    TAD Z GENW
5760  4747                    JMS I OR                  /NEW CODING ORIGIN
5761  3107                    DCA Z MODE
5762  1040                    TAD Z RSSY
5763  3035                    DCA Z SYMB
5764  4776                    JMS I  ZERO
5765  5775                    JMP I NEW+7
                        /PREPARE FOR NEW STATEMENT
5766  7000              NEW,  NOP
5767  1076                    TAD Z GEN
5770  3077                    DCA Z GENW
5771  1065                    TAD Z CLC
5772  3064                    DCA Z CLCW
```

```
5773  4776                    JMS I  ZERO
5774  5775                    JMP I  .+1
5775  0204                    FILB
5776  4545          ZERO,     ALLS

                    PAUSE
```

```
      6000                *6000
                          /CONTINUE STATEMENT
6000  1203    UE,         TAD NULL                /0024
6001  4604                JMS I POUT
6002  5551                JMP I Z NEWL      /SPACE OVER REMAINDER
6003  0024    NULL,       0024
6004  4200    POUT,       PCH
6005  0335    OV,         OVFL


6006  1212    STP,        TAD GOT           /0021
6007  4604                JMS I POUT
6010  5551                JMP I Z NEWL
6011  0000    HERE,       0
6012  0042    GOT,        0042
6013  0004    FR,         0004
6014  0417    DEFN,       P3
6015  1200    PET,        GET
6016  0541    WELL,       ISIT
6017  0021    GOTT,       0021
6020  0000    ENDC,       0
6021  0533    INT1,       T1
6022  0534    INT2,       T2
6023  7704    FUL,        7704
                          /STEP N CHARACTERS THRU STATEMENT,ENTER WITH N IN AC
6024  0000    OVER,       0
6025  7041                CIA
6026  3245                DCA TXX /LOOP PARAMETER
6027  1426                TAD I Z END
6030  7450                SNA
6031  5753                JMP I STEB+1
6032  1063                TAD Z CKE
6033  7640                SZA CLA
6034  5237                JMP .+3
6035  2026                ISZ Z END
6036  5227                JMP OVER+3
6037  2026                ISZ Z END
6040  2245                ISZ TXX
6041  5227                JMP OVER+3
6042  1026                TAD Z END
6043  3055                DCA Z BEGN
6044  5624                JMP I OVER
6045  0000    TXX,        0
6046  0023    TWEL,       0023
6047  1044    GOD,        TAD Z FLPA        /COMPUTED GO TO ?
6050  7640                SZA CLA
6051  5671                JMP I GOCM        /YES
6052  1217                TAD GOTT
6053  4604                JMS I POUT
6054  1213                TAD FR            /0004
6055  4224                JMS OVER
6056  4615                JMS I PET         /FIND END
6057  1026                TAD Z END
6060  3027                DCA Z TAB
6061  1055                TAD Z BEGN
```

```
6062  3026                DCA Z END
6063  4614                JMS I DEFN      /PACK STATEMT NO.
6064  4616                JMS I WELL      /DEFINED?
6065  7450                SNA
6066  4272                JMS REF         /NO, SEARCH UNDEFINED
6067  4604                JMS I POUT
6070  5551                JMP I Z NEWL
6071  6200          GOCM, IGNR-4
```

```
                        /FWD REFERENCE TABLE SEARCH.  IF STATEMENT NO IS NOT IN TABLE, ENTER IT
                        /WITH 0 ADDRESS.  IF IT IS THERE, USE CURRENT CONTENTS AS STATEMENT
                        /ADDRESS FOR CODE GENERATION, REPLACING ADDRESS IN TABLE WITH CURRENT
                        /LOCATION COUNTER, FORMING A CHAIN OF REFERENCES.
6072  0000              REF,    0
6073  1153                      TAD Z IN
6074  7040                      CMA
6075  3220                      DCA ENDC
6076  1155                      TAD Z REFS
6077  3352                      DCA STEB
6100  2220                      ISZ ENDC
6101  5323                      JMP YES /SEARCH
6102  1153                      TAD Z IN          /NOT IN TABLE, TABLE FULL?
6103  1223                      TAD FUL /7766
6104  7710                      SPA CLA
6105  5311                      JMP .+4
6106  1246                      TAD TWEL          /FWD REF, OVERFLOW, DIAG
6107  4430                      JMS I Z ERR
6110  5535                      JMP I Z NEXL      /DELETE
6111  1621                      TAD I INT1        /ENTER
6112  3752                      DCA I STEB
6113  2352                      ISZ STEB
6114  1622                      TAD I INT2
6115  3752                      DCA I STEB
6116  2352                      ISZ STEB
6117  1076                      TAD Z GEN
6120  3752                      DCA I STEB        /PUT LINKAGE IN TABLE
6121  2153                      ISZ Z IN
6122  5672                      JMP I REF
6123  1621              YES,    TAD I INT1
6124  7041                      CIA
6125  1752                      TAD I STEB
6126  7640                      SZA CLA
6127  5345                      JMP .+16
6130  1622                      TAD I INT2
6131  7041                      CIA
6132  2352                      ISZ STEB
6133  1752                      TAD I STEB
6134  7640                      SZA CLA
6135  5346                      JMP .+11
6136  2352                      ISZ STEB                /MATCH
6137  1752                      TAD I STEB
6140  3220                      DCA ENDC
6141  1076                      TAD Z GEN
6142  3752                      DCA I STEB
6143  1220                      TAD ENDC
6144  5672                      JMP I REF
6145  2352                      ISZ STEB
6146  2352                      ISZ STEB
6147  2352                      ISZ STEB
6150  5300                      JMP REF+6
6151  0005                      0005

6152  0000              STEB,   0
6153  3523                      FORM+4
```

```
6154  1426          PAV,    TAD I Z END
6155  7450                  SNA
6156  5374                  JMP SUBR*1
6157  4451                  JMS I Z IFNM
6160  5363                  JMP .*3         /YES NUMERIC
```

```
6161  2026                    ISZ Z END
6162  5354                    JMP .-6
6163  4615                    JMS I PET               /GET NUMBER
6164  4772                    JMS I .+6               /CHG TO BINARY
6165  1373                    TAD SUBR                /PCH 0050, PAUSE JMS
6166  4604                    JMS I POUT
6167  1112                    TAD Z DAT1
6170  4604                    JMS I POUT              /PUNCH ADDRESS
6171  5551                    JMP I Z NEWL
6172  5017                    BIN

6173  0053              SUBR, 0053
6174  1377                    TAD .+3           /NORMAL PAUSE
6175  4604                    JMS I POUT
6176  5551                    JMP I Z NEWL
6177  0046                    0046

      6200              *6200
6200  1255                    TAD CM            /COMPUTED GO TO
6201  4656                    JMS I PZZ
6202  1257                    TAD FIVE                  /0005
6203  4660                    JMS I OF
6204  4661              IGNR, JMS I MET           /GET CHAR
6205  1026                    TAD Z END         /STATEMENT NO.
6206  3027                    DCA Z TAB
6207  1055                    TAD Z BEGN
6210  3026                    DCA Z END
6211  4662                    JMS I DZZ         /PACK STATEMT NO.
6212  4663                    JMS I SELL        /DEFINED
6213  7450                    SNA
6214  4664                    JMS I PEF
6215  4656                    JMS I PZZ         /PUNCH ADDRESS
6216  1426                    TAD I Z END
6217  1341                    TAD TWS+1
6220  7640                    SZA CLA
6221  5230                    JMP .+7
6222  2026                    ISZ Z END         /SKIP )
6223  2026                    ISZ Z END         /SKIP ,
6224  1026                    TAD Z END
6225  3055                    DCA Z BEGN
6226  4661                    JMS I MET
6227  5252                    JMP FEND
6230  2026                    ISZ Z END         /SKIP OPERATOR (,)
6231  5204                    JMP IGNR
6232  0000              FOX,  0
6233  1455                    TAD I Z BEGN
6234  1156                    TAD Z IT
6235  7700                    SMA CLA
6236  5242                    JMP .+4
6237  1265                    TAD TW            /0012, GO TO WITH FL VAR
6240  4430                    JMS I Z ERR       /ERROR DIAGNOSTIC #17
6241  5535                    JMP I Z NEXL
6242  1455                    TAD I Z BEGN
6243  1157                    TAD Z NT
6244  7700                    SMA CLA
```

```
6245  5237          JMP .-6          /FL, VAR, ILLEGAL
6246  7001          IAC
6247  4666          JMS I SYX
6250  4656          JMS I PZZ        /PCH VAR, ADDR
6251  5632          JMP I FOX
```

```
6252  4656              FEND,   JMS I PZZ
6253  4232                      JMS FOX
6254  5551                      JMP I Z NEWL

6255  0022              CM,     0022
6256  4200              PZZ,    PCH
6257  0005              FIVE,   0005
6260  6024              OF,     OVER
6261  1200              MET,    GET
6262  0417              DZZ,    P3
6263  0541              SELL,   ISIT
6264  6072              PEF,    REF
6265  0017              TW,     0017
6266  2200              SYX,    STBL
6267  0020              DOES,   0020
6270  1267              DO,     TAD DOES                /0020
6271  4656                      JMS I PZZ
6272  1340                      TAD TWS           /0002
6273  4660                      JMS I OF                /SKIP OVER DO
6274  1426                      TAD I Z END
6275  4451                      JMS I Z IFNM
6276  5300                      JMP .+2           /YES NUMERIC
6277  5302                      JMP .+3
6300  2026                      ISZ Z END
6301  5274                      JMP .-5
6302  1026                      TAD Z END
6303  3027                      DCA Z TAB
6304  1055                      TAD Z BEGN
6305  3026                      DCA Z END
6306  4662                      JMS I DZZ
6307  4663                      JMS I SELL
6310  7450                      SNA
6311  4664                      JMS I PEF
6312  4656                      JMS I PZZ         /PCH STATEMT ADDR
6313  4661                      JMS I MET
6314  1426                      TAD I Z END
6315  7650                      SNA CLA
6316  5333                      JMP DERR                /INCOMPLETE DO STATEMENT
6317  4232                      JMS FOX           /CREATE AND PCH VAR. ADDR
6320  2026                      ISZ Z END
6321  4661                      JMS I MET
6322  1426                      TAD I Z END
6323  7650                      SNA CLA
6324  5333                      JMP DERR
6325  4737                      JMS I CREA        /CREATE ACTUAL PARAM
6326  2026                      ISZ Z END
6327  4661                      JMS I MET
6330  4737                      JMS I CREA
6331  5732                      JMP I .+1
6332  6400                      6400
6333  1336              DERR,   TAD .+3           /ERROR DIAGNOSTIC #13
6334  4430                      JMS I Z ERR
6335  5535                      JMP I Z NEXL
6336  0013                      0013
6337  6412              CREA,   MAK
```

```
6340  0002          TWS,    0002
6341  7527                  7527
6342  4656          SCAR,   JMS I PZZ
6343  1426                  TAD I Z END
6344  7450                  SNA
```

```
6345  5772                    JMP I LNKS-1
6346  1373                    TAD LNKS                /+
6347  7450                    SNA
6350  5356                    JMP .+6           /YES +
6351  7041                    CIA
6352  1340                    TAD TWS
6353  7640                    SZA CLA
6354  5367                    JMP LNKS-4
6355  7001                    IAC
6356  3375                    DCA SGNN                /0=PLUS
6357  4661                    JMS I MET
6360  4661                    JMS I MET         /GET INCR.
6361  4774                    JMS I LNKS+1      /CONVERT
6362  1375                    TAD SGNN
6363  7110                    CLL RAR
6364  1112                    TAD Z DAT1
6365  7430                    SZL
6366  7041                    CIA
6367  4656                    JMS I PZZ
6370  4661                    JMS I MET
6371  5772                    JMP I .+1
6372  6626                    IAM-4
6373  7525          LNKS,     7525
6374  5017                    BIN
6375  0000          SGNN,     0

      6400          *6400
                    /CONTINUATION OF "DO" STAIEMT.
6400  1426                    TAD I Z END
6401  7650                    SNA CLA
6402  5207                    JMP .+5
6403  2026                    ISZ Z END
6404  4634                    JMS I LET         /GET CHAR
6405  4212                    JMS MAK
6406  5551                    JMP I Z NEWL
6407  1243                    TAD NERR+1
6410  4641                    JMS I PUH
6411  5206                    JMP .-3
6412  0000          MAK,      0
6413  1057                    TAD Z ALF         /CREATE PARAM IN
6414  7650                    SNA CLA           /CODING STACK
6415  5220                    JMP .+3
6416  4635                    JMS I LOX         /VARIABLE, CREATE AND PUNCH
6417  5612                    JMP I MAK
6420  1061                    TAD Z DCML        /CONSTANTS, FX OR FL
6421  7640                    SZA CLA
6422  5636                    JMP I MOX         /FL. CON. ILLEGAL
6423  4637                    JMS I DCBN
6424  7120                    CLL CML
6425  4640                    JMS I DUTA
6426  4641                    JMS I PUH         /PUNCH DATA
6427  5612                    JMP I MAK

6430  0000          LATT,     0
6431  2200          SAD,      STBL
```

```
6432  0011          MANY,   0011
6433  6024          BNCE,   OVER
6434  1200          LET,    GET
6435  6232          LOX,    FOX
6436  6237          MOX,    FOX+5
6437  5017          DCBN,   BIN
6440  2700          DUTA,   DATA
6441  4200          PUH,    PCH
6442  6333          NERR,   DERR
6443  7577                  7577
```

```
      6450                *6450
6450  1232          DIM,  TAD MANY          /DIMENSION STATEMENT
6451  4633                JMS I BNCE
6452  4634                JMS I LET
6453  1426                TAD I Z END
6454  7650                SNA CLA
6455  5642                JMP I NERR        /BAD FORMAT
6456  1455                TAD I Z BEGN
6457  1156                TAD Z IT
6460  7700                SMA CLA
6461  5361                JMP SORY+4
6462  3230                DCA LATT
6463  1065                TAD Z CLC
6464  3367                DCA WT
6465  1116                TAD Z VARS
6466  3354          AFF,  DCA MKBN+1
6467  4631                JMS I SAD
6470  7200                CLA
6471  1110                TAD Z OFF
6472  7650                SNA CLA
6473  5355                JMP SORY          /VAR. ALREADY DEFINED.
6474  1367                TAD WT
6475  3065                DCA Z CLC
6476  1354                TAD MKBN+1
6477  3116                DCA Z VARS
6500  1120                TAD Z CCS
6501  7041                CIA
6502  1116                TAD Z VARS        /CONS. BUFF. MT?
6503  7650                SNA CLA
6504  5310                JMP .+4 /YES
6505  4751                JMS I DIMS        /NO
6506  1076                TAD Z GEN
6507  4752                JMS I PHOG        /PCH ORIGIN
6510  4634                JMS I LET         /SKIP (
6511  1426                TAD I Z END
6512  7650                SNA CLA
6513  5642                JMP I NERR
6514  4634                JMS I LET
6515  1426                TAD I Z END
6516  7650                SNA CLA
6517  5642                JMP I NERR        /CHECK FOR )
6520  1060                TAD Z NUM
6521  7650                SNA CLA
6522  5642                JMP I NERR        /NO NUMBER
6523  4753                JMS I MKBN        /CONVERT TO BIN
6524  1230                TAD LATT
6525  7640                SZA CLA
6526  5331                JMP .+3
6527  1112                TAD Z DAT1
6530  7104                RAL CLL
6531  1112                TAD Z DAT1
6532  7041                CIA
6533  1065                TAD Z CLC
6534  3065                DCA Z CLC
6535  1115                TAD Z IADR
```

```
6536  7041          CIA
6537  7040          CMA
6540  3230          DCA LATT
6541  1065          TAD Z CLC
6542  3630          DCA I LATT      /FIX ADDR. TABLE
6543  4634          JMS I LET       /ANY MORE
6544  1426          TAD I Z END
6545  7650          SNA CLA
6546  5551          JMP I Z NEWL
6547  4634          JMS I LET
6550  5252          JMP DIM+2
```

```
6551  2756              DIMS,   CLRB
6552  4233              PHOG,   ORGP
6553  5017              MKBN,   BIN
6554  0000                      0

6555  1360              SORY,   TAD .+3
6556  4430                      JMS I Z ERR             /ERROR DIAGNOSTIC #15
6557  5535                      JMP I Z NEXL
6560  0015                      0015
6561  1455                      TAD I Z BEGN
6562  1157                      TAD Z NT
6563  7700                      SMA CLA
6564  5262                      JMP AFF-4
6565  7001                      IAC     /FIXED
6566  5262                      JMP AFF-4
6567  0000              WT,     0

      6600              *6600
6600  1205              INPT,   TAD .+5 /PUNCH ACCEPT
6601  4657                      JMS I POO
6602  1206                      TAD .+4
6603  4660                      JMS I HOP
6604  5214                      JMP OUTP+5
6605  0043                      0043
6606  0006                      0006
6607  1261              OUTP,   TAD FUR
6610  4660                      JMS I HOP
6611  1205                      TAD .-4
6612  7001                      IAC
6613  4657                      JMS I POO               /PUNCH TYPE
6614  4662                      JMS I BET
6615  1026                      TAD Z END
6616  3027                      DCA Z TAB
6617  1055                      TAD Z BEGN
6620  3026                      DCA Z END
6621  4663                      JMS I PACK      /PACK STATEMT NO.
6622  4656                      JMS I TELL      /DEFINED?
6623  7450                      SNA
6624  4664                      JMS I MEF       /NO
6625  4657                      JMS I POO       /PCH FORMT STATEM ADDR
6626  1426                      TAD I Z END
6627  7650                      SNA CLA
6630  5266                      JMP FINI
6631  4662                      JMS I BET
6632  4662              IAM,    JMS I BET               /SKIP ,
6633  1066                      TAD Z INX
6634  3167                      DCA Z DNM2+3
6635  4670                      JMS I FINI+2
6636  4665                      JMS I SBOL
6637  4671                      JMS I FINI+3
6640  1501                      TAD I Z OP
6641  4657                      JMS I POO
6642  1426                      TAD I Z END
6643  7650                      SNA CLA
6644  5266                      JMP FINI
```

```
6645  1167        TAD Z DNM2+3
6646  7650        SNA CLA
6647  5226        JMP IAM-4
6650  4662        JMS I BET
6651  4662        JMS I BET
```

```
6652  4773                    JMS I GD7+2
6653  4670                    JMS I FINI+2
6654  4665                    JMS I SBOL
6655  5673                    JMP I FMM+1
6656  0541              TELL, ISIT
6657  4200              POO,  PCH
6660  6024              HOP,  OVER
6661  0004              FUR,  0004
6662  1200              BET,  GET
6663  0417              PACK, P3
6664  6072              MEF,  REF
6665  2200              SBOL, STBL
6666  4657              FINI, JMS I POO         /PCH Ø TO END
6667  5551                    JMP I Z NEWL
6670  7115                    LAP+1
6671  7134                    DOG
6672  3517              FMM,  FORM
6673  6342                    SCAR
                        /FORMAT STATEMENT
6674  1372              FMAT, TAD GD7+1         /0045
6675  4657                    JMS I POO         /PUNCH FORMAT
6676  1206                    TAD OUTP-1
6677  7001                    IAC
6700  4660                    JMS I HOP         /SKIP F + (
6701  1426                    TAD I Z END
6702  7450                    SNA
6703  5266                    JMP FINI          /END
6704  1363                    TAD GD1 /) 7527
6705  7450                    SNA
6706  5337                    JMP NX  /YES )
6707  7001                    IAC
6710  7650                    SNA CLA
6711  5337                    JMP NX  /YES (
6712  1426                    TAD I Z END
6713  1364                    TAD GD2 /, 7524
6714  7450                    SNA
6715  5337                    JMP NX  /YES ,
6716  1365                    TAD GD3 /SLASH, 7775
6717  7640                    SZA CLA
6720  5325                    JMP .+5
6721  7120                    CLL CML           /YES SLASH
6722  7010                    RAR
6723  4657                    JMS I POO
6724  5337                    JMP NX
6725  1426                    TAD I Z END
6726  1366                    TAD GD4 /I, 7467
6727  7450                    SNA
6730  5335                    JMP .+5 /YES I
6731  1367                    TAD GD5 /7774
6732  7640                    SZA CLA
6733  5341                    JMP .+6 /NOT E OR I
6734  7001                    IAC
6735  7001                    IAC
6736  4657                    JMS I POO
6737  2026              NX,   ISZ Z END
```

```
6740  5301    JMP FMAT+5
6741  1426    TAD I Z END
6742  1370    TAD GD6 /7536 ,"
6743  7640    SZA CLA
6744  5337    JMP NX  /PNCH "
```

```
6745  1371                    TAD GD7
6746  4657                    JMS I POO
6747  2026                    ISZ Z END
675ø  1426                    TAD I Z END
6751  1370                    TAD GD6
6752  7650                    SNA CLA
6753  5360                    JMP .+5
6754  1426                    TAD I Z END
6755  4657                    JMS I POO
6756  2026                    ISZ Z END
6757  5350                    JMP .-7
6760  1371                    TAD GD7 /3777
6761  4657                    JMS I POO
6762  5337                    JMP NX
6763  7527              GD1,  7527
6764  7524              GD2,  7524
6765  7775              GD3,  7775
6766  7467              GD4,  7467
6767  0004              GD5,  0004
6770  7536              GD6,  7536
6771  3777              GD7,  3777
6772  0045                    0045
6773  7150                    NTVR

      7000              *7000ø
                        /IF STATEMENT
7000  1026              IF,   TAD Z END
7001  3314                    DCA LAP
7002  1045                    TAD Z FRPA
7003  7041                    CIA
7004  3045                    DCA Z FRPA
7005  1714                    TAD I LAP
7006  1312                    TAD SAPP        /), 7527
7007  7650                    SNA CLA
7010  5213                    JMP .+3
7011  2314                    ISZ LAP
7012  5205                    JMP IF+5
7013  2045                    ISZ Z FRPA
7014  5211                    JMP .-3
7015  3714                    DCA I LAP       /AC IS ø, REPLACE )
7016  1426                    TAD I Z END
7017  1311                    TAD RAP /7530
7020  7650                    SNA CLA
7021  5224                    JMP .+3
7022  2026                    ISZ Z END
7023  5216                    JMP .-5
7024  2026                    ISZ Z END       /POINT TO IF ( + 1
7025  1232                    TAD SWHH        /SET SWITCH
7026  3633                    DCA I SWHH+1
7027  5630                    JMP I .+1
7030  2000                    ARTH    /LET ARITH. COMPILER PRODUCE CODE TO CALCULATE VALUE OF EXPRESSION
7031  7000                    NOP
7032  5565              SWHH, JMP I Z DEBG+3
7033  5766                    NEW
7034  1231                    TAD SWHH-1
```

```
7035  2101                ISZ Z OP
7036  3633                DCA I SWHH+1     /RESTORE SWITCH
7037  4675                JMS I COSH+7
7040  1067                TAD Z FORF
7041  1123                TAD Z AOA
```

```
7042  7650          SNA CLA
7043  1313          TAD SAPP+1
7044  1266          TAD COSH
7045  4667          JMS I COSH+1
7046  4670          JMS I COSH+2     /SKIP FIRST NO
7047  4671          JMS I COSH+3
7050  4276          JMS NAMS         /DEFINE STATEMT
7051  2026          ISZ Z END
7052  4670          JMS I COSH+2     /SKIP SECOND
7053  4671          JMS I COSH+3
7054  4276          JMS NAMS
7055  2026          ISZ Z END                /SKIP ,
7056  4670          JMS I COSH+2
7057  1426          TAD I Z END
7060  7650          SNA CLA
7061  5264          JMP .+3
7062  5663          JMP I .+1        /MORE THAN 3 OBJECTS
7063  3523          FORM +4
7064  4276          JMS NAMS
7065  5551          JMP I Z NEWL
7066  0023  COSH,   0023
7067  4200          PCH
7070  1200          GET
7071  3517          FORM
7072  0417          P3
7073  0541          ISIT
7074  6072          REF
7075  4113          LDST

7076  0000  NAMS,   0
7077  1026          TAD Z END
7100  3027          DCA Z TAB
7101  1055          TAD Z BEGN
7102  3026          DCA Z END
7103  4672          JMS I COSH+4     /PACK STATMT NO
7104  4673          JMS I COSH+5
7105  7450          SNA
7106  4674          JMS I COSH+6
7107  4667          JMS I COSH+1     /PCH DEFINITION
7110  5676          JMP I NAMS
7111  7530  RAP,    7530
7112  7527  SAPP,   7527
7113  0025          0025
7114  0000  LAP,    0
7115  0000          0
7116  1455          TAD I Z BEGN
7117  1156          TAD Z IT
7120  7700          SMA CLA
7121  5325          JMP .+4
7122  3314          DCA LAP /LAP=0 FLOAT
7123  1314          TAD LAP
7124  5715          JMP I LAP+1
7125  1455          TAD I Z BEGN
7126  1157          TAD Z NT
7127  7700          SMA CLA
```

```
7130  5322                    JMP .-6
7131  7001                    IAC
7132  5322                    JMP .-10
7133  0000                    0000

7134  0000              DOG,  0
7135  3333                    DCA DOG-1
7136  1314                    TAD LAP
7137  7650                    SNA CLA
7140  5345                    JMP .+5
7141  7100                    CLL
7142  1333                    TAD DOG-1
7143  4747                    JMS I .+4
7144  5734                    JMP I DOG
7145  7120                    CLL CML
7146  5342                    JMP .-4
7147  3000                    OPER

7150  0000              NTVR, 0
7151  1060                    TAD ≠ NUM
7152  7650                    SNA CLA
7153  5750                    JMP I NTVR
7154  4762                    JMS I DB
7155  7120                    CLL CML
7156  4761                    JMS I .+3
7157  5760                    JMP I .+1
7160  6342                    SCAR
7161  2700                    DATA
7162  5017              DB,   BIN

      7200              *7200
7200  0000              FWRF, 0

                        /UNRESOLVED TABLE 3 WORDS PER ENTRY 20 REF MAX
                              $
```

THERE ARE NO ERRORS

SYMBOL TABLE

AB	4312
ABC	2223
ADD	1360
ADDP	4265
ADFL	3415
ADOV	0137
ADR	2600
AFF	6466
AGO	4040
AGOR	3027
AL	3636
ALF	0057
ALGR	2110
ALLS	4545
ALOD	4650
ALPH	1350
ALPL	1346
AMT	4741
AND6	3053
AOA	0123
AOD	2041
APOS	1363
ARND	1400
ARTC	0531
ARTH	2000
ASTR	0314
ASTS	0315
ATOR	3200
BEGN	0055
BET	6662
BEXP	5335
BF	0132
BIN	5017
BIT8	3730
BNCE	6433
BNCH	4643
BOO	1731
BOOK	1513
BOX	4111
BREP	3152
BUFF	0600
BUMP	3116
BUT	2275
B1	1733
B2	1753
C	5151
CART	4675
CCCC	4353
CCNT	0111
CCOS	4670
CCS	0120
CEXP	4110
CHARX	0312

SYMBOL TABLE

CHEK	1673
CHG	0330
CHGD	3641
CHK	0310
CHNG	4376
CHNG1	3527
CHNG2	3534
CHNG3	3546
CHNG4	3541
CHR	5333
CHRC	5042
CHRS	2330
CHRZ	5501
CKE	0063
CKKR	0170
CKSM	0025
CLBF	4354
CLC	0065
CLCS	2751
CLCW	0064
CLOG	4702
CLRB	2756
CM	6255
CMMA	1355
CNT	0133
CNTL	5600
CNTS	2331
COMA	0316
COMU	3444
CONT	0325
COOK	1663
COSH	7066
CR	0323
CREA	6337
CRED	4526
CRY	0570
CS	0527
CSIN	4663
CSQR	4656
CTRL	0042
CVRT	5262
CVR1	5300
C200	5323
C27	5316
C377	5322
D	5152
DADR	0154
DATA	2700
DAT1	0112
DAT2	0113
DAT3	0114
DB	7162
DBGG	3371

SYMBOL TABLE

DBUF	2115
DBUG	3362
DCBN	6437
DCML	0061
DDD	1764
DEBG	0162
DEC	0033
DECB	0776
DECF	2114
DECL	1354
DECT	0005
DEFN	6014
DEPS	2326
DERR	6333
DGB	0070
DIAB	0071
DIAG	3314
DIM	6450
DIMS	6551
DINX	0167
DISP	5663
DIVD	1357
DMUL	5061
DNM1	0163
DNM2	0164
DO	6270
DOES	6267
DOG	7134
DOIT	0311
DONE	1507
DOO	5652
DOT	2317
DOTA	2104
DOUT	0046
DPC	5311
DPCS	5421
DPCV	5400
DPN	5334
DPNZ	5505
DPS	5362
DSIX	4173
DUTA	6440
DVFL	3515
DVFX	3516
DYMPNT	0677
DYNM	4434
DZZ	6262
E	5315
ELEV	3153
END	0026
ENDC	6020
ENDS	2332
EQL	0317

SYMBOL TABLE

EQUL	1361
ERPROF	0671
ERR	0030
ERROR	3526
ES	1476
ETST	1464
EXFX	4742
EXP	5340
EXPN	4734
EXTO	5252
FBIN	5000
FCOM	0041
FEND	6252
FEQL	0043
FGET	4744
FILB	0204
FILL	0074
FINI	6666
FINK	5200
FINP	5676
FIVE	6257
FIXD	2025
FIXT	0062
FK1	5217
FK2	5221
FK3	5225
FLFX	3731
FLMY	5044
FLNR	4707
FLOT	0056
FLPA	0044
FLTS	2061
FMAT	6674
FMM	6672
FMYR	5053
FNOR	5055
FOOP	4352
FOOR	3154
FORF	0067
FORM	3517
FOUR	1516
FOX	6232
FPUT	4761
FR	6013
FRPA	0045
FRS	3635
FRST	0142
FSIT	2271
FTCH	2005
FUL	6023
FULL	0073
FUNT	0047
FUR	6661

SYMBOL TABLE

FWDR	4267
FWRF	7200
FXFL	3724
GD1	6763
GD2	6764
GD3	6765
GD4	6766
GD5	6767
GD6	6770
GD7	6771
GEN	0076
GENS	0075
GENW	0077
GEOU	0766
GET	1200
GETI	2060
GETŻ	5324
GGET	0771
GO	3321
GOCM	6071
GOD	4165
GOO	6047
GOOD	1546
GOOK	2320
GOP	1375
GOT	6012
GOTO	1732
GOTT	6017
HERE	6011
HIC	5336
HICŻ	5502
HIGH	1752
HIPNCH	0644
HIREAD	0625
HOP	6660
HOPP	0767
HORD	5341
HRD	2400
HSIX	3151
IADR	0115
IAM	6632
IF	7000
IFAL	0050
IFNM	0051
IGNR	6204
IHOR	2321
ILL	1364
ILOR	2322
IN	0153
INER	3736
INIOT1	0711
INIOT2	0712
INIT	5677

SYMBOL TABLE

INPT	6600
INT1	6021
INT2	6022
INVL	0327
INVT	4651
INX	0066
ISDYNM	0657
ISE	1501
ISI	5660
ISIT	0541
IT	0156
ITFX	4145
ITST	2105
IX	4542
IXCH	5507
IXSK	4042
JAM	0746
JIGGLE	5727
JUMP	0506
KEEP	5153
LAP	7114
LAST	0134
LATT	6430
LBIT	3634
LDFL	0053
LDFX	0052
LDLP	4531
LDSS	3723
LDST	4113
LEAD	5745
LEAV	3042
LEFT	1503
LESS	1746
LET	6434
LF	0324
LFED	4527
LINK	3727
LKUP	1517
LMIT	2742
LNKS	6373
LOAD	3417
LOC1	2334
LOOK	1622
LOP	4721
LORD	5342
LOW	1751
LOWR	1477
LOX	6435
LPAR	1345
LRD	2500
LTEN	4541
LUK1	0103
LUK2	0104

SYMBOL TABLE

LUK3	0105
LUK4	0106
LUPE	1531
LVEN	0537
LWC	5337
LWCŻ	5503
L1	0535
MAC1	1726
MAC2	1727
MAK	6412
MANY	6432
MBR	5041
MEF	6664
MELL	4357
MEND	4256
MET	6261
MFIX	4161
MFOR	1515
MINS	1347
MKBN	6553
MNIN	5512
MNOP	0124
MNPO	5513
MODE	0107
MORE	1747
MOVE	1514
MOX	6436
MPYŻ	5327
MP1	5145
MP2	5150
MP3	5146
MP4	5117
MP5	5144
MSGN	5344
MSKŻ	5515
MTAD	5520
MTDG	5514
MTRL	5464
MT10	5444
MULT	1356
MXER	4157
MY	3721
MYFL	3460
MYFX	3461
M3777	1377
NAMS	7076
NERR	6442
NEW	5766
NEWL	0151
NEWS	4035
NEXL	0135
NEXT	1504
NG	1457

SYMBOL TABLE

NINE	1353
NOOK	1505
NORZ	5326
NOTD	1230
NOTE	1447
NOTI	3144
NOTP	0364
NOTT	3702
NOTX	3715
NOW	3150
NT	0157
NTST	2106
NTVR	7150
NUL	0356
NULL	6003
NUM	0060
NUMB	1352
NUMI	5506
NUMS	4513
NX	6737
OBJT	1606
OBOT	0100
OER	1714
OF	6260
OFF	0110
ONE7	4351
OP	0101
OPER	3000
OPTB	3117
OP10	5056
OP20	5057
OP30	5060
OR	5747
ORGG	2717
ORGN	0117
ORGP	4233
OTOP	3147
OUT	4215
OUTP	6607
OV	6005
OVER	6024
OVFL	0335
OZ	4250
PACK	6663
PADD	0013
PADR	2323
PAGE	1565
PARL	0320
PARR	0321
PAV	6154
PCH	4200
PCHH	0770
PCHZ	4251

SYMBOL TABLE

PCMA	0010
PCNT	0036
PDVD	0012
PEEK	1732
PEF	6264
PEQL	0014
PER	5317
PET	6015
PHOG	6552
PINT	2325
PLF	0017
PLUS	5510
PMNS	0020
PMPY	0011
PNCH	3471
PNCH1A	0707
PNCH1B	0710
PNIOT1	0704
PNIOT2	0705
PNIOT3	0706
POIN	0031
POO	6657
POOP	4523
POOPZZ	0175
POP	0102
POPZ	4216
POUT	6004
POVE	5511
POWZ	2720
PPAL	0016
PPAR	0015
PRE	0121
PREP	0122
PREV	0152
PRIO	3633
PROC	0400
PROD	3101
PROG	1000
PROP	4037
PRSW	5320
PS	1502
PUH	6441
PUMS	0021
PUN	3725
PUNH	4043
PUT	1566
PUTZ	5325
PYMB	0034
PZZ	6256
P3	0417
QUE	3066
RAND	3241
RAP	7111

SYMBOL TABLE

RBOT	3300
RBT	0054
RDIOT1	0701
RDIOT2	0702
RDIOT3	0703
READ	0022
READ1A	0672
READ1B	0673
READ1C	0674
READ1D	0675
RED	5154
REED	5535
REF	6072
REFS	0155
REM	5500
REP	3026
REPL	1725
REPR	3305
REST	5750
RET	1242
RETRN1	3412
RETRN2	3407
RETRN3	3436
RETRN4	3433
RETRN5	3456
RETRN6	3450
RETRN7	3513
RETRN8	3503
RGHT	4231
ROT	4514
RPAR	1362
RSSY	0040
RTOP	3146
RUND	2327
R6	0136
SAD	6431
SAND	3240
SAP	4104
SAPP	7112
SAVS	3722
SAV2	5040
SAV2	5037
SBCK	3143
SBFL	3443
SBFX	3442
SBOL	6665
SBSC	1652
SCAR	6342
SCH	2246
SELL	6263
SEND	0037
SEVN	1651
SEXP	5321

SYMBOL TABLE

SFLG	0072
SGN	5343
SGNN	6375
SGNZ	5504
SHFT	0536
SIGH	0547
SIX	1723
SIZE	2333
SKIP	1351
SLAP	4400
SLSH	1510
SOBG	1512
SOOK	5572
SORY	6555
SPAC	0313
SPCC	4543
SPCE	4375
SPCX	3761
SRCH	1506
SSFX	3726
STAK	3462
STBL	2200
STEB	6152
STEP	2107
STKI	3416
STMT	0032
STOR	0275
STP	6006
ST3	2721
SUBR	6173
SUMZ	4524
SVCK	0176
SVN	0530
SWCH	0326
SWH	0161
SWHH	7032
SWITCH	0676
SXBT	4172
SYM	2111
SYMB	0035
SYM1	2335
SYM2	2336
SYX	6266
S1	2324
TAB	0027
TABL	1621
TABU	0322
TADD	3402
TADR	0160
TAKE	3115
TART	4671
TCMA	3732
TCOS	4664

SYMBOL TABLE

TDIV	3472
TDSW	0352
TELL	6656
TEM3	1750
TEM7	4646
TEM8	4647
TEN	5312
TEND	3400
TENZ	5330
TEQL	3642
TEX	4703
TEXP	4044
THIR	5147
THRU	1724
TIC	5516
TLOG	4676
TLPR	3600
TMPY	3445
TO	4645
TOBG	1653
TOY	4522
TPIN	0726
TPOT	0736
TPWR	4600
TRAVEL	0713
TRCK	2777
TREE	3141
TRPR	3637
TSCR	4000
TSIN	4657
TSPC	3760
TSQR	4652
TST2	4036
TSUB	3420
TTT1	0003
TTT2	0004
TT1	3301
TT2	3302
TUMN	3737
TW	6265
TWC	5517
TWEL	6046
TWO	4347
TWO6	4355
TWS	6340
TX	3145
TXX	6045
TYP	3303
TYPE	4365
TYPNTR	0700
T06	4530
T1	0533
T2	0534

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T7	4041
UDEF	4333
UE	6000
UMFL	3756
UMFX	3757
UPPR	1500
USME	4525
VARI	2743
VARS	0116
WAIT	3142
WELL	6016
WORK	3632
WOW	4510
WRD1	1600
WRD2	1614
WT	6567
XEQL	1511
XFM	5550
XFX	4644
XXXX	0620
X1	0440
X2	0425
X3	0452
YES	6123
YYY	1744
ZAP	4075
ZERO	5776
ZIP	0532
ZOOP	0340
ZOTZ	4416

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TTT1	0003
TTT2	0004
DECT	0005
PCMA	0010
PMPY	0011
PDVD	0012
PADD	0013
PEQL	0014
PPAR	0015
PPAL	0016
PLF	0017
PMNS	0020
PUMS	0021
READ	0022
CKSM	0025
END	0026
TAB	0027
ERR	0030
POIN	0031
STMT	0032
DEC	0033
PYMB	0034
SYMB	0035
PCNT	0036
SEND	0037
RSSY	0040
FCOM	0041
CTRL	0042
FEQL	0043
FLPA	0044
FRPA	0045
DOUT	0046
FUNT	0047
IFAL	0050
IFNM	0051
LDFX	0052
LDFL	0053
RBT	0054
BEGN	0055
FLOT	0056
ALF	0057
NUM	0060
DCML	0061
FIXT	0062
CKE	0063
CLCW	0064
CLC	0065
INX	0066
FORF	0067
DGB	0070
DIAB	0071
SFLG	0072
FULL	0073

SYMBOL TABLE

FILL	0074
GENS	0075
GEN	0076
GENW	0077
OBOT	0100
OP	0101
POP	0102
LUK1	0103
LUK2	0104
LUK3	0105
LUK4	0106
MODE	0107
OFF	0110
CCNT	0111
DAT1	0112
DAT2	0113
DAT3	0114
IADR	0115
VARS	0116
ORGN	0117
CCS	0120
PRE	0121
PREP	0122
AOA	0123
MNOP	0124
BF	0132
CNT	0133
LAST	0134
NEXL	0135
R6	0136
ADOV	0137
FRST	0142
NEWL	0151
PREV	0152
IN	0153
DADR	0154
REFS	0155
IT	0156
NT	0157
TADR	0160
SWH	0161
DEBG	0162
DNM1	0163
DNM2	0164
DINX	0167
CKKR	0170
POOPZZ	0175
SVCK	0176
FILB	0204
STOR	0275
CHK	0310
DOIT	0311
CHARX	0312

SYMBOL TABLE

SPAC	0313
ASTR	0314
ASTS	0315
COMA	0316
EQL	0317
PARL	0320
PARR	0321
TABU	0322
CR	0323
LF	0324
CONT	0325
SWCH	0326
INVL	0327
CHG	0330
OVFL	0335
ŻOOP	0340
TDSW	0352
NUL	0356
NOTP	0364
PROC	0400
P3	0417
X2	0425
X1	0440
X3	0452
JUMP	0506
CS	0527
SVN	0530
ARTC	0531
ŻIP	0532
T1	0533
T2	0534
L1	0535
SHFT	0536
LVEN	0537
ISIT	0541
SIGH	0547
CRY	0570
BUFF	0600
XXXX	0620
HIREAD	0625
HIPNCH	0644
ISDYNM	0657
ERPROF	0671
READ1A	0672
READ1B	0673
READ1C	0674
READ1D	0675
SWITCH	0676
DYMPNT	0677
TYPNTR	0700
RDIOT1	0701
RDIOT2	0702
RDIOT3	0703

SYMBOL TABLE

PNIOT1	0704
PNIOT2	0705
PNIOT3	0706
PNCH1A	0707
PNCH1B	0710
INIOT1	0711
INIOT2	0712
TRAVEL	0713
TPIN	0726
TPOT	0736
JAM	0746
GEOU	0766
HOPP	0767
PCHH	0770
GGET	0771
DECB	0776
PROG	1000
GET	1200
NOTD	1230
RET	1242
LPAR	1345
ALPL	1346
MINS	1347
ALPH	1350
SKIP	1351
NUMB	1352
NINE	1353
DECL	1354
CMMA	1355
MULT	1356
DIVD	1357
ADD	1360
EQUL	1361
RPAR	1362
APOS	1363
ILL	1364
GOP	1375
M3777	1377
ARND	1400
NOTE	1447
NG	1457
ETST	1464
ES	1476
LOWR	1477
UPPR	1500
ISE	1501
PS	1502
LEFT	1503
NEXT	1504
NOOK	1505
SRCH	1506
DONE	1507
SLSH	1510

SYMBOL TABLE

XEQL	1511
SOBG	1512
BOOK	1513
MOVE	1514
MFOR	1515
FOUR	1516
LKUP	1517
LUPE	1531
GOOD	1546
PAGE	1565
PUT	1566
WRD1	1600
OBJT	1606
WRD2	1614
TABL	1621
LOOK	1622
SEVN	1651
SBSC	1652
TOBG	1653
COOK	1663
CHEK	1673
OER	1714
SIX	1723
THRU	1724
REPL	1725
MAC1	1726
MAC2	1727
PEEK	1730
BOO	1731
GOTO	1732
B1	1733
YYY	1744
LESS	1746
MORE	1747
TEM3	1750
LOW	1751
HIGH	1752
B2	1753
DDD	1764
ARTH	2000
FTCH	2005
FIXD	2025
AOD	2041
GETI	2060
FLTS	2061
DOTA	2104
ITST	2105
NTST	2106
STEP	2107
ALGR	2110
SYM	2111
DECF	2114
DBUF	2115

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STBL	2200
ABC	2223
SCH	2246
FSIT	2271
BUT	2275
DOT	2317
GOOK	2320
IHOR	2321
ILOR	2322
PADR	2323
S1	2324
PINT	2325
DEPS	2326
RUND	2327
CHRS	2330
CNTS	2331
ENDS	2332
SIZE	2333
LOC1	2334
SYM1	2335
SYM2	2336
HRD	2400
LRD	2500
ADR	2600
DATA	2700
ORGG	2717
POWR	2720
ST3	2721
LMIT	2742
VARI	2743
CLCS	2751
CLRB	2756
TRCK	2777
OPER	3000
REP	3026
AGOR	3027
LEAV	3042
AND6	3053
QUE	3066
PROD	3101
TAKE	3115
BUMP	3116
OPTB	3117
TREE	3141
WAIT	3142
SBCK	3143
NOTI	3144
TX	3145
RTOP	3146
OTOP	3147
NOW	3150
HSIX	3151
BREP	3152

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ELEV	3153
FOOR	3154
ATOR	3200
SAND	3240
RAND	3241
RBOT	3300
TT1	3301
TT2	3302
TYP	3303
REPR	3305
DIAG	3314
GO	3321
DBUG	3362
DBGG	3371
TEND	3400
TADD	3402
RETRN2	3407
RETRN1	3412
ADFL	3415
STKI	3416
LOAD	3417
TSUB	3420
RETRN4	3433
RETRN3	3436
SBFX	3442
SBFL	3443
COMU	3444
TMPY	3445
RETRN6	3450
RETRN5	3456
MYFL	3460
MYFX	3461
STAK	3462
PNCH	3471
TDIV	3472
RETRN8	3503
RETRN7	3513
DVFL	3515
DVFX	3516
FORM	3517
ERROR	3526
CHNG1	3527
CHNG2	3534
CHNG4	3541
CHNG3	3546
TLPR	3600
WORK	3632
PRIO	3633
LBIT	3634
FRS	3635
AL	3636
TRPR	3637
CHGD	3641

SYMBOL TABLE

TEQL	3642
NOTT	3702
NOTX	3715
MY	3721
SAVS	3722
LDSS	3723
FXFL	3724
PUN	3725
SSFX	3726
LINK	3727
BIT8	3730
FLFX	3731
TCMA	3732
INER	3736
TUMN	3737
UMFL	3756
UMFX	3757
TSPC	3760
SPCX	3761
TSCR	4000
NEWS	4035
TST2	4036
PROP	4037
AGO	4040
T7	4041
IXSK	4042
PUNH	4043
TEXP	4044
ZAP	4075
SAP	4104
CEXP	4110
BOX	4111
LOST	4113
ITFX	4145
MXER	4157
MFIX	4161
GOD	4165
SXBT	4172
DSIX	4173
PCH	4200
OUT	4215
POPZ	4216
RGHT	4231
ORGP	4233
OZ	4250
PCHZ	4251
MEND	4256
ADDP	4265
FWDR	4267
AB	4312
UDEF	4333
TWO	4347
ONE7	4351

SYMBOL TABLE

FOOP	4352
CCCC	4353
CLBF	4354
TW06	4355
MELL	4357
TYPE	4365
SPCE	4375
CHNG	4376
SLAP	4400
ŻOTŻ	4416
DYNM	4434
WOW	4510
NUMS	4513
ROT	4514
TOY	4522
POOP	4523
SUMŻ	4524
USME	4525
CRED	4526
LFED	4527
T06	4530
LDLP	4531
LTEN	4541
IX	4542
SPCC	4543
ALLS	4545
TPWR	4600
BNCH	4643
XFX	4644
TO	4645
TEM7	4646
TEM8	4647
ALOD	4650
INVT	4651
TSQR	4652
CSQR	4656
TSIN	4657
CSIN	4663
TCOS	4664
CCOS	4670
TART	4671
CART	4675
TLOG	4676
CLOG	4702
TEX	4703
FLNR	4707
LOP	4721
EXPN	4734
AMT	4741
EXFX	4742
FGET	4744
FPUT	4761
FBIN	5000

SYMBOL TABLE

BIN	5017
SAV2	5037
SAVE	5040
MBR	5041
CHRC	5042
FLMY	5044
FMYR	5053
FNOR	5055
OP10	5056
OP20	5057
OP30	5060
DMUL	5061
MP4	5117
MP5	5144
MP1	5145
MP3	5146
THIR	5147
MP2	5150
C	5151
D	5152
KEEP	5153
RED	5154
FINK	5200
FK1	5217
FK2	5221
FK3	5225
EXTO	5252
CVRT	5262
CVR1	5300
DPC	5311
TEN	5312
E	5315
C27	5316
PER	5317
PRSW	5320
SEXP	5321
C377	5322
C200	5323
GETE	5324
PUTE	5325
NORE	5326
MPYE	5327
TENE	5330
CHR	5333
DPN	5334
BEXP	5335
HIC	5336
LWC	5337
EXP	5340
HORD	5341
LORD	5342
SGN	5343
MSGN	5344

SYMBOL TABLE

DPS	5362
DPCV	5400
DPCS	5421
MT10	5444
MTRL	5464
REM	5500
CHRŻ	5501
HICŻ	5502
LWCŻ	5503
SGNŻ	5504
DPNŻ	5505
NUMI	5506
IXCH	5507
PLUS	5510
POVE	5511
MNIN	5512
MNPO	5513
MTDG	5514
MSKŻ	5515
TIC	5516
TWC	5517
MTAD	5520
REED	5535
XFM	5550
SOOK	5572
CNTL	5600
DOO	5652
ISI	5660
DISP	5663
FINP	5676
INIT	5677
JIGGLE	5727
LEAD	5745
OR	5747
REST	5750
NEW	5766
ŻERO	5776
UE	6000
NULL	6003
POUT	6004
OV	6005
STP	6006
HERE	6011
GOT	6012
FR	6013
DEFN	6014
PET	6015
WELL	6016
GOTT	6017
ENDC	6020
INT1	6021
INT2	6022
FUL	6023

SYMBOL TABLE

OVER	6024
TXX	6045
TWEL	6046
GOO	6047
GOCM	6071
REF	6072
YES	6123
STEB	6152
PAV	6154
SUBR	6173
IGNR	6204
FOX	6232
FEND	6252
CM	6255
PZZ	6256
FIVE	6257
OF	6260
MET	6261
DZZ	6262
SELL	6263
PEF	6264
TW	6265
SYX	6266
DOES	6267
DO	6270
DERR	6333
CREA	6337
TWS	6340
SCAR	6342
LNKS	6373
SGNN	6375
MAK	6412
LATT	6430
SAD	6431
MANY	6432
BNCE	6433
LET	6434
LOX	6435
MOX	6436
DCBN	6437
DUTA	6440
PUH	6441
NERR	6442
DIM	6450
AFF	6466
DIMS	6551
PHOG	6552
MKBN	6553
SORY	6555
WT	6567
INPT	6600
OUTP	6607
IAM	6632

SYMBOL TABLE

TELL	6656
POO	6657
HOP	6660
FUR	6661
BET	6662
PACK	6663
MEF	6664
SBOL	6665
FINI	6666
FMM	6672
FMAT	6674
NX	6737
GD1	6763
GD2	6764
GD3	6765
GD4	6766
GD5	6767
GD6	6770
GD7	6771
IF	7000
SWHH	7032
COSH	7066
NAMS	7076
RAP	7111
SAPP	7112
LAP	7114
DOG	7134
NTVR	7150
DB	7162
FWRF	7200